Lanpro

South Wokingham Distributor Road
Landscape and Ecological Management Plan

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South Wokingham Distributor Road,

Wokingham,

RG40 2HP

South Wokingham Distributor Road

Tony Gee and Partners LLP

May 2025

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Issue Sheet

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Landscape and Ecological Management Plan

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Contents

1 Introduction

1.1 Summary

1.1.1 Lanpro Services Ltd. ('Lanpro') was commissioned by Tony Gee & Partners LLP to prepare a Landscape and Ecological Management Plan (LEMP) to support the discharge of condition 13 of Planning Approval notice 192928, for the landscaping scheme associated with the construction of the South Wokingham Distributor Road (hereby referred to as the 'Development').

1.1.2 The development comprises of 2.7km long, single carriage way road with a cycle lane and footpath. This comprises the central section spanning 2.3km and the SWDR link road, which encompasses the remaining 0.4km.

1.1.3 This LEMP sets out measures for management and monitoring of the landscape and ecological mitigation and enhancements implemented as part of this development.

1.1.4 This LEMP covers a period of ten years following the completion of the Development, with the construction envisaged to take less than two years to complete (therefore the timeline includes eleven years of management prescriptions).

1.1.5 The post-construction management period will facilitate the safeguarding and enhancement of the site's ecological assets in the short to medium term. The long-term management of the SANGS habitat management is not considered within this document; however temporary measures are included. Long term habitat management will be incorporated within a 'management agreement' as part of this; when areas to be covered by Tony Gee are confirmed temporary management will be required until the residential developer, Persimmon, take over.

1.1.6 This LEMP does not provide ecological guidance relevant to any specific future works beyond the basic habitat maintenance, management and monitoring outlined here. If any future works greater than those outlined in this document are required onsite, an ecological assessment will need to first be undertaken by a Suitably Qualified Ecologist (SQE). If the works are likely to have any long-term ecological or habitat management implications then the LEMP will need to be reviewed to incorporate these new factors, with the amended document providing an update on this version.

1.2 Relevant Drawings and Report

1.2.1 This LEMP should be read in conjunction with the latest revisions of the following drawings and reports:

- 4977_LAN_XX_XX_RP_1000 – Written Landscape Specification
- WMHP-TG-SRWG1-DR-LS-3001 - 3009 'Soft Landscaping Planting Plan'

- 4977_SWDR_Biodiversity Net Gain Report, May 2025
- 4977_SWDR_Post-Development Habitat Maps

1.3 Relevant Guidance

1.3.1 This LEMP has been produced with reference to the National Plant Specification 'Handling and Establishing Landscape Plants'.

1.3.2 All plants and planting operations are to comply with the requirements and recommendations of all current relevant British Standard specifications including but not limited to:

- BS 8545. Trees: From Nursery to Independence in the Landscape;
- BS 3936-1:1992. Nursery stock. Specification for trees and shrubs;
- BS 3882:2015 - Specification for topsoil;
- BS 4428:1989. Code of practice for general landscape operations (excluding hard surfaces) (AMD 6784);
- BS 5837: 2012 Trees in relation to design, demolition and construction. Recommendations;
- BS3998:2010 Recommendations for Tree Work;
- The Hedgerow Regulations 1997; and
- Local Authority Guidance.

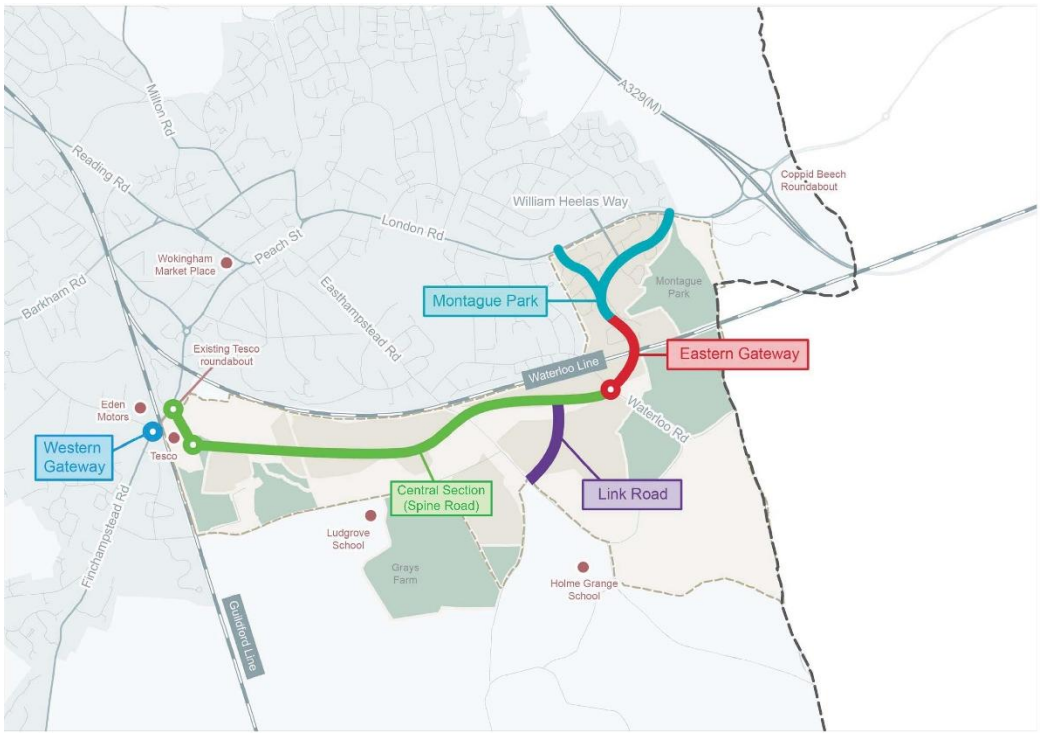
2 Description of Works

2.1.1 In order to realise the vision for the development, and mitigate traffic impacts from the development sites, a series of transport and infrastructure initiatives are being progressed including the provision of a number of major highway projects.

2.1.2 The South Wokingham Distributor Road (SWDR) will provide access to a development of up to 1800 new homes, and provide key transport link for this new community, including safe, accessible cycling and walking provision to reduce the need for driving. It will also offer an alternative route for through traffic that avoids Wokingham town centre.

2.1.3 The new distributor road is proposed to extend in an easterly direction from Finchampstead Road, along the southern side of the Reading to Waterloo Line, to London Road, as illustrated in Figure 1 below.

Figure 1: indicative alignment of the South Wokingham Distributor Road



2.1.4 The SWDR must take into consideration the South Wokingham SDL proposed development as shown on plans P18-0963_06U-01 and P18-2684_31 which can be found in WBC Project Works Information WMHP-WBC-SRWG1-RP-PM-0001; as well as planning applications that have been submitted in lieu of South Wokingham SDL. These include but are not limited to:

- Planning Application refs: 190900, 190914 and 101068 by the South Wokingham SDL Consortium.
- Planning Application ref: 192325 by Persimmon Homes.

