Planting Schedule (Site wide)

Trees

Species	Specification	Density	Number of Plants
Betula pendula	12-14cm girth 3.5-4m ht RB	Counted	49 No.
Carpinus betulus 'Streetwise'	18-20cm girth 5.5-6.5m ht. RB	Counted	92 No.
Quercus robur	10-12cm girth 3-3.5m ht RB or CG	Counted	40 No.
Quercus robur	25-30cm girth 5.5-6m ht RB or CG	Counted	30 No.
Quercus robur fastigiata	12-14cm girth 3.5-4m ht RB or CG	Counted	58 No.
Tilia cordata	12-14cm girth 3.5-4m ht BR or CG	Counted	11 No.

Native Shrubs

Species	Specification	Density	Mix Name	Mix Species Contribution	Number of Plants
Acer campestre	60-80cm ht. BR transplants	1/m²	Dunsbury Woodland Planting	10%	639 No.
Betula pendula	60-80cm ht. BR transplants	1/m²	Dunsbury Woodland Planting	10%	639 No.
Carpinus betulus	60-80cm ht. BR transplants	1/m²	Dunsbury Woodland Planting	10%	639 No.
Corylus avellana	60-80cm ht. BR transplants	1/m²	Dunsbury Woodland Planting	20%	1268 No.
Crataegus monogyna	60-80cm ht. BR transplants	1/m²	Dunsbury Woodland Planting	10%	639 No.
Ilex aquifolium	60-80cm ht. CG	1/m²	Dunsbury Woodland Planting	10%	639 No.
Prunus spinosa	60-80cm ht. BR transplants	1/m²	Dunsbury Woodland Planting	5%	324 No.
Sambucus nigra	60-80cm ht. BR transplants	1/m²	Dunsbury Woodland Planting	10%	639 No.
Viburnum lantana	60-80cm ht. BR transplants	1/m²	Dunsbury Woodland Planting	10%	639 No.
Quercus robur	60-80cm ht. BR transplants	1/m²	Dunsbury Woodland Planting	5%	324 No.
Crataegus monogyna	60-80cm ht. BR transplants	1/m²	Dunsbury Woodland Edge	10%	567 No.
Ilex aquifolium	60-80cm ht. CG	1/m²	Dunsbury Woodland Edge	15%	847 No.
Prunus spinosa	60-80cm ht. BR transplants	1/m²	Dunsbury Woodland Edge	5%	293 No.
Cornus sanguinea	60-80cm ht. BR transplants	1/m²	Dunsbury Woodland Edge	15%	847 No.
Acer campestre	60-80cm ht. BR transplants	1/m²	Dunsbury Woodland Edge	15%	847 No.
Lonicera periclymenum	60-80cm ht. BR transplants	1/m²	Dunsbury Woodland Edge	20%	1121 No.
Corylus avellana	60-80cm ht. BR transplants	1/m²	Dunsbury Woodland Edge	20%	1121 No.

Native Hedges

Species	Specification	Density	Number of Plants	Mix Name
Acer campestre	80-100cm ht. BR transplants	0.5Ctr Double Staggered at 0.25m offset	333 No.	Dunsbury Native Hedgerow Mix
Carpinus betulus	80-100cm ht. BR transplants	0.5Ctr Double Staggered at 0.25m offset	333 No.	Dunsbury Native Hedgerow Mix
Cornus sanguinea	80-100cm ht. BR transplants	0.5Ctr Double Staggered at 0.25m offset	333 No.	Dunsbury Native Hedgerow Mix
Corylus avellana	80-100cm ht. BR transplants	0.5Ctr Double Staggered at 0.25m offset	333 No.	Dunsbury Native Hedgerow Mix
Crataegus monogyna	80-100cm ht. BR transplants	0.5Ctr Double Staggered at 0.25m offset	333 No.	Dunsbury Native Hedgerow Mix
Euonymus europaeus	80-100cm ht. BR transplants	0.5Ctr Double Staggered at 0.25m offset	168 No.	Dunsbury Native Hedgerow Mix
Fagus sylvatica	80-100cm ht. BR transplants	0.5Ctr Double Staggered at 0.25m offset	333 No.	Dunsbury Native Hedgerow Mix
Ilex aquifolium	80-100cm ht. CG	0.5Ctr Double Staggered at 0.25m offset	333 No.	Dunsbury Native Hedgerow Mix
Ligustrum vulgare	80-100cm ht. CG	0.5Ctr Double Staggered at 0.25m offset	168 No.	Dunsbury Native Hedgerow Mix
Lonicera periclymenum	80-100cm ht. BR transplants	0.5Ctr Double Staggered at 0.25m offset	333 No.	Dunsbury Native Hedgerow Mix
Prunus spinosa	80-100cm ht. BR transplants	0.5Ctr Double Staggered at 0.25m offset	168 No.	Dunsbury Native Hedgerow Mix
Viburnum lantana	80-100cm ht. BR transplants	0.5Ctr Double Staggered at 0.25m offset	168 No.	Dunsbury Native Hedgerow Mix

Clipped Hedges

Species	Specification	Density	Number of Plants
Fagus sylvatica	80-100cm ht	0.5Ctr Double Staggered at 0.25m offset	4105 No.

