

BRADFORD-SMITH

LANDSCAPE ARCHITECT

LAND AT GOAT MILL ROAD, DOWLAIS, METHYR TYDFIL, CF48 3TD

Client: Delacey & Sons (Holdings) Ltd

Landscape Maintenance and Management Plan for the New Business Units

Prepared for:

Delacey & Sons (Holdings) Ltd

1 Goat Mill Rd

Dowlais

Merthyr Tydfil

CF48 3TD

CONTENTS:

1.0	INTRODUCTION	4
1.1	Scope of Work.....	4
1.2	Description of Site.....	5
1.3	Policy Relating to the Site.....	6
1.4	Existing Trees and Vegetation.....	6
2.0	SITE MANAGEMENT CONSIDERATIONS	7
2.1	Responsibility for Site Management.....	7
2.2	Responsibilities.....	7
2.3	Existing and New Services	7
2.4	Health and Safety	7
3.0	MANAGEMENT AREAS, TYPES AND OBJECTIVES	10
3.2	The Landscape Management Areas	10
3.3	The Landscape Management Types	11
3.4	The Landscape Objectives	11
3.5	The Ecological Objectives	12
4.0	MAINTENANCE SPECIFICATION: GENERAL INSTRUCTIONS.....	13
4.2	General Construction Operations / Habitat Work Safeguards	13
4.3	General Management Operations / Habitat Safeguards.....	13
4.4	Site Waste Management.....	13
4.5	Pruning Generally.....	14
4.6	Cleanliness.....	14
4.7	General Watering.....	15
4.8	Machine Tools.....	15
4.9	Notices	15
4.10	Use of herbicides and pesticides, composts and mulches	15
4.11	Protection.....	16
4.12	Programme of the Works	16
4.13	Biosecurity.....	16
5.0	MAINTENANCE SPECIFICATION: INITIAL ESTABLISHMENT	17
6.0	MAINTENANCE SPECIFICATION: ONGOING	20
6.2	Pruning requirements for ongoing management:	20
6.3	Mulch:.....	20
6.4	Dead plant material and fallen leaves:.....	21
6.5	Hand weeding:	21
6.6	Soil aeration:	21
7.0	ADDITIONAL MAINTENANCE OPERATIONS	22
7.2	Advanced Nursery Stock; Extra Heavy Standard and Heavy Standard Trees.....	22
7.3	Ornamental Shrub Planting.....	23
7.4	Ground cover planting	24
7.5	Species Rich Grass.....	25
7.6	Wildflower Grass Areas	26

8.0	MAINTENANCE SPECIFICATION YEARS 3 TO 5.....	28
------------	--	-----------

TABLES

**TABLE A - Table of Annual Maintenance and Management Operations
Maintenance Schedule**

APPENDICES

APPENDIX I – LANDSCAPE DRAWINGS

- Detailed Planting Plan drawing no. 928 -LA – P- 02 & 03.

APPENDIX 2 – MAINTENANCE SCHEDULE

I.0 INTRODUCTION

I.1 Scope of Work

- I.1.1 Bradford-Smith Ltd has been commissioned by Delacey & Sons (Holdings) Ltd to provide a Soft Landscape Maintenance and Management Plan for the proposed planting at the new industrial and office units at Land at Goat Mill Road, Dowlais, Methyr Tydfil, CF48 3TD for the Client: Delacey & Sons (Holdings) Ltd. The landscape maintenance and management plan covers 5 years which will provide an initial time for the proposed planting and the creation of new habitats to mature and develop. After the 5 years the management plan will be reviewed and updated where necessary, ensuring the long term objectives and ongoing management / maintenance of the site in consultation with Delacey & Sons (Holdings) Ltd and appointed facilities management consultants.
- I.1.2 This document outlines the maintenance operations, management objectives, responsibilities, schedule of operations, timetable for implementation and programme of management prescriptions for the existing and proposed landscape areas. The management plan provides a working document for use by an appointed Landscape Management Contractor, written as guidance for the establishment, ongoing management and up keep of the planted areas following the completion of the works.
- I.1.3 Bradford-Smith Ltd has compiled the Landscape Management Plan in liaison with Richard Toft's Ecology for the site on behalf of the client Delacey & Sons (Holdings) Ltd.
- I.1.4 Richard Toft's Ecology has prepared an Ecological Appraisal (dated August 2017) and should be read/ referred to in conjunction with this report.
- I.1.5 The drawings to be read in conjunction with the management plan in the Appendix I are:-
- Detailed Planting Plan drawing no. 928 -LA – P- 02 & 03.
- I.1.6 Scope of the Report: The Landscape Maintenance and Management Plan covers all areas of open space within the site, including boundary vegetation, trees, hedgerows, ornamental planting and species rich grass areas. The management plan excludes buildings and hardstanding landscaped areas.
- I.1.7 Reviews: This Landscape Maintenance and Management Plan covers 5 years with interim review and opportunities for inspections to be carried out after Year 3 to ensure the maintenance and management aims/ objectives and specifications are relevant and maybe subject to minor changes and improvements as the different landscape and ecological features mature and develop. After Year's 4/5 a final review will be necessary to re-assess the condition and establishment of the new planting within the site and update management objectives and prescriptions in a revised document to cover the long term ongoing future years.

I.2 Description of Site

- I.2.1 The site is currently vacant, undeveloped brown field site, located off a roundabout junction on Goat Mill Road a well- established route for large vehicles and lorries frequenting the existing industrial estate to the north and north-east off Goat Mill Road.
- I.2.2 The site is an irregular in shape, open parcel of land approximately 0.65ha with an existing established vehicular access to the east boundary off a roundabout junction on Goat Mill Road.
- I.2.3 The application site is set within an established industrial estate which includes M. Delacey & Sons (Holdings) Ltd site located to the north site boundary and Harlon Business Park a short distance to the north west beyond Goat Mill Road.
- I.2.4 The site is occupied by rough grassland with incipient scrub. The boundaries are formed by scrub, plantation and a hedge.
- I.2.5 The northern boundary of the site is formed by a bank down to Goat Mill Road, planted with a range of young native and non-native woody species including silver birch *Betula pendula*, field maple *Acer campestre*, aspen *Populus tremula*, spindle *Euonymus europaeus*, rowan *Sorbus aucuparia*, dogwood *Cornus sanguinea*, cultivated rose, rockrose *Cistus* sp. and buddleja *Buddleja davidii*.
- I.2.6 The north-eastern boundary of the site at is also formed by the plantation planting, with species including young field maple, ash *Fraxinus excelsior*, common hawthorn, silver birch, dog rose, wild privet *Ligustrum vulgare*, guelder rose *Viburnum opulus* and rowan.
- I.2.7 The southern margin of the site is delineated by a scrubby willow-dominated belt with grey willow *Salix cinerea*, eared willow *Salix aurita*, dogwood, field maple, spindle, common hawthorn and a plant of the invasive non-native wall cotoneaster *Cotoneaster horizontalis* (recommended for removal).
- I.2.8 The western boundary is delineated by a hedge of field maple, grey willow, dogwood, dog rose and eared willow.
- I.2.9 The development proposal consists of a one new office building and nine industrial units, associated car parking, service yard areas, refuse and cycle storage and predominately periphery landscaping.
- I.2.10 Proposed planting primarily consists of tree planting, mixed native shrub and hedgerow planting, ornamental structure planting and grass areas.

I.3 Policy Relating to the Site

- I.3.1 The site lies within the Local Authority – Methyr Tydfil Borough Council.
- I.3.2 Approved Planning Application **P/17/0283/FUL** dated 28th September 2017 - to comply/discharge Planning Condition 12.
- I.3.3 Bats: All bats and bat roosts are protected under the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2017. All site personnel to be aware of avoiding disturbance or harm to bats and their roosts.
- I.3.4 Birds: All birds and their nests are protected under the Wildlife and Countryside Act 1981. Work to maturing trees and shrubs shall be undertaken during the winter months outside the bird nesting season which is generally between March – August inclusive. Any emergency works required during the bird nesting season will need to be preceded by a check for nesting birds, by a suitably qualified and experienced ecologist.
- I.3.5 Reptiles: are protected under the Wildlife and Countryside Act 1981 and species of principal importance as listed under Section 41 of the NERC Act, 2006.
- I.3.6 Hedgehogs: are protected under the Wildlife and Countryside Act 1981 (Schedule 6). During the construction phase it is recommended that deadwood habitats within the site are carefully cleared by hand to avoid potential harm to stag beetles (if present) can be safely relocated to surrounding habitats outside the construction zone.
- I.3.7 Invertebrates: species of principal importance as listed under Section 41 of the NERC Act, 2006. During the construction phase it is recommended that deadwood habitats within the site are carefully cleared by hand to avoid potential harm to stag beetles (if present) can be safely relocated to surrounding habitats outside the construction zone.