2.1.5 The first phase of the Distributor Road, which extends from London Road into the Montague Park Development, has previously been constructed by David Wilson Homes. Planning for the second phase crossing the rail line and linking Montague Park to Waterloo Road, Eastern Gateway, was granted in April 2018, with construction completed, and the scheme completed and opened in early 2022.

2.1.6 A planning application for the third phase of the South Wokingham Distributor Road, referred to as the SRWG1 (Central Section), was submitted in November 2019, revised on December 2020, with consent granted in May 2021.

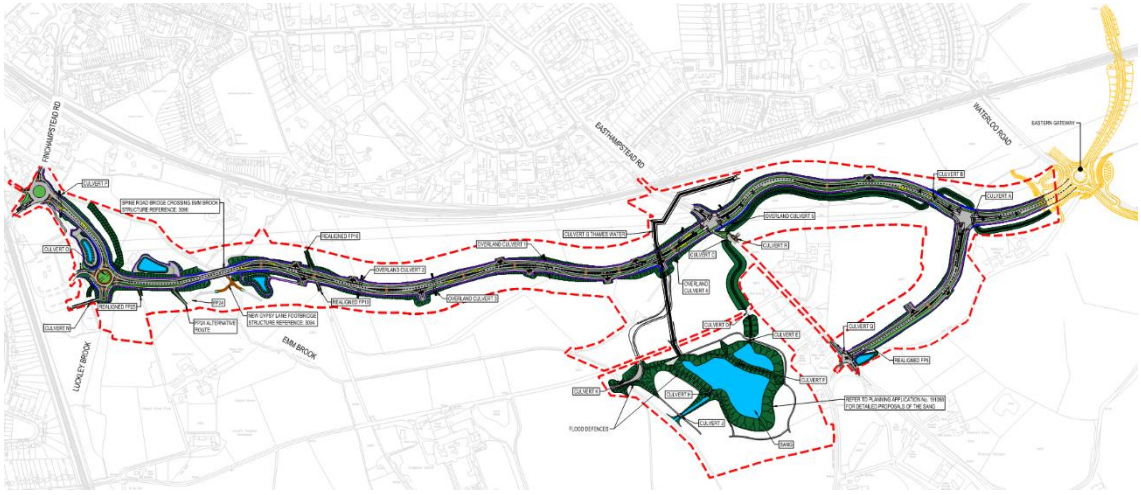
2.1.7 SRWG1 will tie in with the south-westerly arm of the Eastern Gateway roundabout and extend west through agricultural land roughly parallel to the rail line, across a new junction with Easthampstead Road, crossing the Emm Brook and linking up with Finchampstead Road at the Finchampstead Road/ Tesco Roundabout. The final phase, Western Gateway Phase 2, comprises of a roundabout enhancement at the junction of Finchampstead Road and Molly Millars Lane.

2.1.8 The proposed highway alignment is mainly offline and constructed on an embankment with some at grade sections. There is some online work with the creation of a junction at Easthampstead Road, and at the scheme tie-ins. The scheme incorporates a new bridge to provide vehicular and pedestrian/cyclist access across Emm Brook with an offline foot/cycle bridge crossing Emm Brook to the south of the distributor road.

2.1.9 One new roundabout, the New Tesco Access/ SWDR Roundabout, is included at the far west of the scheme providing access to the Tesco car park and linking the scheme to the Finchampstead Road/ Tesco roundabout. The existing Finchampstead Road/ Tesco Roundabout is also being modified to provide a new arm to connect the SWDR.

2.1.10 Detailed design drawings are listed in Appendix 1.

Figure 2: Plan illustrating SRWG1 highways works



2.1.11 The highway works for SRWG1 include, but are not limited to, the following;

- Site clearance over the footprint of the new highway and as indicated on the illustrative drawings
- Link road between Eastern Gateway and New Tesco Access/ SWDR Roundabout
- The New Tesco Access/ SWDR Roundabout
- Road bridge crossing Emm Brook
- Footbridge crossing Emm Brook
- Drainage network to collect and attenuate surface water from the highway
- Culverts to enable watercourses and overland drainage to pass under SRWG1
- Pedestrian / cycle facilities
- Bus Stop facilities
- Traffic signs, road markings, traffic signals, lighting and road restraint systems
- Traffic Signals
- Landscaping and Ecology
- Ancillary Works
- SANG earthworks and drainage
- Thames Water culverts

3 Long Term Design Objectives

3.1 Overall Design Objectives

3.1.1 This section sets out the overall design vision and long-term intents. This management and maintenance plan will ensure the successful establishment and retention of high-quality landscape features, which form the public open spaces throughout the development, with particular focus on enhancing the ecological value and visual amenity of the site.

3.1.2 The overall design vision aims of this management and maintenance plan are:

- To safeguard and enhance the integrity of existing landscape and ecological features;
- To maintain and enhance trees and hedges in a healthy condition;
- To maintain existing public access and ensure that potential conflict with the above two objectives are minimised;
- To enhance public awareness and appreciation of the habitats and associated flora and fauna, except where it compromises the first two objectives;
- To ensure the successful establishment and continued growth to maturity of the soft landscape scheme;
- To comply with legal obligations and constraints; and
- To manage the landscape in a manner that ensures the safety of site users.
- To achieve and maintain Biodiversity Net Gain, as set out in the Biodiversity Net Gain Report [1].

3.2 Long Term Objectives

3.2.1 The long term intents are set out in the table below:

Table 2.1: Long Term Intents

Year 1-5	On-Going
Ensure good plant establishment	Develop landscape character
Ensure rapid plant growth	Develop structural and visual diversity
Create visual impact	Develop screening / shelter where needed
Create rich / varied wildlife habitats	Increase wildlife habitats / value

[1] 4977_SWDR_Biodiversity Net Gain Report_BW_3-0_140525

Begin the development of natural ground layers	Achieve and maintain Biodiversity Net Gain
Create visual and sensory diversity	

4 Management Responsibilities

4.1.1 For the purpose of this report, it is assumed that the implementation contractor will be responsible for the maintenance of all landscape works associated with this development in-line with the defects liability period set out in the works contract.

4.1.2 Following the end of the defects liability period set out in the works contract, it is assumed the landscape management will be the responsibility of teams within Wokingham Borough Council thereafter. Details of management / responsibility boundaries should be confirmed with Wokingham Borough Council and a copy of this report provided to each maintenance team identified.

4.1.3 Any maintenance operatives undertaking works defined in this management plan will have the necessary experience and certificates of competence to undertake landscape management and maintenance operations on site. The projects manager will ensure all operations on site comply with the guidelines set out in this management and maintenance plan.