Marginal / Aquatics

Species	Specification	Density	Number of Plants
Iris pseudacorus	1.5-2L CG	3/m²	318 No.
Lythrum salicaria	1.5-2L CG	3/m²	212 No.

Amenity grassland areas

Species	% by weight
Strong Creeping Red Fescue	65%
Smooth Stalked Meadow Grass	15%
Chewings Fescue	15%
Certified Browntop Bent	5%

Species Rich Grassland – Long Meadow Grass Mix

Species	Specification	% by weight
Yarrow	Achillea millefolium	0.5%
Common Knapweed	Centaurea nigra	0.5%
Wild Carrot	Daucus carota	1%
Lady's Bedstraw	Galium verum	2%
Oxeye Daisy	Leucanthemum vulgare	2%
Salad Burnet	Poterium sanguisorba	3%
Selfheal	Prunella vulgaris	2.5%
Meadow Buttercup	Ranunculus acris	3.5%
Common Sorrel	Rumex acetosa	0.5%
Red Campion	Silene dioica	2.5%
Bladder Campion	Silene vulgaris	2%
Common Bent	Agrostis capillaries	8%
Crested Dog's-tail	Cynosurus cristatus	40%
Smaller Cat's-tail	Phleum bertolonii	4%
Slender Creeping Red Fescue	Festuca rubra	28%

SPECIFICATION NOTES

1. General.

This plan to be read in conjunction with the following documents:

-terra firma drawing 1569-1009 Landscape Open Space and Ecology Strategy, Landscape Management Plan, 1569-3001 SUDS Plan to Follow

-Arboricultural report 5099849 Dunsbury Hill Farm Tree Survey (23.8.2011) and DHF31-ATK-TP30-xx-DR-L-0101 (20.1.2014) by Atkins

2. General landscaping.

i. Existing levels to be preserved around retained existing trees and vegetation. Existing trees and vegetation to be retained are to be protected in accordance with BS5837: 2012 during construction.

ii. All landscape works to be undertaken by competent persons, with appropriate training and equipment.

iii. All arisings to be removed from site at contractor's expense unless noted otherwise. (e.g. woodchip, gravel, topsoil).

3. Services.

The contractor must ascertain for himself/herself the exact location of underground services before commencing work.

4. Soil Materials Generally.

i. Purity: Soils shall be free from roots, stolons, rhizomes, propagules of perennial or invasive weeds couch grass, bindweed, docks, Japanese knotweed, giant hogweed and horsetail/marestail (Equisetum avense).

ii. Foreign matter: On visual inspection, free from non-soil material, brick and other building materials and wastes, sharps, hydrocarbons, and any other foreign matter or material or substance that would render the soil or soil ameliorant unsuitable for use.

iii. Contamination: Do not use topsoil, subsoil, sand or compost contaminated with rubbish or other materials that are:

- Corrosive, explosive or flammable;
- Hazardous to human or animal life;
- Detrimental to healthy plant growth.

iv. Give notice: If any evidence or symptoms of soil contamination are discovered on the site or in topsoil, subsoil, sand or compost or other planting media to be used.

5. Soil testing

Each soil source (imported and site-won subsoil and topsoil - see items 6-8 and 10 below) shall be analysed by Tim O'Hare Associates, Howbery Park, Wallingford, Oxon OX10 8BA, Tel: 01491 822653, Email: info@toha.co.uk, www.toha.co.uk (or equivalent approved).

6. Subsoil for general planting areas (sample of site-won and/or imported subsoil to be sent for testing to check compliance with parameters below)

Provide subsoil as necessary to make up deficiency on site. Natural or manufactured subsoil (from approved source) will be acceptable (within parameters given below). Subsoil to be tested to determine suitability for proposed use for planting; test report to be submitted for approval and to enable amelioration recommendations. Subsoil should be free from commonly tested contaminants, including asbestos. Subsoil parameters to be within the following:

```
Parameter                              Unit   Lower Limit Upper Limit
Clay (<0.002mm)                        %      5          35
Silt (0.002-0.05mm)                    %      0          35
Sand (0.05-2.0mm)
Of which at least 40% shall fall into fine
to medium sand range                   %      50         90
Stones (2-50mm)                        %DW--             50
Stones (>50mm)                         %DW--             0
pH Value *                             Unit   5.5        8.5
Electrical Conductivity (1:2.5 water extract)      µS/cm  --      1500
Electrical Conductivity (CaSO4 extract)            µS/cm  --      2800
Exchangeable Sodium Percentage  %                  --     15
Organic Matter                         %      --         1.5
```

