

LANDSCAPE MANAGEMENT PLAN

DOCKS WAY SOLAR PV, NEWPORT, NP20 2NS



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1.0 INTRODUCTION

1.1 This Landscape Management Plan (LMP) for Docks Way Solar PV has been prepared by Rob Malcomson Associates Ltd (RMA) for Newport City Council (who will be referred to as NCC).

1.2 This plan should be read in conjunction with the drawing in Appendix 1, Soft Landscape Layout (Drg RMA.500.01) that describes the landscape proposals, along with the extract of planting details in Appendix 2. These shall be periodically updated where the **latest version** shall be provided at full scale.

1.3 The landscape works shall have been undertaken under the overall supervision of NCC.

1.4 Upon the completion of these works, this plan shall become operational. Initially the period of the plan, that includes the defects liability period of the main landscape works shall be for a period of 5 years.

1.5 NCC will appoint a suitably qualified company who will be charged with undertaking the landscape maintenance works, who shall be referred to as the Landscape Maintenance Contractor (LMC).

1.6 It is further anticipated that NCC will employ a suitably qualified Landscape Manager (LM) who shall monitor and regularly review the works of the LMC throughout the plan period, reporting to NCC.

1.7 During the initial construction period, the final layout of the landscape scheme may be subject to minor alterations which are not foreseeable at this time. Final detailed site layout drawings will be prepared once the as-built condition is complete and up to date drawings shall be included in the plan.

1.8 Final quantification of the extent of the landscape works will provide an accurate inventory of the various landscape features and individual landscape elements.

1.9 The Plan area includes all the areas within site and particularly relates to ensuring the establishment and maintenance of the soft landscape components:

- Tree Planting in line with the 3:1 ratio for replacement trees in accordance with PPW12 [section 6.4.42]
- Hedgerow Planting
- Species Rich Grassland

1.10 Baseline habitat conditions: The site originally comprised areas of as semi-improved calcareous grassland with areas of semi-natural mixed woodland and scrub of local ecological value.

2.0 OBJECTIVES

2.1 In steering the development of this Landscape Management Plan, the following primary objectives are set out as follows:

- To secure the establishment of the proposed landscaping providing areas for play and recreation close to the school building
- To secure wildlife and ecological benefits where possible but particularly within the wildflower and pond areas
- To provide a high quality visual and sensory environment
- To help to assimilate the proposed development
- To ensure that best horticultural and health and safety standards are always maintained

- To ensure that any defects in the landscape works are identified early and remedied promptly
- To ensure that the landscape features are always maintained in a safe and usable condition.

3.0 ACHIEVING SUSTAINABILITY

3.1 It is an imperative of the Management Plan that all softworks components to the site successfully establish and provide a largely self-sustaining resource requiring minimal maintenance. The 5-year LMP is aimed at ensuring the successful establishment of all the described softworks. This will be achieved via:

- The LMC adopting a pro-active and appropriate approach in the use of materials and methods of maintenance.
- Regular reporting of progress by the LMC to the LM, via submission of maintenance record sheets and the identification and prompt reporting of issues arising
- Regular Monitoring by the LM who shall be empowered to instruct the means of rectification and who will report to NCC.

3.2 The LMC will be appointed by NCC, where their competence to undertake the described works will have been demonstrated by the provision of an environmental statement detailing the management and maintenance methods that will be used in maintaining the works. This statement will demonstrate and confirm that:

- The maintenance procedures adopted will be environmentally sound, relying on best practices available according to current knowledge
- The management and staff employed shall be fully trained and aware of the range of techniques available to them

- The methods and machinery that will be used in the operations described in the schedules.

3.3 At the outset of the Management Plan implementation, the LMC shall be provided with Maintenance Schedules that will be strictly adhered to. These will be based on the Maintenance Schedules in Section 8.