4.1.4 All persons undertaking management prescriptions on site will be responsible for reviewing all relevant health and safety files alongside the relevant documents set out in Section 1 and this landscape management plan prior to undertaking the works.

5 Proposed Soft Landscape and Ecological Mitigation and Enhancements

5.1.1 The Soft Landscaping Planting Plan (WMHP-TG-SRWG1-DR-LS-3001 - 3009 'Soft Landscaping Planting Plan') illustrates proposed mitigation and enhancements, which would introduce a number of different habitats including the following:

- 329 No semi mature and standard trees;
- 116 No. hedgerow trees;
- 2.26 km of native hedgerow planting;
- 0.21 ha of native shrub mix;
- 0.14 ha of woodland edge mix;
- 1.09 ha of woodland mix;
- 2.4 ha of herbaceous riparian mix;
- 0.46 ha of wet woodland;
- 5.73 ha of flowering lawn and wildflower meadow (wet meadow and semi – shade); and
- 2.81ha of rain garden.

5.1.2 The Development would retain, protect and enhance landscape features such as existing trees, hedgerows and woodland areas where possible with minimal losses.

5.1.3 For full specifications of all proposed planting and planting methods, refer to report 4977_LAN_XX_XX_RP_1000 ' Written Landscape Specification'.

6 Landscape Management

6.1.1 The following section outlines the management prescriptions to ensure a successful establishment and the long-term healthy growth for the soft landscape proposals set out in drawings:

- WMHP-TG-SRWG1-DR-LS-3001 - 3009 'Soft Landscaping Planting Plan' (latest revisions)

6.1.2 For the purpose of this report, we identify the establishment period as the first 5 years following planting, with the long-term management in the years following this.

6.1.3 The establishment period of plants can vary between species and the location of planting, time of year and climatic conditions during establishment. It is therefore important to continuously evaluate the establishment of the planting to ensure the correct prescriptions are adopted to ensure optimum growth.

6.1.4 It is the responsibility of all persons undertaking the landscape management to review the actions set out in this report and propose any necessary adjustments required to ensure the management objectives set out in Section 2 are met in full.

6.1.5 All substantial changes to the prescriptions contained within this report that will have a material impact on the objectives should be consulted with the planning and highways authorities prior to their implementation.

6.2 Biodiversity Net Gain

6.2.1 The specific condition criteria targeted for each habitat type and the associated Habitat Map are set out in the following documents:

- 4977_SWDR_Biodiversity Net Gain Report_BW_V3-0
- 4977_SWDR_Post-Development Habitat Maps_V2-0_BW

6.2.2 Each habitat below has a UKHabitats habitat type and targeted condition. Refer to Table 1. of the Biodiversity Net Gain Report to see specific condition criteria.

6.2.3 To satisfy BNG, the habitats must be secured for 30 years. This LEMP predominantly covers the establishment period of habitats. After this period, the continued monitoring of habitats, with reference to the targeted conditions, should inform adaptive management, as outlined in Section 7.

6.3 Management Prescriptions

6.3.1 To ensure successful establishment and the long-term health of all planting associated with the development, the following methods should be strictly followed:

Street Trees and Green Space Trees (BNG: Urban Trees - Moderate condition)[2]

General Maintenance Activities

6.3.2 All plants should be regularly re-firmed until sufficiently established, particularly following periods of strong winds and heavy rain.

6.3.3 All stakes, ties and straps should be checked regularly to ensure they are in the correct position and in a good, usable condition. Any damaged guards, stakes and ties should be replaced as required.

6.3.4 Once trees are suitably established, all above ground stakes, ties and straps will be removed and will be disposed of off-site (subject to satisfactory establishment and growth) in year 5.

6.3.5 All grass edges should trimmed and edged and where required, re-cut to ensure a clean edge is retained to the planting area to prevent need for strimming which will result in damage to the tree's stem.

6.3.6 All trees planted along the public highway should achieve a 100% survival and therefore trees that fail must be replaced in the subsequent planting season.

6.3.7 Monitoring visits will be undertaken during late-spring (May/June) annually – a critical period for native planting establishment – to assess the success of the tree planting and, as necessary, recommend revisions to the management.

Pruning

6.3.8 Tree pruning will be undertaken regularly to remove dead and dying branches and encourage healthy growth.

6.3.9 All tree pruning will be undertaken regularly to remove dead and dying branches, encourage healthy growth and to maintain a canopy clear of roadways and footways.

6.3.10 To prevent access restrictions all trees adjacent to vehicular access areas, including those on private land must retain a 2.4m clear stem and trees adjacent to pedestrian access areas, including those on private land must retain a 2.0m clear stem.

6.3.11 All tree pruning, other than works required on health and safety grounds, will be undertaken out of the bird nesting season (1st March – 31st August) to avoid disturbance to nesting birds

2 Table 1. Interpretation of Proposed Soft Landscaping to UK Habitats, 4977_SWDR_Biodiversity Net Gain Report_BW_V3-0

Watering

6.3.12 All newly planted street and green space trees should be watered immediately after planting and twice weekly during the first year following planting.

6.3.13 In year 2 – 5 (during key establishment period) trees should be watered during periods of drought at a rate of c.25 litres per plant and at weekly interval, but this will be variable dependant on weather patterns.

Weed Control

6.3.14 All newly planted trees should have minimum of 100mm (d) of pulverised bark mulch at 0.5m radius at the base of each plant.

6.3.15 The bark mulch will be topped up regularly to ensure a consistent depth of 100mm to ensure sufficient weed suppression.

6.3.16 All persistent weeds should be hand pulled if not too excessive or treated using a spot herbicide treatment if more widespread or hand pulling fails to control.

6.3.17 If herbicide treatments are to be used, contact with the new planting must be avoided and all health and safety prescriptions set out by the herbicide manufacturer must be followed.

Hedgerow Tree Planting (BNG: Native Species Rich Hedgerow with trees - Moderate condition)[2]

General Maintenance Activities

6.3.18 All plants should be regularly re-firmed until sufficiently established, particularly following periods of strong winds and heavy rain.

6.3.19 All guards, stakes and ties should be checked regularly to ensure they are in the correct position and in a good, usable condition. Any damaged guards, stakes and ties should be replaced as required.

6.3.20 Once trees are suitably established, all stakes, ties and straps will be removed and will be disposed of off-site (subject to satisfactory establishment and growth) in year 5.

Pruning

6.3.21 Tree pruning will be undertaken regularly to remove dead and dying branches and encourage healthy growth.

6.3.22 A minimum of 0.5m clearance should be maintained between the top of the hedgerow and the bottom of the tree canopy to facilitate hedgerow cutting and to avoid damage to the tree when undertaken.