I.4 Existing Trees and Vegetation.

- I.4.1 There is a group of trees and vegetation planted on the northern / north-western boundary bank adjacent to Goat Mill Road which are partly to be retained and managed; consisting of a range of young native and non-native woody species including silver birch *Betula pendula*, field maple *Acer campestre*, aspen *Populus tremula*, spindle *Euonymus europaeus*, rowan *Sorbus aucuparia*, dogwood *Cornus sanguinea*, cultivated rose, rockrose *Cistus* sp. and buddleja *Buddleja davidii*.
- I.4.2 The removal of Invasive Species (*Cotoneaster*) along the southern boundary: Non-native species including the invasive wall cotoneaster (listed under Schedule 9 of the Wildlife and Countryside

Act 1981 (as amended) as a species which it is illegal to cause to grow in the wild) should be disposed of appropriately, taking care to avoid inadvertent spread.

2.0 SITE MANAGEMENT CONSIDERATIONS

2.1 Responsibility for Site Management

- 2.1.1 During the defects liability period, landscape maintenance and replacement of failed planting will be completed by the landscape contractor who has implemented the scheme.
- 2.1.2 Following the 12 months defect liability period Delacey & Sons (Holdings) Ltd in-house Facilities Manager and landscape maintenance team will be responsible for operational management and maintenance of the landscape within the Site. Delacey & Sons (Holdings) Ltd will ensure that management complies with the guidelines set out in this Plan.

2.2 Responsibilities

- 2.2.1 This document provides a management plan for Delacey & Sons (Holdings) Ltd appointed Landscape Management Contractor that ensures the successful establishment and ongoing maintenance for all the proposed planting - proposed trees, hedgerows, native scrub, ornamental shrubs, groundcover, and grass areas.
- 2.2.2 The Landscape Management Contractor will be responsible for any necessary remedial work to the soft landscape works for the duration of the 5 year maintenance / management period. Replanting any losses or failures of plant material annually and assess the maintenance/ management techniques annually to provide opportunities to include minor changes/ alterations within the management plan.

2.3 Existing and New Services

- 2.3.1 The Landscape Management Contractor shall determine the position of all services in any areas where landscape maintenance works are to take place, and shall take all necessary precautions to ensure that they are not damaged in any way during the maintenance operations. The Landscape Management Contractor is to make good at his own expense any damage to public or private water, gas and any other mains or power services, drains and sewers caused by his own negligence, omission or default, and shall give all necessary notices to the local authority or statutory undertaker before commencing operations on site.

2.4 Health and Safety

- 2.4.1 Delacey & Sons (Holdings) Ltd will retain ultimate responsibility for the health and safety of the Site. The Site will be subject to informal inspections and a formal annual inspection. Any deficiencies in safety provision will be noted and acted upon.

- 2.4.2 The in-house Facilities Manager and landscape maintenance team is responsible for complying with the provisions of the Health and Safety at Work Act 1974. All machinery and apparatus brought onto the Site shall be safe and maintained to a standard that will not breach provisions within the Health and Safety at Work Act 1974 or any other statutory obligations.
- 2.4.3 **Health & Safety at Work:** The Landscape Management Contractor / in-house Facilities Manager is responsible for complying with the provisions of the Health and Safety at Work Act 1974 and all other regulations in respect of Health and Safety. All machinery or apparatus brought onto the site and used shall be safe to avoid unnecessary risk to health and safety, and shall be maintained to a standard that will not constitute an offence under the Health & Safety Act or any other relevant statutory provision.
- 2.4.4 **Safety and Security:** The Landscape Management Contractor is to ensure that the site is left safe and secure at the end of each working day. All materials, plant and tools are to be locked away or secured when not in use. Any areas affected by works which could endanger the safety and wellbeing of the public and operators of the facility must be adequately cordoned off until that particular item of work is complete. The Landscape Management Contractor should allow for regular monitoring of safeguards (all necessary protective fencing, barricades, screens, etc.) and shall adapt and maintain them as necessary to ensure the level of protection.
- 2.4.5 The Landscape Management Contractor shall be adequately trained, informed and supervised and sufficiently competent to perform their work without risk to health and safety to themselves or other persons on site especially where COSHH is applicable. All work shall be carried out in accordance with the relevant codes, best practice methods and safety practices which are currently in force.
- 2.4.6 Working adjacent to the highways: The Landscape Management Contractor shall be fully trained to work safely without risk to health and safety to themselves or other persons on site. All work shall be carried out in accordance with the relevant codes, best practice methods and safety practices which are currently in force.
- 2.4.7 The Landscape Management Contractor shall implement a quality management system, to ensure that all subcontracted works are undertaken by skilled and experienced workforce who have an understanding in working and delivering projects of this nature and in accordance with best practice environmental safeguards and mitigation.
- 2.4.8 All personnel on site and working on site shall use personal protective equipment and clothing in the interest of health and safety to avoid harm to themselves or any other persons. All site personnel will be briefed by the Ecological Management Team (Ecological Manager and /or Ecological Clerk of Works - ECoW) on ecological issues on site and informed that should they

discover a protected species in the working areas – all works shall stop immediately and reported to the Landscape Management Contractor/ Ecological Manager. The Ecological Management Team shall be highly qualified and experienced ecologists, for their roles and duties.

3.0 MANAGEMENT AREAS, TYPES AND OBJECTIVES

3.1.1 The soft landscape will consist primarily of areas of new planting around the periphery boundaries; infill planting adjacent to the existing vegetation, planting within the site and site entrances. The physical and visual aspects of the site landscape should be considered in the following ways:

- the context of the soft landscape within the general area and its appearance from outside the site, particularly from Goat Mill Road where it will be seen predominantly by people travelling by car and pedestrians.
- as a robust, functional landscape resource which can withstand the harsh environment of a busy roundabout along Goat Mill Road and the use of the site (predominately industrial units and service yard)
- as a new landscape and ecological resource that will develop as it matures;
- providing and improving wildlife corridors;
- creating and extending semi-natural habitats linking areas of semi-natural habitats with the surrounding wider habitat corridors;
- the need to ensure visibility of the proposed industrial and office units, road signage on the site for motorists and directional signage to the site itself;
- the need to maintain visibility over the sightline at the entrance to the site;

3.2 The Landscape Management Areas

3.2.1 The main landscape maintenance / management areas within the site are as follows:

- Western and southern periphery boundary areas of the site;
- Internal areas of planting and hedgerows;
- Access road frontage;
- Crib retaining wall along the northern and north-eastern boundaries;
- Species rich grass areas.

3.3 The Landscape Management Types

3.3.1 The Site will comprise of the following landscape management types as shown on the Detailed Planting Plan and Schedule drawing ref: 928-LA-P-02 & 03. The landscape management types will consist primarily of all new trees, mixed native hedgerows, shrubs, ground cover and grass areas as follows:

- New scattered tree planting;
- New native shrub planting;
- New hedgerow planting;
- New ornamental shrubs and groundcover planting;
- New species rich turf;
- New wildflower grass areas;

3.4 The Landscape Objectives

3.4.1 The main objectives of the maintenance strategy as listed below:-

- to promote and ensure the successful establishment and growth through to maturity of the trees, scrub, hedgerows, shrubs, ground cover areas and wildflower grass areas;
- To maintain the landscape in a clean, healthy, and attractive condition as a setting to the office and business units, enabling adequate visibility at the site access entrance.
- To maintain the landscape to ensure free and safe movement of site users (including operational and emergency servicing), avoiding potential hazards/obstructions and controlling growth for visibility/security purposes.
- To increase and maximise the ecological potential of the landscape.
- To establish a flexible management and maintenance regime able to respond to changing needs or objectives over the 5 year period and future on-going management of the site.