3.4 The further matters that will be described will provide confirmation that the LMC is fully committed to sustainability principles where, specifically:

- Pesticides use shall be minimised and always justified and only used following the consent of the LM
- The use of horticultural peat shall be eliminated
- Waste plant material arising from management and maintenance works shall be recycled wherever practicable
- High horticultural and arboricultural standards shall be achieved throughout, using the best available techniques
- Energy conservation, pollution reduction, waste products recycling and resource conservation measures shall be used wherever practicable.
- All arisings (grass clippings, vegetation arising from pruning and cutting), shall be removed from site and deposited at an approved or registered local green waste reception facility.

3.5 In order that the objectives of the Management Plan are achieved the LM will:

- Approve the environmental statement prepared by the LMC
- Monitor the progress of the works via site visits, meetings (as required but minimally 3 per annum) reporting to the NCC
- Prepare a progress report to the Client annually (see *also Section 7*)

- Certify progress to the LMC at the time of each progress payment (quarterly or another period to be agreed)
- The LM will be empowered to advise and instruct rectification works where these are identified in the foregoing.

4.0 MAINTENANCE: GENERALLY

- 4.1 All chemical weed control must be carried out by suitable trained staff in accordance with the manufacturers' recommendations as set out on the product label and to comply with all relevant current legislation.
- 4.2 It will be the LMC's responsibility to ensure that all operatives are conversant with the foregoing legislation and other relevant Codes of Practice and British Standards. The Contractor will make any notifications as are required under the terms of The Food and Environment Protection Act (1985) and will be responsible for any damage caused through the inappropriate use or application of any such hazardous substances.
- 4.3 The LMC will visit the site and take note of all existing conditions including ground levels, condition of vegetation, soil conditions, and access. No claims that are based on a lack of understanding of the site - or the nature of the work required to carry out the operations in this plan - will be entertained.
- 4.4 At all times, the LMC will take care to avoid interference with the established levels and contours of the ground, and to avoid damage to footpaths, roads, drains, manholes and existing structures and vegetation. Any damage so caused is to be made good at the LMC's expense.

- 4.5 All work will be carried out by experienced and qualified operatives holding the necessary certificates of competence to undertake the prescribed works. All works detailed in the following specifications will be carried out in accordance with good horticultural practice, using materials, plant and machinery appropriate to the task, undertaken in such a manner that avoids damage and/or nuisance to the site and its surroundings. Any plant material that dies or fails to thrive as a result of the LMC's neglect will be replaced at their cost.
- 4.6 The LMC will ensure that the entire site is kept substantially free of litter and other debris through a regular programme of monitoring, collection and disposal, coinciding with visits to maintain grassed areas and planting. All litter must be removed before mowing is commenced. Particular care will be taken to remove all broken bottles, glass, tins, sharp objects and other items likely to constitute a hazard to the public. All litter and debris will be removed off site to an authorised tip approved by the LM. This will be carried out in accordance with the Code of Practice on Litter and Refuse issued under Section 89 of the Environment Protection Act (1990). Management of Existing Trees and Hedgerows.
- 4.7 The LMC will take particular care when carrying out litter collection to ensure that any discarded needles or syringes are removed as soon as they are discovered. Such items must be packaged separately from other litter, and be contained within appropriately labelled, puncture-proof sharps containers and disposed of in a safe manner. The Contractor must ensure that all operatives likely to come into contact with needles and syringes have been instructed in the means of safe collection and disposal, and that they have been issued with, and must wear, adequate protective gloves and footwear to protect against penetration by needles and other sharp objects.

- 4.8 All works to trees, hedgerows and other woody vegetation will be carried out to avoid the Bird Nesting Season (nominally mid-February to Mid-August).
- 4.9 All operations will be carried out using machinery appropriate to the task (i.e. cylinder, rotary or mulch mowers). Mowing operations will only be carried out during appropriate weather conditions, avoiding sustained periods of rain, or heavy frost, snow, and ground waterlogging.
- 4.10 Operations will be suspended where ground conditions prevent the use of machinery without damage to the ground surface. Where operations are suspended due to unsuitable conditions, additional maintenance visits will be agreed in order to maintain the sward within acceptable growth limits.

