

**BARNBURGH LANE, GOLDTHORPE
For Gleeson Homes & Regeneration**

LANDSCAPE MANAGEMENT SPECIFICATION

Popplewell

Chartered Landscape Architects
Environmental Consultants

1 Isis Court,
YORK

Rosetta Way
YO26 5NA

Telephone +44 (0) 1904 794276

Facsimile +44 (0) 1904 786962

Email: mailbox@popplewellassociates.co.uk

Web: www.popplewellassociates.co.uk

CONTENTS

1.0	INTRODUCTION
2.0	EXISTING TREES AND VEGETATION
3.0	GRASS AREAS
4.0	SHRUB BEDS
5.0	HEDGING
6.0	NEW SPECIMEN TREES
7.0	NATIVE BUFFER MIX
APPENDIX	LIST OF SPECIES
DRAWINGS 2303/3 & 4	DETAILED LANDSCAPE PROPOSALS

(To be read in conjunction with drawings 2303/3C & 4C entitled Detailed Landscape Proposals)

1.0 INTRODUCTION

1.1 Purpose of Report

1.1.1 The purpose of this report is to set out clearly the basic management/maintenance techniques appropriate to this site up to Year 5 in detail and basic recommendations to beyond Year 5.

1.1.2 For the purpose of this report, on newly created landscapes, Year 1 begins 12 months after practical completion has been achieved, and the Defects Liability and Aftercare Period have been served and the site handed over.

1.1.3 The 12 months Aftercare Period should have included the following items:

- Maintaining a weed and litter free site
- Herbicide and fertiliser applications
- Ensuring bark mulch is evenly spread to specified depth and is replenished as necessary
- Watering through periods without significant rainfall
- Replacing plants that have died in the 12 months since practical completion was achieved.

1.1.4 Generally all the planting should be according to the relevant drawing, in a healthy condition, and free from litter and competition from weed growth.

1.2 Maintenance Aims

The general aims of the management/maintenance plan are to present guidelines that enable the landscape to achieve the original design and planning objectives whilst maintaining a presentable appearance at all times.

1.3 The Specification

The various landscape elements are collated together under the headings below and their treatment is described in detail year by year up to Year 5 and with basic recommendations beyond Year 5.

Section 2.0	Existing Trees and Vegetation
Section 3.0	Grass Areas
Section 4.0	Shrub Beds
Section 5.0	Hedging
Section 6.0	New Specimen Trees
Section 7.0	Native Buffer Mix

1.4 General Maintenance Application to all Years

1.4.1 Maintain planted areas and areas of Public Open Space (POS) litter free.

1.4.2 Do not allow adjacent householders to deposit rubbish, grass cuttings, or other deleterious materials within public areas.

1.4.3 Maintain planted areas weed free until planting has become established.

2.0 EXISTING TREES AND VEGETATION (see appendix for details of species)

2.1 Maintenance Objective

The aim is to retain the existing character of the surrounding areas, ensuring the health and safety of all specimens contained therein.

2.2 Year 1 and beyond

Inspect all existing trees on an annual basis and remove any deadwood. Cut back any limbs overhanging footpaths. Fell any tree that has become damaged. Cut up and remove branches. Major limbs to be cut up and left on site to provide habitats for invertebrates. Replace with Feathered tree of same species, together with stake and tie, and maintain as New Specimen Trees (see Section 6).

3.0 GRASS AREAS

3.1 Maintenance Objective

The maintenance objective is to provide an even standard of vegetation of uniform height and colour comprising of predominantly grass species, with no more than 5% dichotyledonous plants.

3.2 Maintenance Operations – Year 1 and beyond

Mowing shall be carried out using a cylinder rotary mower where appropriate to maintain the vegetation within the limits of 20mm and 50mm during April to September inclusive and between 30mm and 60mm during the rest of the year. The clippings may be returned but must be distributed evenly over the surface, and at no time shall the layer of clippings be of such a depth that will affect the growth of the sward.

3.2.1 Where necessary grass area may be sprayed overall with a suitable approved selective herbicide in accordance with the manufacturer's instructions. Alternatively, spot weeding of isolated weed infestation may be carried out.

3.2.2 Scarify grass annually in the autumn.

3.2.3 Apply organic fertiliser in the spring and autumn.

3.2.4 Spike for aeration to 150mm depth annually.

3.2.5 Remove all litter, debris, and deleterious material from the site at regular intervals and prior to mowings.

3.2.6 All edges of grass areas, against buildings, footpaths, roadways, trees, posts, and any other obstructions shall be kept neat and tidy by use of hand/mechanical edge trimmer or herbicide as appropriate.

3.2.7 Reinstatement by re-turfing or re-seeding of worn areas shall be undertaken as necessary and at the appropriate time of year.