6.3.23 To prevent access restrictions all trees adjacent to vehicular access areas, including those on private land must retain a 2.4m clear stem and trees adjacent to pedestrian access areas, including those on private land must retain a 2.0m clear stem.

6.3.24 All tree pruning, other than works required on health and safety grounds, will be undertaken out of the bird nesting season (1st March – 31st August) to avoid disturbance to nesting birds.

6.3.25 Trees and shrubs that have failed will be replaced in the subsequent planting season to achieve at least 90% survival.

6.3.26 Monitoring visits will be undertaken during late-spring (May/June) annually – a critical period for native planting establishment – to assess the success of the tree planting and, as necessary, recommend revisions to the management.

Watering

6.3.27 All newly planted hedgerow trees should be watered immediately after planting and twice weekly during the first year following planting.

6.3.28 In year 2 – 5 (during key establishment period) trees should be watered during periods of drought at a rate of c.25 litres per plant and at weekly interval, but this will be variable dependant on weather patterns.

Weed Control

6.3.29 All newly planted hedgerow trees should have minimum of 100mm (d) of pulverised bark mulch at 0.5m offset from the centreline of the hedgerow in which they are planted.

6.3.30 The bark mulch will be topped up regularly to ensure a consistent depth of 100mm to ensure sufficient weed suppression.

6.3.31 All persistent weeds should be hand pulled if not too excessive or treated using a spot herbicide treatment if more widespread or hand pulling fails to control.

6.3.32 If herbicide treatments are to be used, contact with the new planting must be avoided and all health and safety prescriptions set out by the herbicide manufacturer must be followed.

Native Species Hedgerow (BNG: Native Species Rich Hedgerow with trees - Moderate condition)[2]

General Maintenance Activities

6.3.33 All plants should be regularly re-firmed until sufficiently established, particularly following periods of strong winds and heavy rain.

6.3.34 All guards, stakes and ties should be checked regularly to ensure they are in the correct position and in a good, usable condition. Any damaged guards, stakes and ties should be replaced as required.

6.3.35 Once hedge plants are suitably established, all guards, stakes and ties will be removed and will be disposed of off-site (subject to satisfactory establishment and growth) in year 5.

6.3.36 All grass edges should be trimmed and edged and where required, re-cut to ensure a clean edge is retained to the planting area to prevent need for strimming which will result in damage to the plants.

6.3.37 Plants that have failed will be replaced in the subsequent planting season to achieve at least 90% survival and maintain a gap free line to enable small mammals to disperse along the hedge line.

6.3.38 Monitoring visits will be undertaken during late-spring (May/June) annually – a critical period for native planting establishment – to assess the success of the hedgerow planting and, as necessary, recommend revisions to the management. Monitoring would be carried out by a competent landscape architect, and a member of the Landscape Institute.

Pruning

6.3.39 The ultimate desired height and width of the newly planted hedgerow is 2- 3m (h) and 1.5m (w).

6.3.40 The newly planted hedgerow should be lightly formatively pruned regularly throughout the year to encourage healthy, bushy growth and to increase the wildlife value of the hedge. This should be continued until the desired height and width is achieved.

6.3.41 Once the desired hedgerow height and width has been achieved and plants are suitable established, a variable cutting schedule on a 3 year or more rotas should be adopted to provide a range of habitats for invertebrates and to ensure a supply of fruit and berries is available to birds and wildlife within the hedgerows each year.

6.3.42 When pruning, any dead and dying branches should be removed from within the hedge to promote healthy growth.

6.3.43 When pruning, care should be taken to avoid damage to any hedgerow trees.

6.3.44 All formative pruning should be undertaken out of the bird nesting season (1st March – 31st August) to avoid disturbance to nesting birds. If pruning is required during bird nesting season advice from a suitably qualified ecologist should be sought prior to undertaking any works.

Watering

6.3.45 All newly planted hedge plants should be watered immediately after planting and again during periods of drought. This should be done at a rate of c.15 litres per plant and at weekly intervals during extended drought, but will be variable dependant on weather patterns.

Weed Control

6.3.46 All newly planted hedgerows should have minimum of 100mm (d) of pulverised bark mulch at 0.5m offset from the centreline of the hedgerow at planting.

6.3.47 The bark mulch will be topped up regularly to ensure a consistent depth of 100mm to ensure sufficient weed suppression.

6.3.48 All persistent weeds should be hand pulled if not too excessive or treated using a spot herbicide treatment if more widespread or hand pulling fails to control.

6.3.49 If herbicide treatments are to be used, contact with the new planting must be avoided and all health and safety prescriptions set out by the herbicide manufacturer must be followed.

Native Woodland Mix, Native Wet Woodland Mix, & Low Woodland Edge Mix (BNG: Other Woodland; Broadleaved, Wet Woodland, & Mixed Scrub - Moderate condition)[2]

General Maintenance Activities

6.3.50 All plants should be regularly re-firmed until sufficiently established, particularly following periods of strong winds and heavy rain.

6.3.51 All guards, stakes and ties should be checked regularly to ensure they are in the correct position and in a good, usable condition. Any damaged guards, stakes and ties should be replaced as required.

6.3.52 Once all plants are suitably established, all guards, stakes and ties will be removed and will be disposed of off-site (subject to satisfactory establishment and growth) in year 5.

6.3.53 All grass edges should be trimmed and edged and where required, re-cut to ensure a clean edge is retained to the planting area to prevent need for strimming which will result in damage to the plants.

6.3.54 Trees and shrubs that have failed will be replaced in the subsequent planting season to achieve at least 90% survival and maintain a gap free line to enable small mammals to disperse along the hedge line.

6.3.55 Monitoring visits will be undertaken during late-spring (May/June) annually – a critical period for native planting establishment – to assess the success of the woodland planting and, as necessary, recommend revisions to the management.

6.3.56 In the tenth year, if woodland flora species do not resemble a recognisable NVC, supplementary planting a range of woodland herbs, grasses, and sedges should be undertaken. It is important to choose species based on woodland type and consultation with a suitably qualified ecologist should be sought when making mix suggestions.

Pruning

6.3.57 A thinning and coppicing regime will be implemented to maximise the wildlife value of the woodland by increasing the diversity of tree structure, shade and ground cover. Thinning, coppicing and management works are anticipated to start at 10 years onwards, with successive works about every 10 years following, although dependent on rate of growth. Trees to be thinned or coppiced will be selected according to tree health, surrounding vegetation and ground conditions (e.g. coppicing to allow light to maintain areas of ground flora) to provide a structurally diverse woodland with a high scrub content.

6.3.58 Thinning works to be undertaken outside of the bird nesting season. (1st March – 31st August) to avoid disturbance to nesting birds. If pruning is required during bird nesting season advice from a suitably qualified ecologist should be sought prior to undertaking any works.