3.5 The Ecological Objectives

- Enhance the biodiversity of planting on site using predominately native tree and shrub plant species that are beneficial to pollinating insects;
- To provide valuable wildlife corridors and enhancing nature conservation value;
- Maintain the habitat mosaic, which provides opportunities for biodiversity within the Site;
- Removal The removal of Invasive Species (*Cotoneaster*) along the southern boundary: Non-native species including the invasive wall cotoneaster (listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) as a species which it is illegal to cause to grow in the wild) should be disposed of appropriately, taking care to avoid inadvertent spread.

4.0 MAINTENANCE SPECIFICATION: GENERAL INSTRUCTIONS

4.1.1 These general instructions apply to the full life of this management plan: Years 1 to 5 inclusive.

4.2 General Construction Operations / Habitat Work Safeguards

4.2.1 Best practice methods shall be employed and the appropriate measures shall be taken to prevent and minimize the following:

- No burning on site;
- Dust and air pollution;
- Noise and vibration and
- Management of surface water run –off.

4.3 General Management Operations / Habitat Safeguards

4.3.1 All existing trees to be retained and protected in accordance with BS 5837:2012 - Trees in Relation to Construction. **Existing Trees:** All planting within the root protection area (RPA) of existing trees shall be notched planted and locally adjusted to avoid tree roots. All shrub planting to be undertaken by hand using hand tools only to minimize root damage. If significant roots are encountered, these will be left undamaged and dug around; No new top soiling operations to take place within the RPA - all new planting to be planted into existing soil on site. No changes of levels (raising or reducing) during planting operations within the RPA's.

4.3.2 Pruning to existing and new trees within the site shall comply with the BS 3998: 2010, Tree Work Recommendations and undertaken by an Arboricultural Association approved Contractor.

4.3.3 Work to maturing trees and native shrubs shall be undertaken during the winter months outside the bird nesting season which is generally between March – August inclusive. Any emergency works required during the bird nesting season will need to be preceded by a check for nesting birds, by a suitably qualified and experienced ecologist.

4.3.4 Deadwood should only be removed from mature trees where there is a risk to people or property or when necessary to avoid spread of pests or disease. Care shall be taken when felling trees or removing limbs to avoid damaging adjacent trees or vegetation which is to be retained.

4.4 Site Waste Management

4.4.1 The Landscape Management Contractor shall reduce and minimize the amount of waste material on site as far as reasonably practical through waste management, recycling, and re-using materials.

4.4.2 The Landscape Management Contractor shall ensure the following:

- No burning of waste will be permitted on site.
- All arisings from management and maintenance operations shall be taken to a green waste composting area off site.
- Any litter and non-biodegradable material shall be collected and removed from site and taken to a licensed waste disposal site.
- Storage of liquid and hazardous waste – stored in a secure location and not mixed with general waste and prevent ground contamination.

4.5 Pruning Generally

- Prune in accordance with good horticultural practice. Prune larger branches and woody stems in accordance with good arboricultural practice.
- Maintain all new trees planting in accordance with BS8545:2014 *Trees: From Nursery to Independence in the Landscape – Recommendations*.
- Thin, trim and shape appropriately to each species, location, season, and stage of growth, leaving a well-balanced natural appearance.
- Use clean sharp secateurs, hand saws or other tools approved by the FM (facility manager). Trim off ragged edges of bark or wood with a sharp knife.
- Remove branches without damaging or tearing the stem.
- Keep wounds as small as possible and cut cleanly back to sound wood. Make cuts above and sloping away from an outward facing healthy bud, angled so that water will not collect on cut area.
- Prune larger branches neither flush nor leaving a stub, but using the branch bark ridge or branch collar as a pruning guide.
- Notify Delacey & Sons (Holdings) Ltd facility manager (FM) of any disease or fungus. Do not apply growth retardants, fungicide or sealant unless instructed by the FM.

4.6 Cleanliness

- 4.6.1 The site shall be left in a clean and tidy condition on completion and after each management operation. All rubbish and litter found within the planted and grassed areas shall be removed.

4.6.2 Leaf litter and arisings: collect, remove and dispose of grass cuttings, leaves, weeds, debris arising from maintenance works to be taken to the green waste composing area off site.

4.6.3 Mulch shall be swept off all paved areas after each maintenance visit.

4.7 General Watering

4.7.1 Watering: as necessary to ensure the continued health growth of all plants, until restrained from doing so by statutory legislation.

4.7.2 Where necessary loosen the soil or form a depression around the base of the stem of plants to ensure water reaches the root zone instead of dispersing on the surface.

4.7.3 Ensure full depth of topsoil is thoroughly watered. Use a fine hose or low pressured hose where appropriate to avoid damage to plants.

4.8 Machine Tools

4.8.1 Use only tools and machinery suitable for the site conditions and the work to be carried out. Using hand tools only around the existing and proposed trees and shrubs.

4.8.2 Works shall only be carried during the appropriate season. Ground and weather conditions shall be appropriate and suitable for the relevant operations.

4.9 Notices

4.9.1 The Landscape Management Contractor shall provide Delacey & Sons (Holdings) Ltd a programme / timetable to be agreed for the maintenance visits.

4.9.2 The Landscape Management Contractor is required to provide a statement on completion of each visit. This statement should itemise precisely the work carried out during that visit. This will provide a record of the work completed and the number of visits.

4.10 Use of herbicides and pesticides, composts and mulches

4.10.1 **Legislation** - Pesticides include herbicides, insecticides, fungicides and plant growth regulators. The use of pesticides is governed by legislation. The Landscape Management Contractor must comply with the 'The Control of Pesticides Regulations 1986' made under the 'Food and the Environment Protection Act 1985', 'The Control of Substances Hazardous to Health Regulations 1988' made under the 'Health and Safety at Work Act 1974' and any other legislation enacted during the contract period. All pesticides must be products on the current list of Agricultural Chemicals Approval Scheme. All pesticide users shall comply with the conditions of approval relating to use clearly stated on the product label and used in accordance with the manufacturer's instructions and guidelines.

- 4.10.2 Use of herbicides should be avoided, where possible. Any use of herbicides adjacent to the ditch/ watercourse should be avoided. The use of all herbicides near watercourses require written approval from the Environment Agency and only approved herbicides may be used by authorised contractors.
- 4.10.3 The Landscape Management Contractor must be compliant in obtaining all the necessary certificates (a recognized nominated storekeeper's certificate of competence (BASIS) shall be required for storing more than 200 litres of pesticides. All pesticides transported or stored in the Landscape Management Contractor's vehicles (regardless of quantity) shall be locked in a separate storage compartment in the vehicle or within a lockable container in 'pickups' that are bolted to the floor of the vehicle.
- 4.10.4 The Landscape Management Contractor shall keep a written logbook detailing all the uses and pesticide applications carried out within the site (if necessary) and a copy shall be submitted to the ecological manager and client's facilities manager for their records.
- 4.10.5 Use only non- residual herbicides and pesticides. Prevent weed species spreading by topping prior to seeding and combining a regime of repeated cutting to reduce vigor and spreading of weed species.
- 4.10.6 Use only organic peat free composts/ mulches and soil conditioners to PAS 100.

4.11 Protection

- 4.11.1 The Landscape Management Contractor shall provide whatever protection is necessary to delineate or protect areas of newly planted areas to prevent damage during establishment of planted areas.

4.12 Programme of the Works

- 4.12.1 The proposed landscape works shall be managed over a period of 5 years. For specific tasks and areas - Refer to Maintenance & Management Operations - Table A.
- 4.12.2 The Landscape Management Contractor shall co-ordinate with the Delacey & Sons (Holdings) Ltd facilities manager. Any potential failures to meet the specified program shall be reported to the Delacey & Sons (Holdings) Ltd Facilities Manager.

4.13 Biosecurity

- 4.13.1 The in-house Facilities Manager and landscape maintenance team should have a sufficient awareness of new and ongoing biosecurity threats, and the necessary precautions to avoid their spread should be undertaken at Delacey & Sons (Holdings) Ltd where they are encountered.

- 4.13.2 New findings of suspected non-indigenous plant pests and diseases should be reported to the Plant Health and Seeds Inspectorate or Forestry Commission – Forest Research Tree Health Diagnostic and Advisory Service or both.
- 4.13.3 All planting stock shall be native provenance, **UK grown plants** and sourced locally from the UK from quality UK growers
- 4.13.4 Biosecurity - Xylella: Any Xylella host plants that are specified must come from a UK nursery, these plants and trees must not be imported from Europe or anywhere else in the world, directly to site, as the risk is too great. Trees must be grown on a UK nursery for a minimum of 5 years and shrubs must be grown on a UK nursery for a minimum of two years. There must be full traceability on the Xylella host plants (ideally back to its origin).