5.0 MAINTENANCE: SOFT LANDSCAPE

Plant Replacements

- 5.1 To each area and throughout the Plan Period, the works will be inspected by the LM. Any plants which are found to be missing, dead, dying or in poor health, will be replaced on a like-for-like basis, at the earliest suitable time, unless otherwise instructed. The cost of all replacement planting and associated works, will be borne by the LMC, except where the attributable cause is defective work and or materials which have previously been recorded or as the result of rodents, or malicious damage agreed by the LM to be outside the LMC's control.

Watering

- 5.2 At the outset of the LMP implementation works, a Water source(s) will be identified, in co-operation with the Recycling Centre and Welsh Water.
- 5.3 The timing of watering operations will depend on weather conditions and will be carried out when deemed necessary by the LMC, or as directed by the LM. Although the LM may instruct the LMC to carry out an operation at any time during the plan period, it is the sole responsibility of the LMC to ensure that operations are arranged so that the works are well watered and become established in the intended manner.

Maintenance to Feathered Trees

- 5.4 The LMC will provide the following, to each specimen tree allowing a minimum of 3 Visits per annum:
- Ensure grass/ weed growth to a 500mm radius planting circle is kept in check / top up mulch
 - Check each stake and tie where fitted; adjust, re-fit or renew as necessary; check each stake is supporting its tree in the intended manner and re-firm trees which have been loosened by wind or frost action
 - Check that each tree is growing away healthily and remove all dead wood and diseased or damaged branches. All arisings will be removed from site.
 - Lightly prune crown, if directed by the LM
 - Pare back neatly to sound tissue any wounds.
 - Re-firm trees loosened by wind or frost
 - Water sufficiently to fully penetrate the rooting zone.

- h) Provide reporting to the LM.
Maintenance to Newly Planted Hedgerows

5.5 The LMC will carry out the following works to each new Hedgerow, during a *minimum of 3 Visits per annum*:

- a) Keep entire areas substantially free from litter and debris;
- b) Keep entire areas substantially free from grass and weed growth. Should the LMC wish to use an appropriate herbicide, first obtain the written permission of the LM. Remove all dead weed growth by forking-out and remove to tip;
- c) Maintain mulched areas at an even 75mm depth, topping-up as necessary, and sweep-up mulch from adjacent edgings and paving;
- d) Apply 'Enmag' (slow-release) fertiliser each spring as a top dressing to all planting areas at a rate of 70gms/m.sq
- e) Prune hedging plants by facing-up to encourage bushiness, (*allowing 2 cuts pa (Jun & Nov checking Birds are not nesting in June)*). Allow hedgerows to grow vertically topping off ultimately at the following height;
 - Native Species Hedgerow: 2.0m
- f) Re-firm plants which have been loosened by wind or frost action;
- g) Apply pesticides only as directed and approved by the LM;
- h) Provide leaf collection in autumn;
- i) Water sufficiently in times of drought, or when instructed by the LM, to fully penetrate the rooting zone;
- j) Provide reporting to the LM.

Maintenance to Species Rich Grassland

5.6 The LMC will provide the following, to species rich grassland areas, allowing a minimum of 2 Visits per annum

- a) Keep entire areas substantially free from litter and debris, and remove all litter and other deleterious material prior to the commencement of mowing operations
- b) Do not cut during periods of drought, or when the ground conditions are wet without the prior agreement of the LM.
- c) Use mowing machinery appropriate to the grass cutting operation required, with due regard to grass type, mowing specification, ground contours and condition, and orientation of solar panels
- d) First Annual Cut: Cut to 5cm in March / April
- e) Second Annual Cut: Cut to 5cm in Sept / Oct
- f) Following each cut all arisings shall be collected and removed from site and swept from paved surfaces (cuttings can smother establishing plants as well as causing nutrient enrichment, both of which can decrease floral diversity)
- g) Provide leaf collection in autumn
- h) Provide reporting to the LM.

6.0 MAINTENANCE: HARD SURFACES

The hard surface elements referred to here shall be the access tracks and entrances, as specified by Engineer.