Watering

6.3.59 All newly planted tree and shrub plants should be watered immediately after planting and again during periods of drought. This should be done at a rate of c.50 litres per tree and at weekly intervals during extended drought, but will be variable dependant on weather patterns.

Weed Control

6.3.60 All newly planted trees and shrubs should have minimum of 100mm (d) of pulverised bark mulch at 0.25m radius from the stem of each plant and retained as a weed-free area during the establishment period.

6.3.61 The bark mulch will be topped up regularly to ensure a consistent depth of 100mm to ensure sufficient weed suppression.

6.3.62 All persistent weeds should be hand pulled if not too excessive or treated using a spot herbicide treatment if more widespread or hand pulling fails to control.

6.3.63 If herbicide treatments are to be used, contact with the new planting must be avoided and all health and safety prescriptions set out by the herbicide manufacturer must be followed.

6.3.64 All areas outside of the weed-free area will be managed in accordance with the prescriptions for the associated wildflower and grass seeding until the canopies of these areas have sufficiently established / closed. This will include an annual cut / strim to manage pernicious weeds such as bramble and thistles.

Native Shrub and Native Wetland Shrub Mix (BNG: Mixed Scrub - Moderate condition)[2]

General Maintenance Activities

6.3.65 All plants should be regularly re-firmed until sufficiently established, particularly following periods of strong winds and heavy rain.

6.3.66 All guards, stakes and ties should be checked regularly to ensure they are in the correct position and in a good, usable condition. Any damaged guards, stakes and ties should be replaced as required.

6.3.67 Once shrub plants are suitably established, all guards, stakes and ties will be removed and will be disposed of off-site (subject to satisfactory establishment and growth) in year 5.

6.3.68 All grass edges should be trimmed and edged and where required, re-cut to ensure a clean edge is retained to the planting area to prevent need for strimming which will result in damage to the plants.

6.3.69 Shrubs that have failed will be replaced in the subsequent planting season to achieve at least 90% survival and maintain a gap free line to enable small mammals to disperse along the hedge line.

6.3.70 Monitoring visits will be undertaken during late-spring (May/June) annually – a critical period for native planting establishment – to assess the success of the shrub planting and, as necessary, recommend revisions to the management.

Pruning

6.3.71 Due to the species and density of planting proposed the mature heights of plants will be relatively low and due to the requirement to create a natural planting area, maintenance should be minimal. At this point the planting should be left to fully naturalise in shape and form adapting to the conditions of the site.

Watering

6.3.72 All newly planted shrub plants should be watered immediately after planting and again during periods of drought. This should be done at a rate of c.15 litres per plant and at

weekly intervals during extended drought, but will be variable dependant on weather patterns.

Weed Control

6.3.73 All newly planted shrubs should have minimum of 100mm (d) of pulverised bark mulch at 0.25m radius from the stem of each plant and be retained as a weed-free area during the establishment period.

6.3.74 The bark mulch will be topped up regularly to ensure a consistent depth of 100mm to ensure sufficient weed suppression.

6.3.75 All persistent weeds should be hand pulled if not too excessive or treated using a spot herbicide treatment if more widespread.

6.3.76 If herbicide treatments are to be used, contact with the new planting must be avoided and all health and safety prescriptions set out by the herbicide manufacturer must be followed.

6.3.77 All areas outside of the weed-free area will be managed in accordance with the prescriptions for the associated wildflower and grass seeding until the canopies of these areas have sufficiently established / closed. This will include an annual cut / strim to manage pernicious weeds such as bramble and thistles.

Native Species Rich Grassland and Wildflower Mix for Herbaceous Riparian Mix, Wildflower Meadow, Wetland Meadow & Rain Garden Areas, and Semi-Shade Meadow (BNG: Other Neutral Grassland - Moderate & Good condition, Rain Gardens and Reedbeds - Moderate condition) [2]

6.3.78 The following maintenance prescriptions apply to all wildflower and grassland seeding areas across site with the exception of the SANG area identified on the drawings WMHP-TG-SRWG1-DR-LS-3007 and 3009 ‘Soft Landscaping Planting Plan’ (latest revisions).

6.3.79 Maintenance within the SANG area will be restricted and the seeding and reedbed planting will be left unmanaged and allowed to naturalise. Access to this area following planting will be restricted due to the nature of the sight and the associated health and safety guidance.

First Year Management

6.3.80 In the first year, newly sown meadow areas should be left unmaintained until later summer. Annual weed arising after sowing will provide shelter to the sown seeding, and provide habitat for invertebrates. Cut in August and removed and disposed of away from site.

6.3.81 In the second and subsequent years the grassland will be managed as a hay meadow with a cut in late summer (August) and the hay left to dry for 1-7 days to allow shed. The timings will need to be reviewed dependent on prevailing conditions, with advice sought from a suitably qualified ecologist.

6.3.82 An ecologist will visit the Site in spring (May) and summer (July/August) Year 1 to check the establishment of seed mix and weeds. Remedial actions will be communicated to the land manager at the earliest opportunity.

6.3.83 Assuming that the seed mix has established successfully after Year 1, an ecologist will visit the site in late-spring (May) in Years 2, 3 and 5 – a critical period for grassland establishment – to assess the success of grassland management and, as necessary, recommend revisions to the management.

Weed Control

6.3.84 A flush of weeds is to be expected in the first season after sowing and these should be left unmanaged within the first year. It is likely that some pernicious weeds (e.g. thistle, ragwort, or dock) will persist following the ground preparation and can be treated by hand pulling if not too extensive or using spot treatment with a suitable herbicide if more widespread.

Management Once Established

6.3.85 Mow the re-growth through to late autumn/winter to c50mm and again in spring if needed. Hay cut following flowering in July or August, leave the 'hay' to dry and shed seed for 1-7days then remove from site.

Flowering Lawn (BNG: Modified Grassland - Moderate condition)[2]

First Year Management

6.3.86 In the first year, newly sawn meadow areas should be regularly cut (four times) to a hight of 40-60cm to control the flush of annual weed growth. Where cuttings are dense, these should be removed and disposed of away from site.

6.3.87 In the second and subsequent years the lawn will be cut regularly to a hight of 25-40mm. To allow flowering, mowing can be relaxed from late June. When the swards gets untidy (after 4-8 weeks) cut again. Mowing can be suspended later in the year to allow cowslip to flower. Cutting should be collected and removed of site.

6.3.88 An ecologist will visit the Site in spring (May) and summer (July/August) Year 1 to check the establishment of seed mix and weeds. Remedial actions will be communicated to the land manager at the earliest opportunity.

6.3.89 Assuming that the seed mix has established successfully after Year 1, an ecologist will visit the site in late-spring (May) in Years 2, 3 and 5 – a critical period for grassland establishment – to assess the success of grassland management and, as necessary, recommend revisions to the management.