5.0 MAINTENANCE SPECIFICATION: INITIAL ESTABLISHMENT

- 5.1.1 This section identifies the maintenance for soft landscape works associated with new planting. Maintenance operations detailed below apply for the first three year period after the implementation of the new planting tree and shrub areas.
- 5.1.2 During this time any replacement planting will have a high water demand, but most of the planting should be requiring nutrients for growth once the root systems have established. Space for development should not be an issue as the young trees and shrubs are unlikely to be competing for space at this stage.
- 5.1.3 **WATERING:** During establishment of planting and seeding, ensure that sufficient water is applied to maintain healthy growth. Volume of water used shall reflect soil type and rooting depths. Individual trees to be assessed based on size, soil type, rooting depth and pit size. To ensure establishment of newly planted trees, watering shall be carried out at least once a fortnight throughout the growing season and once per week in dry periods.
- 5.1.4 **MONITORING WATER NEED:** Water as necessary to ensure the establishment and continued thriving of all planting. During prolonged dry periods, monitoring of soil moisture levels are to be undertaken and a written report shall be submitted after each maintenance/ watering visit to confirm action taken to maintain adequate water provision.
- 5.1.5 **DROUGHT CONDITIONS:** During exceptional hot weather (normally during July & August) or in cases of extreme drought, following 10 consecutive days without rainfall, planted areas shall be watered weekly until the onset of natural rainfall. If water supply is, or is likely to be restricted by emergency legislation, the Landscape Management Contractor shall arrange import of second

class water from a sewage works or other approved source. Soil moisture levels shall be monitored.

- 5.1.6 **LITTER COLLECTION:** Collect and remove all extraneous rubbish not arising from the contract work and detrimental to the appearance of the site, including paper, packaging materials, bottles, cans, and similar debris.
- 5.1.7 **CLEANLINESS:** Remove soil and arisings from hard surfaces and leave the works in a clean, tidy condition after maintenance operations.
- 5.1.8 **TREES AND SHRUBS:** Trees and shrubs shall be maintained according to good horticultural practice to ensure the healthy growth of each plant species. Plants shall be pruned to remove damaged, dead or diseased wood according to good horticultural practice to facilitate a healthy and bushy growth according to each particular species.
- 5.1.9 **HEDGEROWS:** Hedges shall be maintained according to good horticultural practice to ensure the healthy growth of each plant species. Plants shall be pruned to remove damaged, dead or diseased wood according to good horticultural practice to facilitate a healthy and bushy growth according to each particular species. Aim to manage the hedgerows to form an 'A' shape.
- 5.1.10 **SPECIES RICH GRASS AREAS:** shall be cut frequently and maintained to encourage good root growth, to establish a dense grass cover free from weeds. Operations shall be carried out according to good horticultural practice. Spot treatment/ removal of any weed ingressions shall be carried out as necessary.
- 5.1.11 Once established Wildflower Species Rich Turf requires regular mowing through the growing season to ensure the area can be used as a lawn. The mowing interval should not exceed 2 weeks during the growing season. Cutting the plants back to 2 to 4 inches (50 to 100mm) in length ensures species diversity within the lawn area. All cuttings should be removed.
- 5.1.12 **WILDFLOWER GRASS AREAS:** Spot treatment/ removal of any weed ingressions shall be carried out as necessary. Cut annually in autumn to approximately 100mm, leaving the cuttings for at least a week prior to the removal of all arisings from site. Leaf clearance will be required in the winter to remove any leaf litter from the trees within the wildflower areas.
- 5.1.13 **CONTROL OF WEEDS:** During the initial establishment of newly planted trees and shrubs, carry out maintenance of the planted areas as follows:
- Maintain a weed free area around each tree and shrub, minimum diameter of 1.0m or the surface of the original planting pit. Keep planting beds clear of weeds, by hand weeding, as appropriate.

- Beds shall be forked over as necessary to keep soil loose, with gentle cambers and no hollows, taking care not to reduce depth or effect of mulch.
- The condition of tree stakes and ties shall be checked regularly and adjusted, re-fixed or replaced as required.

5.1.14 FERTILIZER: In March or April, 15:15:15 N:P:K fertilizer shall be evenly spread, carefully incorporating into soil below mulch.

5.1.15 MAINTENANCE OF MULCH :

- On an annual basis top up with same type of mulch (peat free) to thickness of 50 mm.
- Remove weeds growing on or in mulch by hand weeding.

5.1.16 REMOVAL OF DEAD PLANT MATERIAL AND REPLACEMENT PLANTING: At the end of the growing season, check all trees and shrubs and remove all dead foliage, dead wood, and broken or damaged branches and stems. Replace losses at the next appropriate planting season. Replacements must match the size of adjacent or nearby plants of the same species or should match the original specification, whichever is the greater.

6.0 MAINTENANCE SPECIFICATION: ONGOING

- 6.1.1 This section identifies the regular maintenance operations which are to be introduced beyond the establishment period. It addresses the short to medium term development of the soft landscape and covers the period after the three years initial establishment.
- 6.1.2 During this time the plants should have established sufficiently to be able to withstand some periods of drought, and soil nutrient levels will be stabilising from natural processes. Formative pruning may be the priority and some plants may require thinning where they are reaching a closed canopy.
- 6.1.3 The general maintenance operations are to be applied to all areas, unless otherwise noted. The need for watering will be less than for the establishment years, and required only during exceptionally hot weather, as directed by the facility manager. Specific maintenance and management requirements are described below and are summarised in Table A.

6.2 Pruning requirements for ongoing management:

- 6.2.1 Pruning will be carried out as for the establishment phase with additional management requirements as listed below:
- Prune to encourage healthy and bushy growth and desirable ornamental features, e.g. flowers, fruit, autumn colour, stem colour.
 - Sightlines: ground cover planting species have been specified so as to not exceed 600mm. Where plants exceed the expected height these shall be pruned and trimmed to below 60mm to maintain the recommended visibility sightlines
 - Suckers: Remove by cutting back level with the source stem or root.

6.3 Mulch:

- On a twice annual basis top up with same type of mulch (fine ornamental bark mulch) to thickness of 50 mm only in areas where coverage is inconsistent.
- Sweep up and replace mulch spilling onto adjacent areas and, if not contaminated with weeds or rubbish, return to planted area.
- Remove persistent weeds growing on or in mulch by hand weeding only; if spot treatment with glyphosate is required agreement with ecological team where herbicide is required.

6.4 Dead plant material and fallen leaves:

- 6.4.1 At the end of the growing season, check all trees and shrubs and remove all dead foliage, dead wood, and broken or damaged branches and stems. Replace losses at the next appropriate planting season. Replacements must match the size of adjacent or nearby plants of the same species or should match the original specification, whichever is the greater.
- 6.4.2 In autumn and winter, collect and remove accumulations of drifted leaves from the vicinity and from planting beds.

6.5 Hand weeding:

- General: Remove weeds entirely, including roots.
- Disturbance: Remove the minimum quantity of soil, and disturb plants and mulched surfaces as little as possible.
- Completion: Rake area to a neat, clean condition.
- Mulch: Reinststate to original depth.

6.6 Soil aeration:

- Compacted soil surfaces: Aerate the soil of root areas and break surface crust. Reduce clods to crumb and level off. Do not damage plants and their roots.

