

# JCLA

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## Global Centre of Rail Excellence\_Phase 1a Soft Landscape Management & Maintenance Plan

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# 1.0 Overview

## Key Objectives

The key objective of the landscape maintenance strategy is to ensure the successful establishment and long-term upkeep of the soft landscaping proposed for Phase 1a.

Implementation of the management plan will ensure:

- The short and long-term management of swales, detention basins, embankments, open mosaic habitats and trees, to ensure they thrive as an ecological haven and deliver visual amenity benefits, whilst mitigating impact on the adjacent Gorsllwyn Meadows SINC and Onwlllyn coal washery SINC.
- A maintained attractive and robust landscape setting and green infrastructure.
- That the proposed planting establishes successfully and continues to thrive, maintaining good visual interest and biodiversity values.
- That invasive and undesirable species are controlled.
- That health and safety requirements to all areas are maintained.
- That irrigation / watering points for trees, are maintained in good working order.
- A minimum 15 year observation period that follows the first 2-5 years to ensure the maintenance of soft landscape works shall cover a period of no less than 20 years.

This soft landscape maintenance plan should be read primarily in conjunction with the following drawings, but relevant details should be referred to where necessary:

Soft Landscape plans:

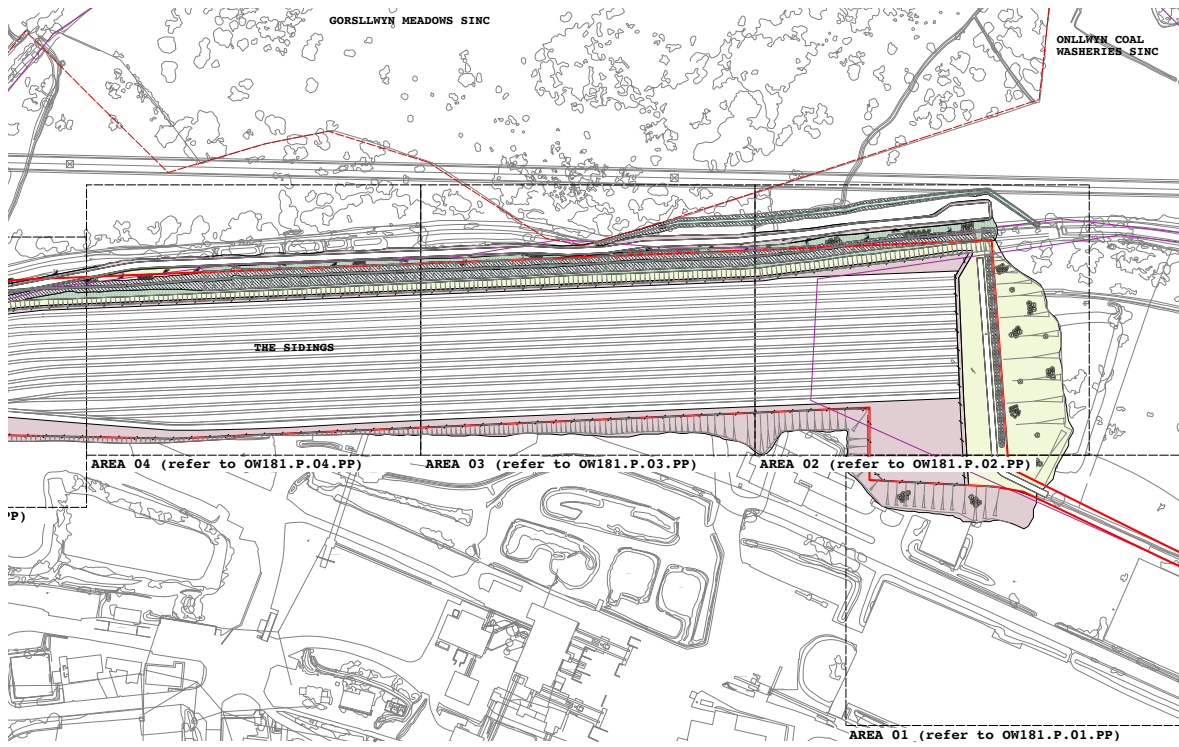
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Soft landscape Maintenance schedule:  
OW181.P.10.MS