Weed Control

6.3.90 A flush of weeds is to be expected in the first season after sowing and these can be managed by a cutting regularly within the first year. It is likely that some pernicious weeds (e.g. thistle, ragwort, or dock) will persist following the ground preparation and can be treated by hand pulling if not too extensive or using spot treatment with a suitable herbicide if more widespread.

Management Once Established

6.3.91 Once established the grass verge can be cut regularly to a maintained height of 40-60mm.

6.3.92 To allow flowering, mowing can be relaxed from late June. When the swards gets untidy (after 4-8 weeks) cut again.

6.3.93 Where cowslips have established, mowing should be suspended earlier in the year to allow cowslip to flower.

6.3.94 Mowing should be restricted in areas where spring bulbs have established to allow the bulbs to flower. Once the bulbs are spent and the foliage begins to die back, these areas can be strimmed back to maintain a neat appearance.

6.3.95 Cuttings should be collected and removed of site.

River Enhancements

6.3.96 The realignment of the Upper Emm Brook and its tributaries have been designed to enhance channel sinuosity and retain in-channel habitat where possible. River complexity, aquatic and riparian vegetation, and flow variation will be enhanced through the introduction of shallow marginal shelves, willow spiling, backwater habitats, and floodplain scrapes.

6.3.97 The location and design of these habitats are outlined in the following drawings (latest revision):

- WMHP-TG-SRWG1-DR-HI-3021
- WMHP-TG-SRWG1-DR-HI-3022
- WMHP-TG-SRWG1-DR-HI-3023
- WMHP-TG-SRWG1-DR-HI-3024
- WMHP-TG-SRWG1-DR-HI-3025

- WMHP-TG-SRWG1-DR-HI-3026

6.3.98 The management of the planting, within and surrounding these features, will follow the designation within drawing WMHP-TG-SRWG1-DR-LS-3001 - 3009 'Soft Landscaping Planting Plan' (latest revision) and the relevant prescriptions outlined above.

6.3.99 Any failed plug planting or seeding will be topped-up until sufficient planting densities have been achieved. If particular species are failing, suitable alternatives will be used in replacement.

Water levels within backwater habitats (BNG: Temporary Lakes, ponds and pools - Moderate condition)[2]

6.3.100 In order to ensure the backwaters perform as intended and remain connected to the Emm Brook it is essential to monitor the water levels at regular intervals during the first year post installation.

6.3.101 The typical water level of the Emm Brook is 49.0mAOD (backwater south of the bridge) and 48.1mAOD (backwater north of the bridge). The connection between the backwaters and the Emm Brook is proposed to match the base level of the Emm Brook (~49.7mAOD). A slope, graded at 1 in 5 from the mouth to the deepest point of the backwaters, feeds from the Emm brook into the habitats. The deepest point of both backwater habitats is 48.1mAOD. The base of the backwater gradually shallows away from the mouth with the base undulating +/-100mm.

6.3.102 The mouth of the backwaters must remain open and free from debris buildup to ensure water retention and access for wildlife, especially in low-flow conditions. The mouths of the backwaters are angled downstream to minimise erosion and backfilling.

6.3.103 Backwater habitats will provide lateral connectivity to the watercourse and refuge habitats for fish, amphibians, invertebrates, and aquatic plants, especially during high flow or pollution events.

6.3.104 The water levels and access to the backwaters will be monitored in winter (November/December), spring (March/April), and summer (July/August) of the first year to measure if the slope leading into the habitat is maintained and an appropriate gradient, if the base level of the backwater is retained, and if the backwater remains wet year-round.

6.3.105 If there are extended dry periods within the backwater, mouth and base levels should be reduced to prevent desiccation in August year one. Levels will be reassessed in year 5.

6.3.106 It is recommended that monitoring visits continue in spring (March/April) and summer (July/August) from year one onwards to assess the backwater and remove accumulated debris or silt that may block water flow from the Emm Brook or reduce habitat functionality within the backwater.

Backwater Marginal Shelves (BNG: Reedbeds - Moderate condition)[2]

6.3.107 The backwater habitats will have ~5m wide profile ledge sloping from ~0.2m-0.5m below the typical water level. The shelves will provide an area of high ecological value,

supporting emergent and submerged macrophytes and breeding and nursery grounds for fish and amphibians.

6.3.108 The shelves should remain submerged or seasonally wet year-round. The water levels of the shelves will be monitored in winter (November/December), spring (March/April) and summer (July/August) of the first year. If the shelves do not remain submerged or seasonally wet, they should be lowered in August year one. Levels will be reassessed in year 5. Additionally, if there is erosion or undercutting along the shelves, they should be staked to prevent habitat loss.

Scrape Habitats (BNG: Temporary Lakes, ponds and pools & Reedbeds - Moderate condition)

6.3.109 A shallow depression scrape within the floodplain will be created to naturally accumulate water during wet weather, enhancing hydrological connectivity. Scrapes hold seasonal water and support wading birds, mammals, amphibians, and invertebrates.

6.3.110 The edge of the scrape will be dropped down to an undulating base of no more than 1m depth (49.05mAOD). Current ground level varies from ~50.2mAOD - 49.9mAOD. Margins gradually slope away from the lowest point.

6.3.111 Inspect scrape margins in winter (November/December), spring (March/April), and summer (July/August) to assess vegetation establishment and ensure that levels are appropriate to support emergent macrophytes. Monitor water depth within the scrape in winter (November/December), spring (March/April) and summer (July/August). Adjust levels to improve water retention to ensure scrapes remain damp or seasonally wet, where necessary. Levels should be lowered in August year one. Levels should be reassessed in year 5.

Two-stage Channel

6.3.112 The realigned channels of the Luckley Brook and Emm Brook tributaries will incorporate low-level berms, forming a two-stage channel. The channel will have a 1 in 3.5 slope for each stage. The total channel width is approximately 12m. The low flow channel is 0.5m deep 4m wide, for the conveyance of regular flows. The bench either side of the low flow channel is 2.5m wide. The berms will promote channel sinuosity, provide habitat, and improve lateral connectivity. The berms will form floodplain benches, flooding during the mean annual flood flow and will support a range of water tolerant plant species.

6.3.113 The water levels of the berms will be monitored in winter (November/December), spring (March/April) and summer (July/August) of the first year. If the berms do not remain submerged during the mean annual flood flow, they should be lowered in August year one. Levels will be reassessed in year 5. Additionally, if there is erosion or undercutting along the berms, they should be staked to prevent habitat loss.

Willow Spiling

6.3.114 Spiling should be regularly re-firmed until sufficiently established, particularly following periods of strong winds and flood events.

6.3.115 Where possible, any willow rods that have failed will be replaced in the subsequent planting season.

6.3.116 The base of the banks should be monitored once a year in summer for undercutting. If erosion persists, additional erosion control measures, such as coir rolls/matting, or other natural methods such as rip rap.