7.0 ADDITIONAL MAINTENANCE OPERATIONS

7.1.1 Additional maintenance operations for specific areas and planting types are as follows:

7.2 Advanced Nursery Stock; Extra Heavy Standard and Heavy Standard Trees

7.2.1 It is the intention to allow trees to develop their natural shape and size. Inspect at every planned visit and additionally after strong winds. The following operations to be carried out:

- Prune to remove dead, dying, diseased branches. Advise Landscape Architect of any major works required and if necessary obtain an assessment from an approved arboriculturalist. (FM approval required). Maintain in accordance with BS8545:2014 *Trees: From Nursery to Independence in the Landscape – Recommendations*.
- Trees to be pruned annually, during the dormant season (winter months) outside the bird nesting season which is generally between March – August inclusive. Remove suckers from base.
- Around the base of each tree ensure all weeds/ vegetation that maybe harmful to the establishment of the trees are removed. Provide a minimum diameter of 1.0m weed free around each tree. Top up mulch, around the base of the tree to a depth of 50mm to ensure effective weed suppressant.
- Stakes and ties must be regularly maintained and checked to prevent damage to new tree planting. Adjust, re-fix or renew as necessary, either stake or tie to ensure that no damage occurs to the new tree through instability. Adjust as required to maintain stability and to ensure all trees are upright. Straighten if necessary.
- Firm up trees which have suffered frost heave or are affected by strong winds. Tread around the base until firmly bedded.
- Collars in soil at base of tree stems, created by tree movement: Break up by fork, avoiding damage to roots. Backfill with topsoil and re-firm.
- Ensure that sufficient water is applied to maintain healthy growth. Refer to landscape specification for initial watering requirements. Water quantities to reflect soil type and rooting depths. Individual trees to be assessed based on size, soil type, rooting depth and pit size. During the establishment period watering of newly planted trees to be carried out at least once a fortnight throughout the growing season and once per week in dry periods. The establishment period to be 3-5 years for new trees and reviewed after 3 years.
- Dependent on location, apply N.P.K. slow release fertiliser (at rates recommended by the manufacturer) on annual or two-yearly basis. Monitor for healthy growth.

- Keep the trees free from pests and diseases through environmentally sensitive means i.e. without chemicals, where possible. Monitor trees regularly to catch any problems early.
- Continue protection of all trees from rabbits, deer (if required) and other pests, by ensuring all protective fences are intact. Monitor and review after five years.
- Tree stakes and supports shall be retained for a minimum of three to five years, after which their value shall be reviewed in relation to the establishment of the trees. Remove stakes and backfill holes with lightly compacted soil.
- Coppicing: *Salix caprea* (Goat willow) and *Salix cinerea* (Grey willow) coppiced in on a 7-15 year rotation if required.

7.3 Ornamental Shrub Planting

7.3.1 The intention is to encourage the establishment of planting to provide continuous cover using a balanced mixed shrub and ground cover layer.

- Keep all beds weed free by hand weeding.
- Fork over beds as necessary to keep soil loose with no low or high spots.
- Re-firm plants where loosened by wind, frost or vandalism.
- Clear soil and/or mulch from adjacent hard surfaces.
- Until review period (year 5) apply a (15:15:15) N.P.K. slow release fertiliser during March/April in accordance with manufacturer's recommendation.
- Prune shrubs to remove dead, damaged or diseased branches, dead flower heads, etc.
- Prune to maintain shape appropriate to the species with additional shaping or height maintenance as specified. Pruning to be carried out at the following times of year:
 - o Winter flowering shrubs: Spring.
 - o Shrubs flowering between March and July: Immediately after the flowering period.
 - o Shrubs flowering between July and October: Back to old wood in winter.
- At end of growing season remove redundant plant supports. Remove litter, debris and arisings at end of each maintenance visit.

- Remove plants with significant damage or dieback and notify Delacey & Sons (Holdings) Ltd facilities manager of replacement planting where required.
- During periods of prolonged drought apply sufficient water to maintain healthy growth.
- Maintain beds rubbish and litter free.
- From year 2, deciduous plants to be cut back by 50% every 3 years to promote new growth and vigour. Shrub blocks to be cut back on a rotational system where and when required.
- From year 2, thin when foliage of adjacent plants has begun to touch. Retain plants with a strong healthy habit. Minimise disturbance to adjacent plants making good any minor damage immediately. Refill holes with topsoil to leave an even graded surface and restore mulch as original specification.
- From Year 2, trim ground cover shrubs to maintain tidy appearance and to limit spread within planting beds and to prevent encroachment and obstruction of any right of way.

7.4 Ground cover planting

7.4.1 The intention is to encourage the establishment of ground cover planting to provide continuous cover using ground cover layers to provide seasonal interest, colour and wildlife benefits.

- The ground flora will be assessed every 3 years after planting to assess the rate of natural colonisation. If this has been poor, introduction of additional species through plugs and or container plants will be conducted.
- Plant communities will be allowed to develop through natural colonisation.
- Maintain beds rubbish and litter free.
- All ground cover plants shall be sourced locally and be UK local provenance.

7.5 Species Rich Grass

7.5.1 Generally no fertilizer is needed due to the capacity of a number of the species in this turf fixing nitrogen. However in some circumstances, for example where the turf is on very low fertility soil such as sand or gravel, the addition of a light dose of fertilizer before or soon after laying can be beneficial. If this is the case, a light dose every spring, may improve plant development. Please refer to Wildflower Turf Ltd.

7.5.2 Once established Wildflower Species Rich Turf requires regular mowing through the growing season to ensure the area can be used as a lawn. The mowing interval should not exceed 2 weeks during the growing season. Cutting the plants back to 2 to 4 inches (50 to 100mm) in length ensures species diversity within the lawn area. All cuttings should be removed.

7.5.3 Mowing should take place from early spring through to late autumn to coincide with the plants seasonal growth. After the autumn it is important to remove any leaf litter that falls on the area. If the areas are shaded by trees, ensure that fallen twigs and leaves are removed throughout the autumn period.

- Grass height: Maintain within approved height range. 50-100mm. This may require fortnightly visits during the main growing season. Remove all arising's.
- Soil and grass condition: Maintain a healthy vigorous sward, free from disease, fungal growth, discolouration, scorch or wilt. Re-sow where necessary to maintain even growth throughout.
- Waterlogging and compaction: Prevent.
- Damage: Repair trampling, abrasion or scalping caused by mowing.
- Edges: Neat and well defined, in clean straight lines or smooth flowing curves.
- Litter and fallen leaves: Remove regularly to maintain a neat appearance.

7.5.4 Re-sow where necessary to maintain even growth throughout. Grass cutting:

- Generally, fortnightly cuts during the growing season. Monthly cuts at other times. Additional cuts as required to satisfy the requirements of the specification, dependant on growing conditions.
- Before mowing: Remove litter, rubbish and debris.
- Finish: Neat and even, without surface rutting, compaction or damage to grass.

- Edges: Leave neat and well defined. Neatly trim around obstructions.
- Avoid mowing to base of protected trees (minimum of 600mm from base of tree) – depending on each individual tree.
- Adjoining hard areas: Sweep clear and remove arisings /cuttings.
- Drought or wet conditions: Obtain instructions.

7.5.5 Removal of leaves from grass areas:

- Operations: Remove fallen leaves.
- Special requirements: Remove by hand raking or leaf blower.

7.5.6 Treatment of grass areas with herbicide:

- Type: Selective herbicide suitable for suppressing perennial weeds.

7.5.7 Spring/Autumn application of fertilizer to grassed areas:

- Type: Slow release.
- Coverage: To manufacturer's recommendations.

7.6 Wildflower Grass Areas

7.6.1 The intention is to provide seasonal and wildlife interest within the site.

- After 12 months the sward should be establishing and requiring little maintenance. Over time some species, within the mixture may become more dominant due to environmental conditions and factors, to encourage diversity, simply remove and reduce the number of dominant plants in order to restore the balance.
- Cut annually in autumn to approximately 100mm using a scythe, strimmer or mower, leaving the cuttings for at least a week before removing all arisings/ cuttings from site. This can be done by strimming and raking, or using a mower and collecting the cuttings. Make sure these tools are sharp. The cut is an important part of the meadows life cycle and ensures that re-growth and species diversity year on year. Cuttings should not be left on the meadow, as they add undesirable fertility to the ground. It is also important to remove all leaf litter that falls onto the area.
- Before strimming: Remove litter, rubbish and debris.

- Leaf Litter Clearance: remove all fallen leaf litter and removed from site, undertaken during the winter months.
- The annual maintenance cut should be done in late September, early October. There is no need for a set date, but this timing will allow the plants in the meadow to regenerate before the first frost typically in November. You can choose to cut only half of the meadow area at one time to allow time for fauna to migrate to the uncut meadow. Allow some regrowth of the cut area before cutting the second half, but aim to have finished all cutting by the end of the first week of October. Over time alternate the areas that are cut early and the areas that are left as this will benefit species diversity.
- On fertile sites or where you might have species dominance or too vigorous early growth, a second cut at the end of May, beginning of June can be introduced. This high cut, approximately 8 to 10 inches off the ground (200mm to 250mm) to remove the flower heads but leaving enough plant stems and leaf area to regenerate, and removal of all cuttings, will help to knock back some species dominance, reduce soil fertility and open up the sward to more light and air circulation to promote diversity of lower growing species. Once the cutting has been completed and all cuttings removed, give the area a good soaking with water to encourage the next flush of growth. Introducing this early summer cut and removal will mean your second Autumn cut and removal will be later that year, up to the end of October.