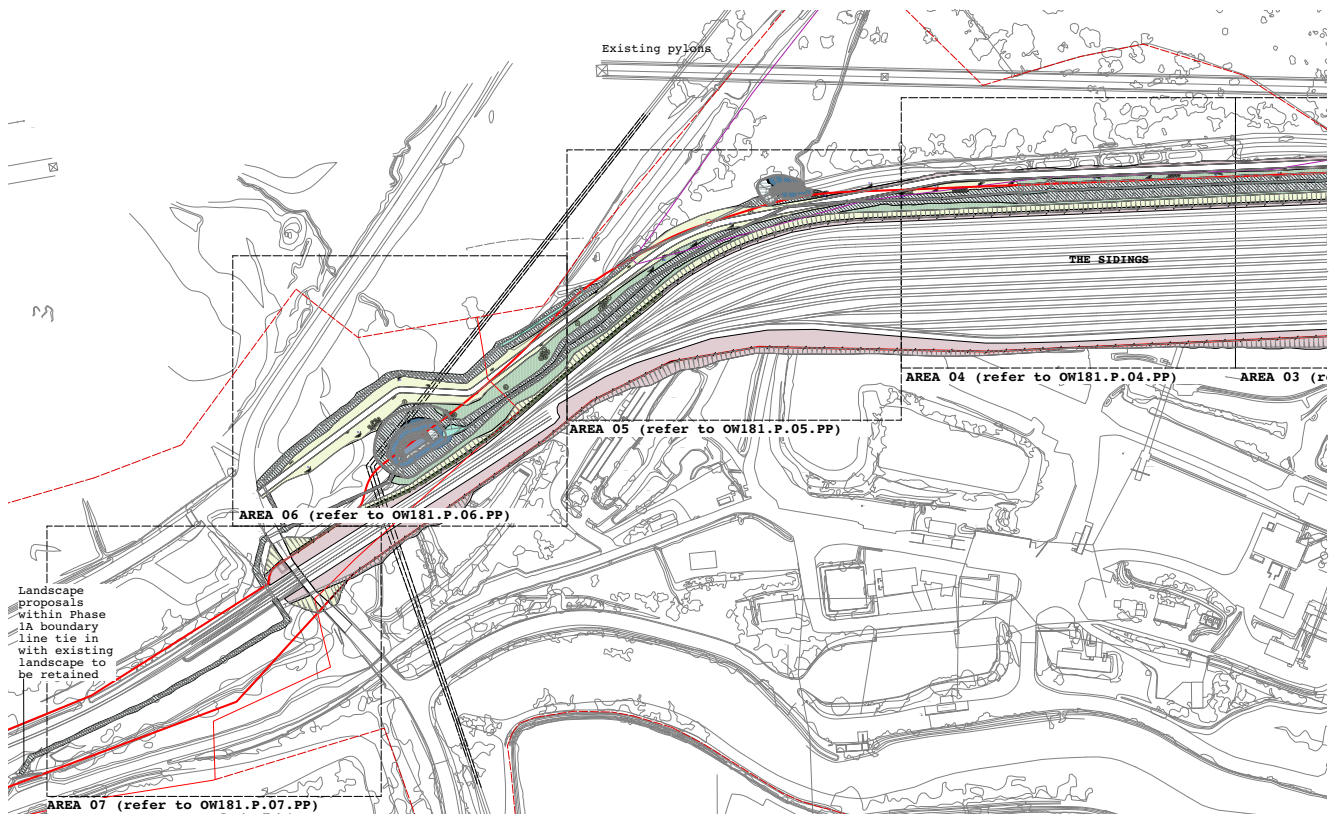
- This document is to be read in conjunction with the Habitat Management plans. Refer to Ecologists information.
- Management and maintenance requirements within the Phase 1a area are all subject to detailed development at the next design stage.