4.0 SHRUB BEDS (see appendix for details of species)

4.1 Maintenance Objective

To maintain a boscaige of shrub growth to cover as much as possible of the border area and allowing the individual plants to achieve as nearly as possible their natural form. Maintain the borders free of visible weeds and shape and prune the shrubs to avoid obstructing pathways or blocking light to windows.

4.2 Maintenance Operations - Year 1

4.2.1 Immediately after planting, and thereafter yearly, in the appropriate season for the species involved, prune the shrubs to develop their desirable ornamental characteristics. At the same time remove intermediate plants that are restricting the natural and attractive development of their neighbours. These plants may be used to fill gaps produced elsewhere in the scheme where species have not been as successful in their development. Remove all arisings from site.

4.2.2 Carry out appropriate maintenance operations as indicated on the planting schedule on the landscape drawing. The following maintenance operations to be applied as appropriate to the relevant species:

- Hard prune March – April (where species flowers on current year's wood)
- Remove flower wood after flowering (where species flowers on last year's wood)
- Clip or trim to maintain shape and bushy habit.

4.2.3 Maintain the soil surface substantially free of weeds (less than 5% weed cover) by spot treating with Glyphosate or approved equivalent during the growing season.

4.2.4 Top up mulch to 75mm depth as required.

4.2.5 Replace any dead or missing plants to the original specification.

4.3 Year 2

4.3.1 Prune the shrubs as much as is necessary to achieve their desirable ornamental features (flowering, autumn colours, overcrowded, leggy plants etc.), following sound horticultural practices, and to prevent them overgrowing footpaths or blocking light to windows. Carry out any maintenance operations as indicated in Item 4.2.2.

4.3.2 Remove all arisings from site as well as any damaged dead or diseased parts of the shrub.

4.3.3 Maintain any visible surface soil free of weeds as specified for newly planted borders.

4.3.4 Apply organic fertiliser prior to commencement of the growing season, except adjacent to any watercourses, prior to re-mulching any bare areas where necessary.

4.3.5 Apply fungicide/insecticide to any plants suffering from fungal infection or insect attack as per manufacturer's instructions.

4.4 **Year 3 & Year 4**

4.4.1 Repeat all the procedures as in Year 2.

4.4.2 Maintain any visible surface soil free of weeds (less than 5% weed cover) by applying an annual dressing of approved residual herbicide in the winter months and spot treating with Glyphosate or approved equivalent during the growing season.

4.5 **Year 5**

4.5.1 Repeat all the procedures as in Year 2 except item 4.3.4.

4.5.2 Thin out over mature plants that are becoming unsightly and have outgrown their useful life. Replace these with young plants as per the original specification where gaps remain.

4.6 **Beyond Year 5**

The above 5-year cycle should be repeated thereafter except omit Item 4.3.4. Maintain bare patches weed and litter free, however allow the growth of self-seeded, regenerated shrub species. Formative prune shrubs as required to achieve their desirable ornamental features as Item 4.2.2.

4.7 **Herbaceous Plants**

Annually, remove heads after flowering unless retained for seed; remove dead foliage and cut down to ground level; lift/split after Year 5 as indicated on the landscape drawing.

5.0 **HEDGING** (see appendix for details of species)

5.1 **Maintenance Objective**

All hedges to be carefully and regularly clipped with line and level being maintained to promote a dense, uniform and tidy appearance according to the type of hedge and situation. Regularly mow or otherwise control any weed or grass growth at the base of the hedge so that it does not detract from the overall appearance. Maintain litter free beds (applicable to all years).

5.2 **Maintenance Operations - Year 1**

Spot treat any weeds with Glyphosate (or similar approved) during the growing season prior to topping up with 75mm depth bark mulch where applicable to suppress weeds and retain soil moisture. Carefully clip and prune the top and sides of the hedge to promote dense growth to ground level and in the desirable parameters that the hedge will eventually attain. Prune the top of the hedge only when it has achieved its desired height (50-80cm).

5.3 **Year 2**

Water recently replaced plants as necessary to ensure establishment. Apply fungicide and or insecticide to any plants suffering from fungal infection or insect attack. Repeat all operations as for Year 1.

5.4 **Year 3**

Repeat procedures as for Year 2 above, residual herbicide may be applied to bare ground in accordance with manufacturer's instructions.

5.5 **Year 4**

Hedge should be dense and clothed in leaves to ground level, no further requirement for spot treating weeds or topping up mulch. Replace dead or missing plants as necessary to maintain the hedge density. Clip the top and sides of the hedges to maintain true and even levels and using suitable mechanical cutters to retain the existing shape and height. Remove any cuttings lodged in the surface of the hedge and rake up and remove all arisings. Allow for the operation to be carried out to suit the species and the position of the hedge as follows:

5.5.2 Native hedge (e.g. Hawthorn and Hazel) - cut once a year in the autumn or winter but with an additional cut in early June where it overhangs a footpath.