6.1 The LMC will provide the following, allowing for a minimum of 4 Visits per annum:

- a) Maintain tracks and entrances clear of encroaching vegetation principally via manual methods and supported, if necessary, via the application of an approved non-selective herbicide
- b) Removal and disposal of leaves during autumn and winter

- c) Provide inspection of tracks and entrances annually and report any settlement or other damage to the LM who will notify the condition to NCC.
- d) Provide reporting to the LM.

7.0 ANNUAL MONITORING & REVIEW OF THE PLAN

7.1 The Plan Period for this Management Plan is 5 years from the completion of the landscape works contract.

Monitoring

7.2 During the plan period, the works will be monitored by the LM who will be in receipt of the completed Maintenance Schedules from the LMC and with whom site meetings will be held tri-annually (or other, as agreed, if a variation is determined).

Review

7.3 Upon the basis of the above, the continued relevance of the Landscape Management Plan will be maintained via an annual review that will:

- Assess the plan objectives, their continuing relevance, and the rate of progress towards them
- Assess those same objectives to meet new requirements as conditions change and new opportunities arise.

Recommendation

7.4 Upon the above, the LM in collaboration with the LMC and NCC will propose amendments to the Landscape Management Plan appropriate to the prevailing circumstances at the end of each year.

Completion

7.5 Notwithstanding completion of the 5-year Plan Period it is envisaged that the Maintenance and Management of the site shall be continued thereafter in line with the aims and objective of the plan. To this end the annual review, in Year 5, shall address the further matter of continuity: that may entail an extension of the Plan period, or depending on the circumstances at that time, recommend a replacement plan.

8. MAINTENANCE SCHEDULES

Item	Description	Frequency (per Year)	Timing	Notes	Quantity	LMC Comments
5.0	MAINTENANCE: SOFT LANDSCAPE					
	Plant replacements & watering				All TBC	
5.1	Plant Replacements	1	Nov-Apr	As directed & confirmed by the LM		
5.2 & 3	Watering	As required	May-Aug	As required or directed by the LM		

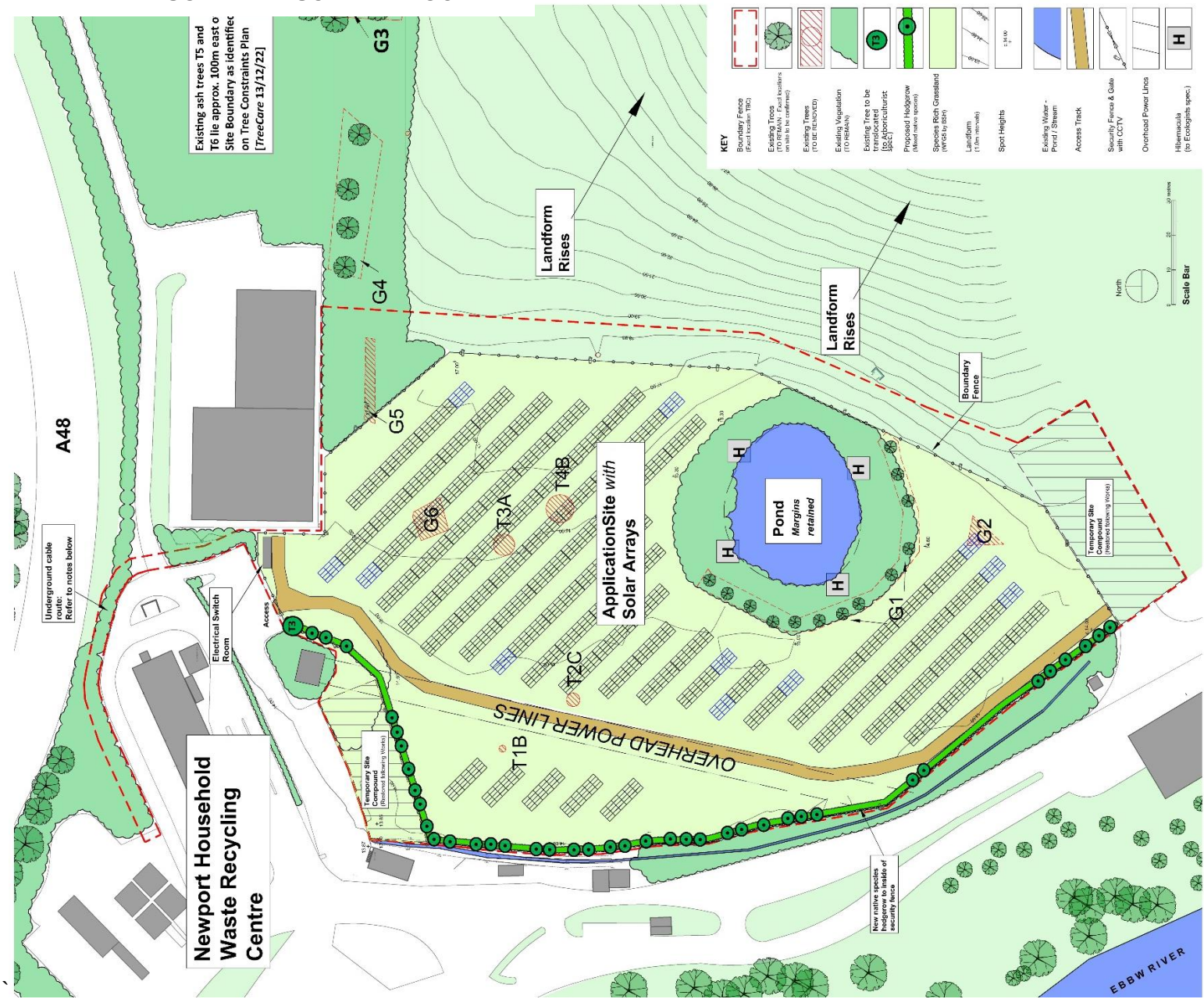
5.4	Feathered and Translocated Trees	Min.3			All TBC	
a	Check weed growth at base & provide topping up mulch	3	All year round	Manually. Use <i>glyphosate</i> only as spot treatment		
b,c,d,e,f	Check stakes ties/ growth / prune as required / re-firm	3	All year round	Manually remove arisings		
g	Watering	As required	May-Aug	Sufficient to penetrate rooting zone		
h	Reporting	3	Each Visit	To LM		