6.3.117 Once established, tree pruning will be undertaken regularly to remove dead and dying branches and reduce shading of the watercourse.

6.3.118 The willows will require a coppicing regime. Coppicing and management works are anticipated to start at 10 years onwards, with successive works about every 10 years following, although dependent on the rate of growth. Trees to be thinned or coppiced will be selected according to tree health.

6.3.119 Work is to be undertaken outside of the bird nesting season. (1st March – 31st August) to avoid disturbance to nesting birds. If pruning is required during bird nesting season, advice from a suitably qualified ecologist should be sought before undertaking any work.

Species Habitat Features

Bats

6.3.120 To mitigate the loss of roosting opportunities bat boxes will be installed on mature trees within the Site. Approximately 15 boxes will be required to compensate for the loss of roosting opportunities and provide enhancement. The specific number of boxes will be informed by updated species surveys. At the time of writing, it is understood there are no confirmed roosts and no licence requirements.

6.3.121 Boxes will be installed in suitable locations, as advised by an experienced ecologist, in accordance with Bat Conservation Trust guidelines[3]. Boxes should be installed facing a number of aspects to increase opportunities for roosting bats. Exact locations will be determined upon completion of construction. Bat boxes will be erected following completion of construction.

6.3.122 If there are not enough trees to provide suitable locations within the road scheme boundary, trees within the SANG should be used to incorporate additional boxes.

3 Bat Conservation Trust (2019) Bat Boxes: Putting up your box [Online] Available at: http://www.bats.org.uk/pages/bat_boxes.html

6.3.123 Bat boxes should include a variety of types, made of durable woodstone or woodcrete construction with a rounded profile suitable for mounting on trees. They will include CJM boxes specifically designed for crevice dwelling tree roosting species[4].

Birds

6.3.124 To enhance nesting opportunities bird boxes will be installed on retained mature trees. A minimum of 20 bird boxes should be installed at suitable locations in accordance with RSPB guidelines[5]. The specific number of boxes will be informed by updated species surveys. Precise locations will be determined by a suitably qualified ecologist upon completion of construction. Bird boxes will be erected upon completion of construction.

6.3.125 It is best practice to clean out bird nesting boxes once per year in December or January.

Invasive Plant Species

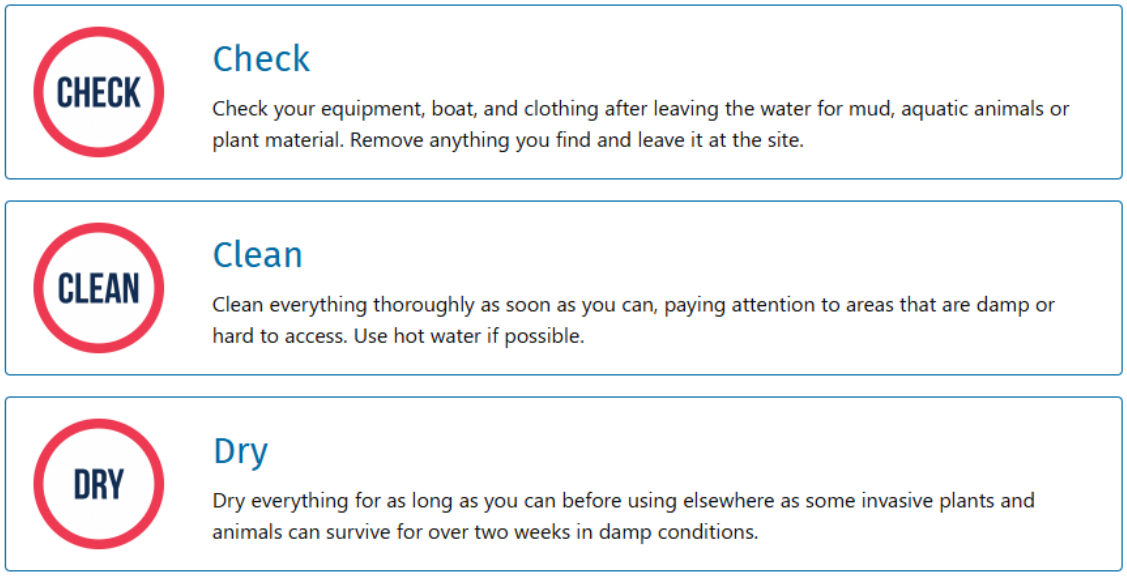
6.3.126 The management and/or eradication of invasive plant species will be a form of adaptive management as many habitats rely on either a lack or low cover of invasive species to achieve condition criteria. Different invasive species will require different management prescriptions and as such, appropriate management should be planned upon the identification of species.

6.3.127 Any contact of individuals or equipment with invasive species must follow the Check, Clean, Dry procedure (Figure 3.). Individuals, clothing, and equipment must be thoroughly inspecting and washed, with any plant material removed. All equipment or clothing must be completely dry before moving to a new site to prevent the spread of invasive species.

4 https://www.vincentwildlife.ie/wp-content/uploads/2015/04/design-of-the-cjm-batbox.pdf

5 Royal Society for the Protection of Birds (nd). Our ultimate guide to nestboxes, Available at: https://www.rspb.org.uk/helping-nature/what-you-can-do/activities/all-about-nest-boxes

Figure 3. Check, Clean, Dry overview from the Non-batives Species Secretariat [6]



6.3.128 Himalayan balsam (*Impatiens glandulifera*) is known to be on-Site[7]. Himalayan balsam should be removed by hand-pulling **before the plant flowers** (spring). After pulling, break the root just above the lowest node to prevent regrowth. Pile pulled plants together (away from watercourses) to allow natural degradation. In areas of high plant density, use a strimmer, brush cutter, or mower to cut the plant as low as possible, ideally below the first node.

[6] https://www.nonnativespecies.org/what-can-i-do/check-clean-dry

[7] WSP (October 2024), Himalayan balsam - Invasive Species Report

7 Landscape and Ecological Auditing / Monitoring

7.1.1 For successful establishment, it is essential to undertake regular monitoring visits to assess the condition of all the newly planted areas across the development.

7.1.2 The purpose of the monitoring visits is to provide a detailed assessment of plant establishment and health and growing conditions.

7.1.3 It is recommended that monitoring visits are undertaken annually in early-mid spring at the beginning of the growing season for the first five years.

7.1.4 The monitoring visits should include an audit of all landscape elements including undertaking photography vegetation, collating species lists and a detailed condition assessment to assess the habitat conditions against target conditions outlined in the BNG assessment.

7.1.5 Additional quadrat sampling will be used for grassland habitats to identify the habitat type and the number of species per m^2. Quadrats will also help to estimate percentage of bare ground, and potential bramble cover.