***IF AN ACIDIC SITE RANGE SHOULD BE 4.5-6.5 IF ALKALINE 7.5-8.5**

7. Subsoil for tree pits (sample of site-won and/or imported subsoil to be sent for testing to check compliance with parameters below)

Provide subsoil as necessary to make up deficiency on site. Natural or manufactured subsoil (from approved source) will be acceptable (within parameters given below). Subsoil to be tested to determine suitability for proposed use; test report to be submitted for approval and to enable amelioration recommendations. Subsoil should be free from commonly tested contaminants,
including asbestos. Subsoil parameters to be within the following:

```
Parameter                              Unit   Lower Limit Upper Limit
Clay (<0.002mm)                        %      5          18
Silt (0.002-0.05mm)                    %      0          25
Sand (0.05-2.0mm)
Of which at least 40% shall fall into fine
to medium sand range                   %      60         90
Stones (2-50mm)                        %DW--             50
Stones (>50mm)                         %DW--             0
pH Value*                              Unit   5.5        8.5
Electrical Conductivity (1:2.5 water extract)      µS/cm  --      1500
Electrical Conductivity (CaSO4 extract)            µS/cm  --      2800
Exchangeable Sodium Percentage  %                  --     15
Organic Matter                         %      --         1.5
```

***IF AN ACIDIC SITE RANGE SHOULD BE 4.5-6.5 IF ALKALINE 7.5-8.5**

8. Topsoil for general landscapes (sample of site-won and/or imported topsoil to be sent for testing to check compliance with parameters below and to inform any necessary amelioration - see 10. below)

Existing topsoil to be stripped and re-used, provided soil is within parameters given below when analysed. Imported topsoil to be good quality sandy loam or manufactured topsoil (from approved source, meeting parameters given below). Topsoil (site-won or imported) is to be tested to determine suitability for proposed use and should be free from commonly tested contaminants,
including asbestos; test report to be submitted to Landscape Architect for approval and to enable amelioration recommendations to be made:

```
Parameter                              Unit   Lower Limit Upper Limit
Clay (<0.002mm)                        %      5          18
Silt (0.002-0.05mm)                    %      0          35
Sand (0.05-2.0mm)
Of which at least 40% shall fall into fine
to medium sand range                   %      50         85
Stones (2-20mm)                        % dry wt.         020
Stones (20-50mm)                       % dry wt.         015
Stones (>50mm)                         % dry wt.         - 0
pH Value *                             Unit   5.5        8.5
Electrical Conductivity (1:2.5 water extract)      µS/cm  --      1500
Electrical Conductivity (CaSO4 extract)            µS/cm  --      2800
Exchangeable Sodium Percentage  %                  --     15
Organic Matter                         %      4.0        8.0
Total Nitrogen                         %      0.15       --
Carbon: Nitrogen Ratio                 --     --         20:1
Extractable Phosphorus                 mg/l   26         100
Extractable Potassium                  mg/l   240        1200
Extractable Magnesium                  mg/l   50         600
```

*IF AN ACIDIC SITE RANGE SHOULD BE 4.5-6.5 IF ALKALINE 7.5-8.

9. Ameliorant: fertilizer and compost (contractor is responsible for submitting a sample of imported or site-won topsoil (to inform requirements).

Topsoil amelioration to be determined by analysis. Once amelioration requirements ascertained as required, approved (peat free) composts to PAS100 and/or fertilizers to be incorporated during cultivation at required rate to full depth of growing medium.

10. Soil handling and depths.

i. Topsoil and subsoil to be handled (i.e. excavated and/or imported, stored, spread, cultivated) in accordance with method agreed in writing by Landscape Architect prior to work commencing. All topsoil and subsoil areas shall be thoroughly cultivated by hand or suitable machinery to the full depth of the topsoil layer, incorporating ameliorants as required. If compaction is suspected in sub-grade, subsoil or topsoil surfaces, these should be ripped as necessary to decompact and ensure adequate drainage.

ii. Hand cultivations shall be carried out to achieve the required finish on areas where machine cultivation is impossible ie adjacent to kerbs, manholes and footpath junctions, around retained trees etc. Surplus plant matter, rubbish and surface stones having any dimension greater than 25 mm shall be collected and removed from the site. Topsoil and subsoil is to be stored in heaps, maximum of 2m in height, providing soil is reasonably dry and friable during stripping and handling - using a tracked excavator. To protect from wet weather once final height is achieved, an excavator should regrade the sides and top of stockpile to firm surface by tracking across it to form a smooth gradient.

iii. Final topsoil depth (allowing for settlement) to be 300mm for tree pits and general planting areas and 150mm for grass. Finished soil levels to be 25mm above/below adjoining paving or kerbs: not less than 150mm below dpc of adjoining buildings; shrub areas to be higher than adjoining grass areas by 25 mm.