5.5	Newly-Planted Hedgerows	Min.10			All TBC	
a	Remove litter & debris	10	All year round	Use Manual Methods		
b	Check weed and grass growth throughout areas	10	May-Nov	Manually. Use <i>glyphosate</i> only as a spot treatment		
c	Top-up mulch	1	May	To an even depth of 75mm		
d	Apply fertiliser	1	May	Slow-release granules. As instructed by the LM		
e	Allow 2 x cuts per annum, Ultimate height	2	June & Nov	Cuts only to be facing-up to both sides of the newly planted		

Item	Description	Frequency (per Year)	Timing	Notes	Quantity	LMC Comments
5.5	Newly Planted Hedgerows ctd				All TBC	
e	Allow 2 x cuts per annum, Ultimate height 2.0m (native species hedgerow)	2	June & Nov	Cuts only to be facing-up to both sides of the newly planted hedgerow until desired top height is reached.		
f	Re-firm loosened plants	1	March	Manually		
g	Pesticides	1	May-Nov	Only if directed by LM		
h	Leaf collection	1	Oct-Nov	Manually		
i	Watering	As required		Sufficient to penetrate rooting zone		
j	Reporting	3	Each Visit	To LM		

Item	Description	Frequency (per Year)	Timing	Notes	Quantity	LMC Comments
5.6	Species Rich Grassland	Min 2			All TBC	
a	Remove litter & debris	2	All year round	Use Manual Methods		
b c d	First cut to 5cm	1	Mar-Apr	Remove arisings		
b c f	Second Cut to 5cm	1	Sept - Oct	Remove arising		
g	Leaf collection	1	Oct-Nov	Manually		
h	Reporting	3	Each Visit	To LM		