8.0 MAINTENANCE SPECIFICATION YEARS 3 TO 5

- 8.1.1 An intermediate review is to be carried out after the first three years, at which point any adjustments to the management specifications for the following Years 4-5 can be made. The Landscape Management Contractor shall co-ordinate with Delacey & Sons (Holdings) Ltd facilities manager to make any minor alterations to the management specification.
- 8.1.2 At this stage the planting undertaken in the initial first three years should be able to withstand all but the most severe periods of drought. Occasional de-compaction of soil and applications of fertilizer may be required to improve the soil environment and boost nutrient levels.
- 8.1.3 An annual inspection shall be carried out (late summer/early autumn) to monitor progress and to identify any remedial or additional work (due to either unforeseen circumstances or functional changes) that may be required prior to the start of the planting season.
- 8.1.4 A further final review of this management plan will be carried out at Year 5 to allow for the continuance or amendment of the maintenance operations in accordance with the long term requirements and objectives. The ongoing review will be carried out in consultation with Delacey & Sons (Holdings) Ltd Facilities Manager and Methyr Tydfil Borough Council.

TABLE A - Table of Annual Maintenance and Management Operations

Operations	Target area	Frequency/timing	Comments
Monthly maintenance visits – throughout the year			
Litter picking (if required)	All areas	At least monthly	Attention to all areas.
Mulch and soil spill.	All new tree and shrub planting areas	At least monthly	Remove or return to planting bed as specified
Hand Weeding– maintain weed free areas.	All new tree and shrub planting areas	At least monthly	Allow for a minimum of 16 -20 visits
Check general condition, plus stability of trees and large shrubs. Re-firm as necessary. Check tree ties and stakes. Adjust as required. Remove from end of Year 5 after planting, if no longer required.	All new tree planting	At least monthly	Intermediate checks after severe weather.
Note any dead, dying, diseased or damaged wood to be remedied during seasonal maintenance visits.	All new trees and shrubs	At least monthly	Balanced form to be maintained. Advise management team of major works if required.
Replacement Planting undertaken the following planting season.	All new trees and shrubs	November to March	
Watering - Monitor need for additional watering.	All new tree and shrub planting areas	At least monthly	Additional watering maybe required seasonally to meet weather conditions.
Monitoring need for additional pruning.	All new trees and shrubs	At least monthly	Note overcrowding and dominance issues for potential thinning of plants by removal.
Remove suckers from base.	All new trees and shrubs	At least monthly	
Pest and disease control.	All new trees and shrubs areas	At least monthly	
Species Rich Grass Areas. Remove all arisings/ cuttings.	Species Rich Grass Areas ONLY	At least fortnightly March-September. Then every 2 months or according to weather conditions at other times of year	Weekly when weather conditions favour fast growth.
Watering visits – as required throughout the year but predominantly during growing season - operations may coincide with monthly maintenance visits, with additional visits which may be required seasonally to meet specification.			

Operations	Target area	Frequency/timing	Comments
Water all newly planted areas as required.	All new trees and shrub areas.	At least fortnightly March-September. Monthly or according to weather conditions at other times of year.	
Spring maintenance visit – March/April – additional seasonal operations which may coincide with one or both monthly maintenance visits at this time of year			
Pruning trees and shrubs	Any trees (if required urgently) and winter flowering shrubs	Annually	Avoid disturbance to nesting birds. Balanced form to be maintained. Advise Arborist /Ecological Management Team of major works required.
Fork beds and apply fertiliser	All new trees and shrub planting.	Annually	Apply in accordance with manufacturers recommendations.
Reinstate mulch	All new planting areas.	Twice annually (Again in autumn)	
Summer maintenance visit – July/August – additional seasonal operations which may coincide with one or other monthly maintenance visit at this time of year			
Summer pruning of new trees and shrubs including clipping hedges.	Any trees (if required urgently) and shrubs flowering March-July		Avoid disturbance to nesting birds. Balanced form to be maintained. Advise Ecological Management Team of major works required.
Autumn maintenance visit – September/October – additional seasonal operations which may coincide with one or both monthly maintenance visits at this time of year			
Autumn pruning of new trees and shrubs.	Any trees (if required urgently), shrubs flowered July – October (if required)	Annually	Avoid disturbance to bats /birds. Delay if necessary. Balanced form to be maintained. Advise Arborist /Ecological Management Team major works required.

Operations	Target area	Frequency/timing	Comments
Remove compaction	All planting areas	Annually	
Remove dead plant material	All planting beds	Annually	
Rake up and remove dead leaves	All new planting areas.	Twice annually (again in winter)	
Reinstate mulch	All new planting areas.	Twice annually (previously in Spring)	
Assess losses for replanting over winter and in spring	All new trees and shrubs areas.	Annually	Advise Delacey & Sons (Holdings) Ltd facilities manager of any infill planting required.
Wildflower Areas: Spot treatment/ removal of any weed ingress shall be carried out as necessary. Cut annually in autumn to 70-100mm and leaving the cuttings for at least a week before removing all arisings/ cuttings from site. Leaf clearance will be required in the winter to remove any leaf litter from the trees within the wildflower areas.	Wildflower Grass Areas	Annually in September – may require additional cut in June.	Refer to Germinal Amenity – Heavy Clay Soils (WFG6) Maintenance Regime below. Supplier: Germinal Amenity Web: germinalamenity.com Tel: 01522 868714
Winter maintenance visit – November – February – additional seasonal operations which may coincide with one or both monthly maintenance visits at this time of year			
Winter pruning of all trees (if required)	All trees (if required) shrubs flowering since autumn maintenance visit	Annually	Avoid disturbance to nesting birds.
Replacement planting trees, shrubs and groundcover planting.	Any trees, shrubs and groundcover planting as required and agreed where necessary	Annually	

Operations	Target area	Frequency/timing	Comments
Rake up and remove dead leaves, especially within planting beds.	All areas	Twice annually (previously in autumn)	

Wildflower Areas : Heavy Clay Soils (WFG6) Maintenance Regime below.

Sowing Rate	5g/m ²				
Sowing Time	March - October				
Sowing Depth	10mm				
Sowing Instructions	Create a fine friable seedbed down to 150mm in depth. Carry out two equal sowings at right angles to each other and diagonally to main axis. Broadcast manually or use seed drill, rake level and roll. Ensure good seed to soil contact.				
Maintenance	<table border="1"> <tr> <td></td><td> • First cut mid-September - 1st October and collect the arisings. • Cutting height 70-100mm. </td></tr> <tr> <td></td><td> • Cut from mid-August to early October. This can be done as one cut but preferable, and if the meadow is big enough, you will cut it in sections leaving a week to a fortnight between cuts. Ensure you collect the arisings. If the meadow is large enough, consider allowing up to a fifth to stand uncut through the winter and cut down and remove the clippings in March the following year, this will provide a habitat for invertebrates and some vertebrates over the winter. Rotate this area so a different section is left uncut each year. This more closely replicates the grazing of animals which would leave some small areas not grazed. • If possible, and with the obvious exception of areas you are leaving uncut, lightly mow the sward down to 70-100mm as required throughout the winter months until March and collect the clippings. </td></tr> </table>		• First cut mid-September - 1st October and collect the arisings. • Cutting height 70-100mm.		• Cut from mid-August to early October. This can be done as one cut but preferable, and if the meadow is big enough, you will cut it in sections leaving a week to a fortnight between cuts. Ensure you collect the arisings. If the meadow is large enough, consider allowing up to a fifth to stand uncut through the winter and cut down and remove the clippings in March the following year, this will provide a habitat for invertebrates and some vertebrates over the winter. Rotate this area so a different section is left uncut each year. This more closely replicates the grazing of animals which would leave some small areas not grazed. • If possible, and with the obvious exception of areas you are leaving uncut, lightly mow the sward down to 70-100mm as required throughout the winter months until March and collect the clippings.
	• First cut mid-September - 1st October and collect the arisings. • Cutting height 70-100mm.				
	• Cut from mid-August to early October. This can be done as one cut but preferable, and if the meadow is big enough, you will cut it in sections leaving a week to a fortnight between cuts. Ensure you collect the arisings. If the meadow is large enough, consider allowing up to a fifth to stand uncut through the winter and cut down and remove the clippings in March the following year, this will provide a habitat for invertebrates and some vertebrates over the winter. Rotate this area so a different section is left uncut each year. This more closely replicates the grazing of animals which would leave some small areas not grazed. • If possible, and with the obvious exception of areas you are leaving uncut, lightly mow the sward down to 70-100mm as required throughout the winter months until March and collect the clippings.				