Soft Landscape plans: Key

EAST



WEST



## 1.1 Soft Landscape: General

- During the establishment period, planting including all trees is to be watered as required to ensure all plants survive and establish well.
- Watering; irrigation of trees during adverse weather conditions - up to once a month in hot summers.
- Ongoing maintenance during periods of prolonged drought, water as required to ensure continued survival and thriving of all planting.
- Undesirably competitive invasive non-native and competitive plant species should be eradicated from site before habitat management commences. Refer to Ecologist information for further detail.
- Litter picking as required to ensure all drainage points are kept clear of leaf litter, mulch and gravels.
- Remove fallen leaves, twigs and other plant material within 10m of rail tracks. A reasonable amount of leaf litter can be left as a natural mulch within planted areas.
- Regular check of health and removal of dead plants/replacement planting to be carried out as necessary.
- All pruning work to be species appropriate and to be carried out in accordance with good horticultural practice.
- Collect and compost all non-diseased plant material.
- Plant replacement: if any plants fail to establish, or fail during subsequent years, they will be replaced by planting of an equivalent species and size as those specified on the approved drawings. Replacement will take place as soon as possible, or within the next correct planting season, depending on the time of year.
- Generally and especially after periods of heavy rain, maintenance team to check levels of soil and mulch within swales, and re-distribute/top-up as necessary without disturbing plants. Check that topsoil is not blocking inflowing water.
- The site has been surveyed for the presence of invasive plant species as defined by Schedule 9 of the Wildlife and Countryside Act 1981. However, a detailed mapping of such species was not undertaken and should be considered prior to commencement of maintenance contract. Refer to Ecology report for further detail.

## 1.2 Trees & Shrubs

- Trees and shrubs are to be maintained in line with good arboricultural practice to BS 3998, through species appropriate pruning to ensure that they do not cause nuisance or obstruct operational works and rail side environment.

- Regular check and removal of dead and/or damage/ill plants or limbs; Check tree ties and stakes (for first 2-3 years then to be removed); formative pruning if required - annually after first year.

- Watering; irrigation of trees during adverse weather conditions - up to once a month in hot summers. Accessible watering points to be allowed for.

- Top up mulch as required.

- Standing or already fallen dead wood is an excellent habitat for insect and the birds that feed on them, so leave in place wherever possible rather than removing, and resist over-tidiness.

- Tree & Shrub Clearance - Re-use Site-won logs, bark and branches from trees and shrub clearance works to be processed / shredded to provide mulch for new tree and shrub planting.

- Sections of branches over 100mm girth used for log and brash piles.

- Sections of branches under 100mm girth to be shredded and used as mulching material for trees and shrubs.

- Allowance to be made for processing and storing on-site. Strategy and method statement TBC by contractor.

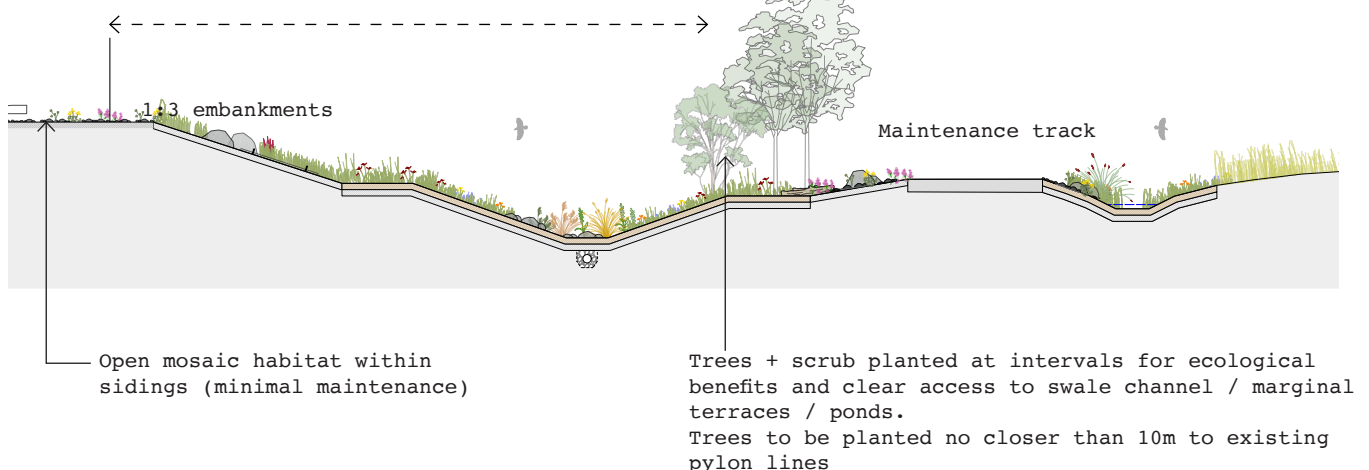
Climbers:

- Climbing wires (where applies) to be kept taught / as per manufacturer's guidance.