Item	Description	Frequency (per Year)	Timing	Notes	Quantity	LMC Comments
6.0	MAINTENANCE: HARD SURFACES					
6.1	All access tracks & hard areas	Min.8			All TBC	
a	Keep clear of vegetation	8	All year round	Manually / Seek LM approval for herbicides		
b	Check for damage erosion or settlement of pathways & report to LM	1	All year round	Visual checks		
c	Provide repairs if instructed by the LM		As instructed by LM			
d	Reporting		Each Visit	To LM		



APPENDIX 2: SOFT LANDSCAPE DETAILS

Ecology

With reference to the Ecological Appraisal (BE Ecology 2021) the majority of the site to be developed is described as semi improved calcareous grassland with areas of semi natural mixed woodland and dense scrub. The proposal will entail the removal of these vegetation types within the exception of the dense scrub to the pond perimeter. Ecological Appraisal recommendations have been incorporated within the landscape proposals including the 'botanically diverse seed mix around the solar panels' and 4 Nr hibernacular (to be sited and specified on accordance with the ecologists recommendations.

Arboriculture

With reference to the Tree Report (Tree Care Consulting Oct 2022) where the following are proposed to facilitate the proposal;

- Tree Groups (G2 G5 & G6) to be removed
- Individual Trees (T1 T2 T3 T4) to be removed
- Tree Group (G1) to remain, on the assumption that the shading arcs are acceptable within the proposal.

Site Clearance (only to be undertaken outwith the Bird Breeding Season Ref BE Ecology 2021)

Within the site boundary, and with the exception of the pond along with its vegetated perimeter the existing vegetation is proposed removed via both chemical and mechanical means. The landform shall then undergo minor amendments in accordance with the Engineers specification and drawings.

Hedgerow Planting

To the western boundary, within the perimeter fence shall be planted a mixed native species hedgerow comprising

Cornus sanguinea (2%)
Lonicera periclymenum (2%)
Corylus avellana (35%)
Crataegus monogyna (45%)
Ilex aquifolium (10%)
Rosa arvensis (2%)
Rosa canina (2%)
Viburnum opulus (2%)

The hedgerow shall be planted using locally sourced transplants or cell grown stock (45-60cm Hgt) in a top-soiled trench approx. 500 width / min 350mm depth in a double staggered row at c.300mm centres at 7 plants per linear metre.

Small groups of feathered trees shall be planted within the hedgerow:

Acer campestre 6 nos
Alnus cordata 5 nos
Salix caprea 28 nos
The trees shall be locally sourced feathered trees (2.0-2.5m high) and pit planted to a minimum depth of 500mm.

Replacement (Screen) Planting

The underground cable shall be routed to **minimise** the removal of existing vegetation. Following installation of the cable all of the area disturbed shall be re-planted with the following;

Corylus avellana 20%
Crataegus monogyna 30%
Malus sylvestris 10%
Prunus avium 15%
Rosa canina 5%
Viburnum, opulus 15%
Ilex aquifolium 5%

The planted edge shall be planted using locally sourced transplants or cell grown stock (45-60cm Hgt) in a prepared top-soiled bed in pits approx 300mm cu. at 1 plant per 2.0m.sq.

Translocation of existing tree (T3 Field Maple) by an experienced & competent contractor working to the Arboriculturalist specification; exact location to be as approved by Arboriculturalist.

Soils for Planting

The site is a former landfill site. It is the intention to re-utilise existing topsoil, providing it is of suitable quality as a growing medium. It shall be mixed with Tree Planting and Mulching Compost (TPMC) 25-50% by volume as required. Mechanical treatment to relieve any compaction which may have occurred may also be necessary. A slow release fertiliser shall be incorporated into the backfill. Any imported topsoil that may be required shall, be to BS3882: 2015 Specification for Topsoil

Wildflora Seeding

Seed mixture shall be WFG5 by BSH Ltd (Tel 01522 868714) - Meadow mixture for calcareous soils

Earthworks shall be prepared in accordance with the seed suppliers recommendations for preparation of weed free seed bed, prior to sowing which shall take place between May - Sept in dry conditions when rain is forecast.

Landscape Management Plan

Maintenance of the landscape softworks shall be undertaken following completion of the works and shall be in accordance with the LMP (RMA July 2024)