5.5.3 Beech hedge - cut once a year in late summer.

5.6 **Year 5 and beyond**

Repeat procedures as for Year 4 above.

6.0 **NEW SPECIMEN TREES** (see appendix for details of species)

6.1 **Maintenance Objective**

Establish a stable and healthily growing tree within three years from planting with a well-shaped framework for future growth.

6.2 **Maintenance Operations - Year 1**

6.2.1 One metre diameter circle to be maintained weed free around all specimen trees. Circle to be topped up with mulch and spot treated as necessary to maintain weed free. The bases of trees in planted beds to be absorbed into the general maintenance of the areas in which they occur.

6.2.2 All dead and missing specimen trees or trees which fail to develop properly during the first season after planting shall be replaced. Specification for replacements shall be the same as for their originals.

6.2.3 Water newly planted trees throughout the summer months (May to August) at fortnightly intervals after any period of four weeks without significant rainfall (less than 5mm). Apply sufficient water to thoroughly wet the top 150mm of soil around the tree roots. This will normally require 10 litres for a seedling or whip and 20 litres for a standard tree.

6.2.4 Check stakes and ties for firmness and support and adjust or replace as necessary. Check once a year in late spring.

6.2.5 Firm the soil around the roots to ensure that the tree is securely planted in the ground and upright.

6.2.6 Formative prune the tree to remove any dead, diseased or damaged shoots and create a balanced form for future growth.

6.3 **Year 2**

6.3.1 Begin phased removal of tree stakes and ties beginning with the stakes of the most vigorous and established trees, except in special circumstances.

6.3.2 Repeat procedures 6.2.1 to 6.2.3 inclusive.

6.3.3 Apply organic fertiliser prior to commencement of growing season at a rate of 30 litres per tree.

6.4 **Year 3**

6.4.1 Continue phased removal of tree stakes and ties beginning with the stakes of the most vigorous and established trees, except in special circumstances.

6.4.2 Repeat procedures 6.2.1 to 6.2.3 inclusive.

6.4.3 Thin out competing species of plants around the bases of specimen trees occurring in planted beds to reduce competition.

6.4.4 Apply organic fertiliser prior to commencement of growing season at a rate of 30 litres per tree.

6.5 **Year 4**

6.5.1 Continue phased removal of tree stakes and ties beginning with the stakes of the most vigorous and established trees, except in special circumstances.

6.5.2 Repeat procedures 6.2.1 to 6.2.3 inclusive.

6.5.3 Apply organic fertiliser prior to commencement of growing season at a rate of 30 litres per tree.

6.6 **Year 5 and beyond**

Repeat procedures 6.2.1 to 6.2.3 inclusive.

7.0 **NATIVE BUFFER MIX** (see appendix for details of species)

7.1 **Maintenance Objective**

The objective of the maintenance and management of the main woodland mix is to create in time a predominantly closed tree canopy. The woodland mix will also have an understorey of smaller trees (such as Birch, Rowan and Cherry) and lower level shrubs (such as Holly and Hazel). Structural diversity will be a feature of the woodland mixes; this will add greatly to the visual interest of the areas. This diversity will be achieved through management in terms of thinning/rotational coppicing and allowing gaps to develop in the overall canopy. Weed control will be quickly phased out to reduce costs and to allow a natural woodland ground flora to develop. Maintain litter free beds (applicable to all years). Apply organic fertiliser around base of all plants at a rate of 2 litres per plant, and rake in prior to commencement of growing season.

7.2 **Maintenance Operations - Year 1**

7.2.1 Treat all planting beds with residual herbicide applied to bare ground.

- 7.2.2 Spot treat any weeds with Glyphosate (or similar approved) herbicide to maintain weed free planting beds.
- 7.2.3 Prune out any dead wood.
- 7.2.4 Re-firm all plants.
- 7.2.5 Where appropriate, (*Cornus sanguinea* etc) prune down to approx. 500mm above ground level at the end of the dormant period (March) every second year to ensure a bright display of coloured stems and repeat process every 2 years thereafter.
- 7.2.6 Replace dead or missing plants to original specification.
- 7.2.7 Where transplants and whips have been planted with a 'shelterguard', check that these are securely pegged/staked in position, and replace as required.
- 7.3 **Year 2**
Repeat procedures for Year 1.
- 7.4 **Year 3**
 - 7.4.1 Repeat procedures for Year 1. Where ground cover has not yet been established, replace dead or missing plants to original specification in order to maintain uniform density of cover throughout the plantations.
 - 7.4.2 Thin out as necessary any weak specimens in all species of plants.
 - 7.4.3 Coppice 50% of plant numbers down to 300mm above ground level and repeat process every 5 years thereafter: *Cornus sanguinea* (Dogwood), *Corylus avellana* (Hazel).
 - 7.4.4 Prune down to 500mm above ground level to stimulate multi-stemmed effect 50% of plant numbers (once only operation): *Betula pendula* (Birch).
 - 7.4.5 Thin out species of plants where required if they are suppressing the slower growing canopy trees.
 - 7.4.6 Remove tree shelters.
- 7.5 **Year 4**
 - 7.5.1 The canopies of the trees should now be touching therefore there is no further requirement for applications of herbicide. A natural woodland ground flora should now be encouraged to develop.
 - 7.5.2 Thin out species of plants where required if they are suppressing the slower growing canopy trees.
 - 7.5.3 Thin out, as necessary, any weak specimens in all species of plants.