APPENDIX I

Landscape Drawing

- Detailed Planting Plan drawing no's. 928-LA-P-02 & 03.

APPENDIX 2

Wildflower Grass

- Species Rich Grass Areas – Wildflower Turf Ltd
- Maintenance Schedule

NOTES

Copyright: This drawing is the property of Bradford-Smith Landscape Architect. It must not be copied or reproduced or passed to a third party without written consent of Bradford-Smith Ltd.

Dimensions: All dimensions are to be taken from this drawing. All contractors must visit site and be responsible for using and checking all dimensions related to the works shown on the drawing. All levels in meters.

Utilities/Highways/Environment: It is the responsibility of the client or their agent to liaise with Utilities Provider, Highway Authority & Environment Agency and to ensure that all approvals are in place. It is the responsibility of the contractor to locate all underground services prior to construction.

Drawings: All drawings and levels to be checked on site prior to the construction works commencing on site. All drawings shall be read in conjunction with relevant landscape specifications.

Discrepancies: Any discrepancy on the drawings shall be referred to the CA immediately.



LEGEND

SOFT LANDSCAPE WORKS

- | | |
|--|--|
| | Existing vegetation consisting of mixed tree & shrub species retained & managed |
| | Proposed mixed native tree planting |
| | Proposed native hedgerow planting - planted at 0.5m centers |
| | Proposed mixed native hedgerow & shrub planting - planted at 0.5m centers |
| | Proposed structural shrub planting |
| | Proposed ornamental shrub & ground cover planting |
| | Proposed Species Rich Amenity Grass Areas:
WFT-Species-Rich-26; Supplied by Wildflower Turf Ltd or similar equivalent |
| | Existing grass verges retained and made good where necessary
Seed Mix: A18 (Road Verge and Embankments); sowing rate: 35g/m ² ; supplied by Germinal Seeds |
| | Wildflower/ Grass Seed Mix:
WFG6 Heavy Clay Soils (80:20 mix); sowing rate: 5g/m ² ; supplied by Germinal Seeds |
| | Crib wall PermaBags: supplied by Phi Group and with watering tube. |
| | Soil cells: Rootspace units supplied by Green Blue Urban & installed in accordance with manufacturers instructions |
| | Site boundary |

NOTES

Ground work within RPA of existing trees - Any required excavations to be undertaken by hand using hand held tools only to minimize any root damage. All such works will be undertaken in full accordance with Section 7.2 of BS5837:2012. Any required root pruning will be undertaken by the Arboricultural Consultant (where such works are appropriate in accordance with the above Standard) and as detailed in Section 7.2.

New Fencing: All fence posts within RPA shall be locally adjusted to avoid significant roots and undertaken by hand using hand held tools to minimize any root damage.

Landscaping details and drainage - refer to Architects and Engineers details. For details on retaining structures, please refer to the Engineers / architects details.

Levels: proposed detailed levels to be provided by Engineers details.

Surface finishes: to be installed in accordance with the manufacturers instructions. All hard surfaces laid to falls.

- 29-09-2022 Minor amendments in accordance with LPA comments.

REVISIONS

BRADFORD-SMITH
LANDSCAPE ARCHITECT

5 THOROLD ROAD
FARNHAM
SURREY
GU9 7JY

TEL&FAX 01252 714607
EMAIL: mo@bradfordsmith.co.uk

Project
**Coat Mill Road, Dowlais, Methyr Tydfil,
 F48 3TD**

DELAHEY & SONS (HOLDINGS) LTD

Drawing Title
DETAILED PLANTING PLAN & SCHEDULE
SHEET 1 OF 2

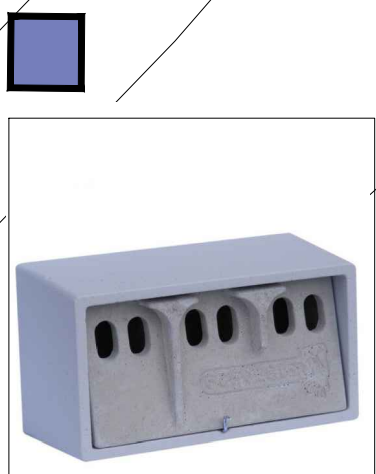
Scale	Date	Drawn
200 @ AI	June 2022	MS

Drawing No.	Status	Revision
28-GA-P-02	PLANNING CONDITION 12	Rev A

☐ Preliminary	☐ Issued for Design/Information
☒ Issued for Planning Approval	☐ Issued for Tender
☐ Issued for Construction	☐ As Built

ECOLOGICAL ENHANCEMENTS

For detail refer to Ecological Appraisal
report by Richard Tofts Ecology



Sparrow Boxes: 3nr integrated wall Schwegler boxes (one on Unit 1; one on Unit 6 & one on Unit 10 of the new building facing north or east); exact locations tbc by ecologist

PLANNING

SCALE 1:200 @ A

NORTH

TREES						
Number	Species	Girth	Height	Specification		Density
3	Acer campestre	12-14cm	350-425cm	Heavy Standard : Clear	Stem min. 200 :5 brks :BR	Counted
2	Acer campestre 'Elsrijk'	12-14cm	350-425cm	Heavy Standard : Clear	Stem min. 200 :5 brks :BR	Counted
2	Betula 'Edinburgh'	12-14cm	350-425cm	Heavy Standard : Clear	Stem min. 200 :5 brks :BR	Counted
3	Betula pendula 'Golden Cloud'	14-16cm	425-600cm	Extra Heavy Standard : Clear	Stem min. 200 :5 brks :RB	Counted
2	Quercus robur	12-14cm	350-400cm	Heavy Standard : Clear	Stem min. 200 :5 brks :BR	Counted
3	Quercus robur 'Fastigiata Koster'	14-16cm	425-600cm	Extra Heavy Standard : Feathered to base :5/7 brks :RB		Counted
1	Quercus robur 'Fastigiata Koster'	14-16cm	425-600cm	Extra Heavy Standard : Clear	Stem 175-200 :RB	Counted
Total : 16						

SHRUBS					
Number	Species	Height	Pot Size	Specification	Density
278	Carpinus betulus	100-125cm		Hedge stock :Feathered to base :Bushy :BR	0.5Ctr
6	Carpinus betulus	100-125cm		Hedge stock :Feathered to base :Bushy :BR	0.5/m ²
47	Cornus alba 'Sibirica'	40-60cm	3L	Bushy :Several shoots :C	3/m ²
53	Lonicera pileata	30-40cm	3L	Bushy :C	4/m ²
84	Lonicera pileata Maigrun	30-40cm	3L	Bushy :C	4/m ²
12	Pyracantha 'Teton'	60-90cm	5L	Leader With Laterals :Bushy :C	0.5Ctr
9	Rubus 'Betty Ashburner'	20-25cm	2L	Several shoots :C	4/m ²
100	Viburnum burkwoodii 'Anne Russell'	30-40cm	3L	Bushy :C	2.5/m ²
Total : 589					

CLIMBERS					
Number	Species	Height	Pot Size	Specification	Density
57	Hedera helix 'Green Ripple'	40-60cm	2L	Several Shoots :C	4/m ²

HEDGES					
Number	Species	Height	Pot Size	Specification	Density
48	Carpinus betulus	100-125cm		Hedge stock :Feathered to base :Bushy :BR	0.45Ctr Double Staggered at 0.5m offset
Total : 48					

MIXED NATIVE SPECIES					
Number	Species	Height	Specification	Density	%
105	Acer campestre	90-120cm	Hedging stock : Feathered Whip :BR	0.5Ctr	10%
105	Cornus sanguinea	90-120cm	Hedging stock : Feathered Whip :BR	0.5Ctr	10%
105	Corylus avellana	90-120cm	Hedging stock : Feathered Whip :BR	0.5Ctr	10%
414	Crataegus monogyna	90-120cm	Hedging stock : Feathered Whip :BR	0.5Ctr	40%
105	Ilex aquifolium	40-60cm	Hedging stock :BR	0.5Ctr	10%
105	Prunus spinosa	90-120cm	Hedging stock : Feathered Whip :BR	0.5Ctr	10%
54	Rosa canina	90-120cm	Hedging stock : Feathered Whip :BR	0.5Ctr	5%
54	Viburnum opulus	90-120cm	Hedging stock : Feathered Whip :BR	0.5Ctr	5%
Total :	1047				Total :100%

Vertical scale: 695 mm

Plan view dimensions: 1800 crs, 1800, 1800 crs, 1800 crs, 1800

Side elevation view showing PERMABAGS installation.