7.1.6 Monitoring visits should be undertaken by a qualified Landscape Architect who is a member of the Landscape Institute or a ecologist.

7.1.7 Following the monitoring visit, a monitoring report should be provided to the maintenance teams setting out the condition of the planting and any recommendations to ensure the management objectives and target habitat conditions are met and if necessary, recommend revisions to this LEMP to ensure successful establishment.

7.2 Management Schedule

Operation	Target	Frequency per annum	Season/Month	Y1	Y2	Y3	Y4	Y5	Y6 onwards
Hedgerow Tree, Woodland Planting, Street Tree and Green Space Planting:	Hedgerow Trees 100% establishment Woodland Planting 100% establishment Street and Green Space Trees 100% establishment								
Inspect & formative prune in accordance with good Arboricultural practice to BS 3998:2010. Maintain a clear stem for all hedgerow trees annually after year 3 in order for hedgerow trees to be distinguishable.		1	Nov - Mar						ongoing
Replace dead or dying trees.	Next available planting season	1	Nov - Mar						
Check ties and stakes, and remove if no longer required.	As necessary	2	-						
Maintain depth of loose mulch.	75 mm depth minimum	1	-						
Keep planting clear of weeds by mechanical / chemical control.		1-2	Apr-Aug						ongoing

Operation	Target	Frequency per annum	Season/Month	Y1	Y2	Y3	Y4	Y5	Y6 onwards
Monitoring visit by landscape architect / ecologist			May/June						
Thinning coppicing			Nov – Mar						Year 10 onwards
Hedgerow planting:	Vigorous and healthy establishment without gaps and bushy base								
Keep planting clear of weeds by maintaining full thickness of mulch and hand weeding.		2	-						
Pruning to promote shape and bushy growth			Nov - Mar						
Replacement of dead stock.	Next available planting season	1	Nov						
Formative prune to achieve required hedge height and form, generally 2-3m across the development.	To achieve required height and form	Cut on a three-year cycle.	Jan-Feb						Ongoing on a 3-year cutting cycle across the Site

Operation	Target	Frequency per annum	Season/Month	Y1	Y2	Y3	Y4	Y5	Y6 onwards
Maintain depth of loose mulch.	75 mm depth minimum	1	-						ongoing as required
Shrub Planting:	Vigorous and healthy establishment								
Keep planting clear of weeds by mechanical/ chemical control.		1-2	-						
Maintain depth of loose mulch.	75 mm depth minimum	1	-						ongoing as required
Replacement of dead stock.	Next available planting season	1	Nov						
Native Grassland and Wildflower Mix:	A heathy, dense sward								
Year 1, In August take a hey cut to a height of 50mm. Leave for 1-7days to dry and remove.	A heathy, dense sward	1	August						
Year 2 onwards cut biannually in late August and October. After flowering in July or August take a hay cut to a	Reduce soil fertility and encourage diverse sward.	1	July/ August & October						

Operation	Target	Frequency per annum	Season/Month	Y1	Y2	Y3	Y4	Y5	Y6 onwards
height of 50mm. Leave for 1-7 days to dry and remove. Cut again in October to a height of 50mm.									
Monitoring of grass growth and species									
Over seeding; reinstate wear and tear, bald patches or wheel ruts	If the coverage is poor with large areas of bare ground, depending on ground conditions, rotovate or scarify, top dress and over seed with a seed mix matching the composition found locally.								
Flowering Lawn Mix:	A heathy, dense sward								
Year 1, post seeding, mow 4 times per year to maintain a minimum hight of 40-60mm	A heathy, dense sward	4	April – October						

Operation	Target	Frequency per annum	Season/Month	Y1	Y2	Y3	Y4	Y5	Y6 onwards
Year 2 onwards cut regularly to a hight 25-40mm. Relax cutting from late June.	Reduce soil fertility and encourage diverse sward.	4	April - June & October						
Monitoring of grass growth and species									
Over seeding; reinstate wear and tear, bald patches or wheel ruts	If the coverage is poor with large areas of bare ground, depending on ground conditions, rotovate or scarify, top dress and over seed with a seed mix matching the composition found locally.								
Backwater Habitats:	Correct water levels to be maintained and marginal vegetation established.								
Monitor levels of mouth, base, and slope, and marginal shelves.	Ensure mouth of the backwaters remain open and free from debris build up to ensure water retention. Shelves must	3	Winter (November/December), spring (March/April)						

Operation	Target	Frequency per annum	Season/Month	Y1	Y2	Y3	Y4	Y5	Y6 onwards
	remain submerged or seasonally wet.		and summer (July/August)						
If required, reduced levels to prevent desiccation.		1	August						
Remove accumulated debris or silt		1	March or April						ongoing as required
Keep planting clear of weeds by mechanical control.		1-2	Apr-Aug						ongoing
If required, marginal shelves staked to prevent erosion	If there is erosion or undercutting along the shelves, they should be staked to prevent habitat loss	1							
Scrape Habitats:	Correct water levels to be maintained and marginal vegetation established.								
Monitor water and marginal shelves level	Ensure scrapes remain damp or seasonally wet and that shelves are an appropriate level to	3	Winter (November/December), spring						

Operation	Target	Frequency per annum	Season/Month	Y1	Y2	Y3	Y4	Y5	Y6 onwards
	support emergent macrophytes.		(March/April) and summer (July/August)						
If required, reduced levels to prevent desiccation.		1	August						
Keep planting clear of weeds by mechanical / chemical control.		1-2	Apr-Aug						ongoing
Two-stage Channel:	Correct water levels to be maintained.								
Monitor water levels on berms	Shelves must remain submerged during mean annual flood flow.	3	Winter (November/December), spring (March/April) and summer (July/August)						
If required, reduced levels.		1	August						
Willow Spiling:									

Operation	Target	Frequency per annum	Season/Month	Y1	Y2	Y3	Y4	Y5	Y6 onwards
Inspect & formative prune in accordance with good Arboricultural practice to BS 3998:2010.		1	Nov - Mar						ongoing
Replace dead or dying trees.	Next available planting season	1	Nov - Mar						
Keep planting clear of weeds by mechanical / chemical control.		1-2	Apr-Aug						ongoing
Monitoring visit by landscape architect / ecologist		1	May/June						
Thinning coppicing			Nov – Mar						Year 10 onwards
All areas:									
Invasive non-native species to be controlled by chemical or mechanical means (mechanical to be tried first).	Eradication where practicable	As required	Apr-Sept						ongoing as required
Watering	Landscape Institute's Technical Bulletin on Water	Frequency as necessary							ongoing as required

Operation	Target	Frequency per annum	Season/Month	Y1	Y2	Y3	Y4	Y5	Y6 onwards
	Restrictions must adhere to.	for the continued thriving of all areas.							
Condition assessment	Assess condition of proposed habitat types against BNG target.	Once per year	May and August						