7.6 **Year 5**

7.6.1 Thin out species where required if they are suppressing the slower growing canopy trees. Thin out main canopy species if overcrowding is occurring.

7.6.2 Replace dead or missing plants to original specification in order to maintain uniform density of cover throughout the plantations.

7.7 **Beyond Year 5**

7.7.1 Continue the 2-yearly cycles of pruning commencing from the date in which this operation was first carried out on particular plants (Year 1 - item 13.2.5).

7.7.2 Review tree spacing on a 3-year rota and thin out as necessary to reduce any overcrowding in the crowns.

7.7.3 Thin out canopies at occasional locations to create light pockets (5m x 5m) that will favour the lower growing levels of vegetation and create visual interest.

7.7.4 As tree species develop into mature trees they should be checked on an annual basis for health or structural defects which may affect the adjacent housing. This procedure should be carried out following severe storms.

BP/POPPELWELL ASSOCIATES
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APPENDIX

LIST OF SPECIES

BOTANICAL NAME	COMMON NAME
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EXISTING VEGETATION

Trees

Acer campestre	Field Maple
Castanea sativa	Sweet Chestnut
Corylus avellana	Hazel
Crataegus manogyna	Hawthorn
Fraxinus excelsior	Ash
Prunus laurocerasus	Laurel
Prunus spinosa	Blackthorn
Sambucus nigra	Elder
Ulmus rubra	Elm

NEW PLANTING

Shrubs

Berberis thunbergii 'Atropurpurea Nana'	-
Berberis thunbergii 'Atropurpurea'	-
Ceanothus thyrsiflorus repens	-
Chaenomeles x superba 'Crimson and Gold'	-
Choisya ternate	-
Cornus alba 'Ivory Halo'	Dogwood
Escallonia 'Donard Seedling'	-
Escallonia 'Red Elf'	-
Euonymus fortunei 'Silver Queen'	-
Hebe 'Mrs Winder'	-
Hebe 'Red Edge'	-
Lavandula angustifolia 'Munstead'	-
Lonicera nitida 'Baggesen's Gold'	-
Photinia x fraseri 'Red Robin'	-
Potentilla 'Elizabeth'	-
Prunus laurocerasus 'Otto Luyken'	Laurel
Pyracantha 'Saphyr Red'	-
Pyracantha 'Saphyr Yellow'	-
Skimmia japonica 'Rubella'	-
Viburnum davidii	-
Weigela florida 'Monet'	-

Specimen Shrubs

Fatsia japonica	Japanese aralia
Rhus typhina	Staghorn sumac
Yucca flaccida 'Golden Sword'	-

Hedging

Cornus sanguinea	Dogwood
Corylus avellana	Hazel
Crataegus monogyna	Hawthorn
Fagus sylvatica	Beech
Ilex aquifolium	Holly
Rosa canina	Dog Rose

Specimen Trees

Acer campestre	Field Maple
Alnus glutinosa	Alder
Amelanchier arborea 'Robin Hill'	June Berry
Betula pendula	Silver Birch
Betula pendula 'Dalecarlica'	Silver Birch
Betula pendula 'Fastigiata'	Silver Birch
Corylus avellana	Hazel
Fraxinus excelsior	Ash
Ilex aquifolium 'J. C. Van Tol'	Holly
Prunus 'Amanogawa'	Japanese Flowering Cherry
Prunus avium	Cherry
Prunus padus	Bird Cherru
Sorbus aria	Whitebeam
Sorbus aria 'Lutescens'	Whitebeam
Sorbus aucuparia	Rowan
Sorbus aucuparia 'Cardinal Royal'	Cardinal Royal
Sorbus commixta 'Embley'	Chinese Scarlet Rowan
Sorbus hupehensis	Hupeh Rowan
Sorbus intermedia	Swedish Whitebeam

Native Buffer Mix

Acer campestre	Field Maple
Cornus sanguinea	Dogwood
Crataegus monogyna	Hawthorn
Ilex aquifolium	Holly
Ligustrum vulgare	Privet
Prunus avium	Cherry
Prunus spinosa	Blackthorn
Rubus fruticosus	Blackberry