- Tie new growth in and prune regularly, and extend the canes as necessary. When climbers have formed thick woody stems, remove the canes.

- Water as and when required to ensure healthy establishment.

New trees planted on north side of swales. Location min. 10m from sidings boundary fence to mitigate leaf fall onto tracks



## 1.3 Swales

- Proposals include enhancements to existing watercourses, vegetation management, removal of invasive species, addition of new habitat features including permanent water, reed beds, terraces and hibernaculas.

The general maintenance requirements for planting also apply to swales as well as the following;

- Remove litter and debris (as required)
- Inspect vegetation coverage. (as required)
- Scarify and spike topsoil layer to improve infiltration performance, break up silt deposits and prevent compaction of the soil surface. (as required)
- Relevel uneven surfaces and reinstate design levels. (c. every 2 years)
- Check inlets and outlets for silt accumulation and remove as necessary.
- Inspect infiltration surfaces for ponding, compaction, silt accumulation, and record areas where water is ponding for > 48 hours. (c. every 2 years). With exception to proposed ponds and areas of standing water in swale.
- Allow for occasional clearance of invasive / overgrown channel vegetation to allow light into channel. Refer to Ecologists information. Extents to be confirmed at next design stage.

### **Culvert / Headwall specific;**

- Annual inspection of the culvert inlets, outlets and overflows for blockages or signs of collapse. Clear if required.
- Culvert entrances to remain clear and unobstructed.
- Annual inspection of headwalls to remove self-colonising saplings and invasive species. Check for cracks and signs of structural damage.
- Inspect inlets and facility surface for silt accumulation, stabilise appropriate silt removal frequencies. (as required)

## 1.4 Retention Ponds

- The proposed planting and maintenance strategy aims to encourage a diverse range of robust native species suited to the seasonally inundated, damp, wet and submerged conditions within areas of standing water. E.g. marginal plants such as *Phragmites australis* (common reed) and *Persicaria amphibia* (amphibious bistort).

- Watering; the conditions of the detention pond may vary. At times the marginal vegetated terraces may be damp and inundated, then dry during warm dry spells. Therefore trees and planting should be irrigated more regularly during adverse weather conditions to ensure their healthy establishment. An accessible watering point is to be allowed for.

- Allow for occasional silt and debris removal, both to facilitate hydrological performance and for environmental benefit.

- Mowing and strimming of embankments should be minimised during the wildlife breeding and spawning season of March to mid July. Leave fringe of bank uncut to maintain some habitat.

- Cuttings from clearance works should be re-used where possible to create habitat diversity.

- Any bodies of standing water to be unobstructed.

- Proposed scrapes and hollows which have been designed to hold water to be maintained at same depth and area to capture water. Relevel uneven surfaces and reinstate design levels. (as required). Further detail on pond /

scrapes topography to be developed at next design stage.

- Undertake the majority of clearance works after vegetation has begun to die back in late September/October. Also at this time there is less likely to be wildlife nesting or breeding in or near basin. Green waste to be left close to bank for a few days following clearance to allow organisms to return to pond bed.

- Ensure that stretches of habitat are always left intact and hibernacula features are created for wildlife.

- Scarify and spike soil layer to improve infiltration performance, break up silt deposits and prevent compaction of the soil surface. (as required)

### Health & Safety:

- If threat to life or serious injury is identified in a risk assessment associated with a proposed body of open water safety, warning signage or other controls should be provided.

- Warning signage adjacent to open bodies of water should comply with The Health and Safety (Safety Signs and Signals Regulations) 1996 SI 1996 No.341 [Ref 8.N].