Callout details:

- Geotextile to top of wall when top soiling for planting.
- Geotextile staked in place or rolled out in conjunction with top soil placement.
- Top soiling/landscaping by others.

PERMABAGS laid to inside front face of wall for planting. Permagrass are supplied with a 35mm dia u.P.V.C. Wavin Coil or similar watering tube. Watering tube to be cut on site to 500mm length.

Ground work within RPA of existing trees - Any required excavations within RPA's for the new planting and fence posts shall be undertaken by hand using hand held tools only to minimize any root damage. All such works will be undertaken in full accordance with Section 7.2 of BS5837: 2012. Any required root pruning will be undertaken by the Arboricultural Consultant (where such works are appropriate in accordance with the above Standard) and as detailed in Section 7.2'.

Surface finishes: to be installed in accordance with the manufacturer's instructions.

☐ Preliminary	☐ Issued for Design/Information
☒ Issued for Planning Approval	☐ Issued for Tender
☐ Issued for Construction	☐ As Built

A - 29-09-2022 Minor amendments to planting species & specification notes in accordance with LPA comments.

REVISIONS

PLANNING

APPENDIX 2																
LAND AT GOAT MILL ROAD, DOWLAIS, METHYR TYDFIL, CF48 3TD															Project no: 928	
Landscape Maintenance Schedules																
Activity	Frequency Per Annum	Years	Indicative Timing of Operation												Comments	
			J	F	M	A	M	J	J	A	S	O	N	D		
Inspections and Surveys																
Health and Safety																
Undertake a formal inspection to review hazards identified by original assessment.	1	All Years			✓	✓										
Specialist Surveys																
Instruct a trained arboriculturist to undertake a tree hazard and condition survey of mature trees.	As required	Every 3 Years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Soft Landscape Elements																
Individual Tree Planting																
Check tree supports, stakes and ties monthly, adjust when required.	Monthly	1 to 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Replace any damaged or tree stakes and ties.	As required	1 to 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Remove stakes and ties.	1	Year 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Weed Control around base of tree surrounds (0.5m radius).	Monthly from March to October	1 to 5			✓	✓	✓	✓	✓	✓	✓	✓				
Tree inspection for damage and disease	Annually							✓	✓							
Replace failed / dead/ missing trees during the planting season.	Annually	1 to 5	✓	✓	✓										✓	
Re-firm newly planted trees as required.	Monthly	1 to 3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Water new planting.	Twice Monthly (As required)	1 to 5				✓	✓	✓	✓	✓	✓	✓				
Top up mulch to maintain a depth of 50-75mm around the base (in March / April and September/ October).	Twice a year	1 to 5			✓	✓					✓	✓				
Fertilizer	One application annually (In March or April)				✓	✓										
Pest & disease control	When required	1 to 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
General Pruning	When required	1 to 5	✓	✓								✓	✓	✓		Avoid bird breeding /nesting season
Formative prune to maintain health and vigour.	N/A	4 to 5	✓	✓								✓	✓	✓		Avoid bird breeding /nesting season
Assessment of condition and structure of new tree planting.	Annually	All years									✓					
Native Shrub Planting																
Check guards, stakes and ties monthly.	Monthly	1 to 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Replace any damaged or missing guards, stakes and ties.	When required	1 to 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Remove guards, stakes and ties.	1	Year 5												✓	✓	
Glyphosate spot spray around base of shrubs.	Twice annually	1 to 5			✓	✓	✓	✓	✓	✓	✓	✓				
Water new planting.	Twice Monthly (As required)	1 to 3				✓	✓	✓	✓	✓	✓	✓				
Replace failed or damaged deciduous species.	Annually	1 to 5	✓	✓	✓									✓	✓	
Replace failed or damaged coniferous/evergreen species.	Annually	1 to 5	✓	✓	✓									✓	✓	
Re-firm new planting as required.	As required	1 to 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Weed control.	As required	1 to 5				✓	✓	✓	✓	✓	✓	✓				
General Pruning	When required	1 to 5	✓	✓								✓	✓	✓		Avoid bird breeding /nesting season
Formative prune to maintain health and vigour.	As required	1 to 5	✓	✓										✓	✓	Avoid bird breeding /nesting season
Pest & disease control	When required	1 to 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Hedgerow Planting																
Check guards, stakes and ties monthly.	Monthly	1 to 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Replace any damaged or missing guards, stakes and ties.	When required	1 to 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Remove guards, stakes and ties.	1	Year 5												✓	✓	
Glyphosate spot spray around base of shrubs.	Twice annually	1 to 5			✓	✓	✓	✓	✓	✓	✓	✓				
Water new planting.	Twice Monthly (As required)	1 to 3				✓	✓	✓	✓	✓	✓	✓				
Replace failed or damaged deciduous species.	Annually	1 to 5	✓	✓	✓									✓	✓	
Replace failed or damaged coniferous/evergreen species.	Annually	1 to 5	✓	✓	✓									✓	✓	
Re-firm new planting as required.	As required	1 to 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Weed control.	As required	1 to 5				✓	✓	✓	✓	✓	✓	✓				
Trim and clip up both sides of hedgerows.	As required	1 to 5			✓	✓	✓	✓	✓	✓	✓	✓				
Pest & disease control	When required	1 to 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Formative prune to maintain health and seasonal foliage.	When required	5 to 10	✓	✓										✓	✓	Avoid bird breeding /nesting season
Ornanamental Shrub Mix Planting																
Top up mulch to maintain a depth of 50-70mm around the base of all young plants.	Twice a year	1 to 5			✓	✓							✓	✓		
Glyphosate spot spray to vegetation around base of shrubs within 0.5m diameter from the trunk.	Monthly from March to October	1 to 5			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Replace failed or damaged deciduous species.	Annually	1 to 5	✓	✓	✓									✓	✓	
Replace failed or damaged coniferous/evergreen species.	Annually	1 to 5	✓	✓	✓									✓	✓	
Water new planting.					✓	✓	✓	✓	✓	✓	✓	✓				
Pest & disease control	When required	1 to 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Formative prune to maintain health and seasonal foliage.	N/A	5 to 10	✓	✓										✓	✓	Avoid bird breeding /nesting season
Climber Planting																
Lightly prune. Time of year for pruning to be determined by the species and when necessary.	Annually		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Replace areas of failed planting.	Annually		✓	✓	✓								✓	✓	✓	
Amenity Grass Areas																
Cut (50-100mm) fortnightly during the growing season and remove arisings from the Site.	Twice Monthly from March to October	4 to 6			✓	✓	✓	✓	✓	✓	✓	✓	✓			
Cultivate and re-seed as required.	Annually	1 to 3			✓	✓						✓				
Weed control.	As required	1 to 5				✓	✓	✓	✓	✓	✓	✓	✓			
Wildflower Meadow Areas																
Cut once a year and remove arising from the Site. Cut 70-100mm off the ground and leaving the cuttings for at least a week prior to removing all the cuttings from site.	Annually	Year 1-ongoing											✓			
OPTIONAL :A second cut may be introduced if species are dominant or too vigorous early growth. This high cut at the end of May, beginning of June to approx. 200-250mm off the ground to remove the flower heads but leaving enough plant stems and leaf area to regenerate, and removal of all arising/ cuttings. Once the cutting has been completed and all cuttings removed, give the area a good soaking with water to encourage the next flush of growth. Introducing this early summer cut and removal will mean your second Autumn cut and removal will be later that year, up to the end of October.	2	Year 2											✓			
Cultivate and re-seed as required.	1	1 to 3			✓	✓	✓						✓			
Weed control.	1	All Years				✓	✓	✓	✓	✓	✓	✓				
Protected Species																
Check bird boxes. Bird boxes clear nesting material and other debris shall be cleaned after each breeding season.	Annually in October/ December	1 to 5											✓	✓	✓	Liaison with the Ecologist. Undertaken by qualified ecologist