## 1.5 Wetland Margins & Terraces

- For creation of new habitats or enhancement of existing areas, topography is varied to create a mix of dry and damp areas.
- Should rush cover exceed 30%. Typically mowing, grazing or a combination of the both is advised to bring it under control.
- Maintain at least 20–30% open water amongst the reeds and generous open wet margins, where reed cover is sparse and more open to allow for ease of movement of fish and other wildlife through the reeds, as well as shelter.
- Rushes to be cut as low as possible, followed by cuts after four to eight weeks. After a cut, a short period of cattle grazing may be sufficient. Weed wipe of fresh re-growth after topping is an effective treatment with minimal impact on non-target vegetation.
- It may be necessary to cut 30% of the wetland grasses each winter to prevent drying. Remove all cuttings into habitat piles or off-site composting.
- Dredging of nutrient-rich sediments around inlets and outlets from time to time, may be necessary. To be co-ordinated with local authority and or environment agency.
- Where contaminated sediment is not an issue, dredged material may be spread and levelled away from the edge to reduce leaching of nutrients. Do not cover flower-rich grasslands.

## 1.6 Grassland & Seeded areas

- Acid grassland is generally managed as low-intensively grazed pasture (sheep).

- Acid grassland that has become dominated by overgrown vegetation and scrub due to a lack of grazing could potentially be restored via mowing, scrub removal and the introduction of grazing animals.

- Grassland arisings should be appropriately disposed of once removed e.g. via a local green waste / on-site recycling facility (if no invasive species material is present)

- If mown, the following measures should be considered for mowing grassland to maximise biodiversity:

- Cutting height: to minimise harm to reptiles and amphibians (grassland should initially be cut to a minimum sward height of 150mm.)

- Structural diversity: Varied sward height to provide structural diversity for wildlife.

- Animal refuge: Leave a quarter of each grassland uncut as a refuge for animals in each year (on rotation).

- Arisings: Once cut, all arisings should be left for seven days to allow for annual seeds to drop.

- Ground nesting birds: Avoid disturbance. Refer to ecologists information.

**Fire Risk:** During summer droughts, grassland can dry out and can become prone to wildfires. Appropriate measures may be taken include the creation of fire breaks by keeping strips of grassland cut to ground level to prevent spread of wildfires. Minimise conflict with the biodiversity objectives for the site.

- Consider the inclusion of biosecurity measures to control the risk of introducing or spreading grassland pests and diseases, by the following:

- referring to the UK Plant Health Information Portal for government guidance on the requirements for plant passports, , removing diseased areas of grassland, quarantining affected planting stock and reporting on suspected pest and disease.

- using locally harvested seed where possible or locally prevalent species (Natural England, 2007);

- If seed cannot be sourced locally, it should be sourced from plants grown within the UK; and

- Establishing biosecurity protocols on site, for example regular cleaning of equipment with disinfectant.

## 1.7 Open Mosaic Habitat

All proposals are subject to approval by rail design team / railside environment requirements.

New areas of Open Mosaic Habitats fall into three typologies:

### 1. Open mosaic habitat Coverage:

30% Gravels

70% open growing medium using existing washeries substrate. Allow a higher proportion of species to self-sow and colonise over time.

Soil build-up: re-use of existing excess spoils and low fertility substrate (TBC with ecologists).

No watering required.

### 2. Retained areas of Open Mosaic Habitat

To be left as existing. No maintenance required unless specified by client / rail management team.



Examples of existing open mosaic habitats on site

## 1.8 Irrigation

- External stand points are to be provided for the purpose of watering the planting and for general maintenance purposes.
- Storage of watering equipment is to be confirmed with the site management and/or maintenance team.

Note: All irrigation systems are subject to detailed design by MEP specialist and subject to further co-ordination at the next stage.

## 1.8 Review & Amendment

The Landscape Management Plan (LMP) will be subject to an annual review once a year by the site management team. In addition, it will be reviewed:

- On practical completion of the development
- On final completion of the development, after the rectification period
- Yearly, thereafter during operation.

The annual review will ensure that:

- The Landscape Management Plan is being followed by the site management team
- The Landscape Management Plan is suited for purpose
- Any amendments to be made as a result of changes or amendments to the landscape will be captured in a revision to the document.