12. Plant handling and establishment.

Plant handling shall be in accordance with 'Handling and establishing landscape plants', published by the CPSE through the JCLI. (http://www.gohelios.co.uk/nps/handling_establishment.aspx). The contractor shall comply with Part 3: Recommendations for plant handling from delivery to site to ensure successful establishment.

13. General planting notes.

All native plant material to be of local provenance. Details for tree, hedge and general planting to be finalised once final site conditions are known (i.e compaction and permeability of ground). General plant stock to conform to BS 3936, advanced nursery stock to BS 8545, and planting to BS 4428. Plants shall be first class examples of their species or variety, free from all pests and diseases, with good fibrous root systems and materially undamaged. All planting operations to be in general compliance with BS4428: 'Code of Practice for general landscape operations'.

Only carry out all planting while soil and weather conditions are suitable:

- Do not plant during periods of frost or strong winds. Plant only during the following periods
- Deciduous and conifer trees: Late October to late March (rootball and bare root)
- Container grown plants: At any time if ground and weather conditions are favourable. Ensure that adequate watering is provided

Setting out of planting beds to be approved by Landscape Architect before work commences. Ensure that plant beds are neatly defined, and rise from adjacent paved areas as specified above. All tree pits, tree circles in lawn and planting beds are to be mulched with approved bark mulch to 75mm depth after planting.

14. Tree planting

Any proposed substitutions of species shown on plan to be approved by landscape architect prior to planting. Details for tree planting to comply with BS8545. As a guide all trees to be planted in square pits with base undisturbed unless drainage / compaction problems known. Plant at a depth where the root flare is clearly visible at the soil surface. Where trees have been supplied with the root flare too deep excess soil or fibrous root growth should be removed before planting. All trees to have 'Piddler' tree irrigation/aeration system installed as supplied by Platipus 01737 762300 www.platipus-anchors.com or approved equivalent. Water-in heavily after planting and mulch surface, ensuring mulch is not in contact with trunk of tree. Tree support to comply with BS 8545: Bare root trees to have a single upright stake; RB or CG trees to have double stake and bridge with adjustable tie; multi stemmed trees or trees on slopes to have angled single stake with adjustable tie; in windy locations or for large trees, install wired guying; tree stakes to be stained black. Trees to be underground guyed shall have suitable guying systems installed as supplied by Platipus 01737 762300 www.platipus-anchors.com or approved equivalent. Any necessary remedial tree works are to be carried out by an approved tree surgeon to BS 3998. Trees planted within grass areas to be set in mulched earth circles, 1m diameter around tree trunk, with turf trimmed neatly to form circle.

i. Trees up to 20cm girth.
Depth of tree pits to be the same as the rootball and with overall width to be 150mm wider than the diameter of the rootball (75mm min. from rootball edge to tree pit side). Pits to be backfilled with 300mm depth of specified topsoil over subsoil as per spec.

ii. Trees - 20cm girth and above.
Depth of tree pits to be 200mm deeper than rootball and with overall width to be 150mm wider than the diameter of the rootball (75mm min. from rootball edge to tree pit side). Pits to be backfilled with 400mm depth of specified topsoil over washed medium coarse grade sand to a depth of 200mm below rootball.

15. Hedges.

Depth of planting trench to be same as rootball, overall width150mm wider than rootball (75mm min. from rootball edge to sides of trench). Trench to be backfilled with 300mm depth of specified topsoil over subsoil as per spec. Central post and wire supporting to be provided with two line wires and plants to be tied in using horticultural plastic ties. On planting, hedges to be trimmed to 800mm ht. and sides trimmed to neat shape where necessary.

16. Native hedges.

Species to be randomly mixed for natural effect, and planted in groups of 3-5 plants of any one species. Depth of planting trench to be same as root system, overall width space 150mm wider than root system (75mm min. from root system edge to sides of trench). Trench to be backfilled with 300mm depth of specified topsoil over subsoil as per spec. Provide and install each plant with an appropriate sized recyclable staked green shrub shelter (available from Tubex Ltd, phone 01621 874201 or similar approved). Position shelter stake on windward side of plant, drive vertically into bottom of pit before planting, to a min. depth of 300mm and consolidate backfill material around stake; attach shelter to stake with a minimum of two ties.

17. Native tree and shrub mix.

All plants to be planted in cultivated planting beds with species randomly mixed for natural effect, and planted in groups of 3-5 plants of any one species. Plants to be notch- or pit-planted. Plant on grid at spacing given in schedule. Provide and install each plant with an appropriate sized recyclable staked green tree or shrub shelter (available from Tubex Ltd phone 01621 874201 or similar approved). Position shelter stake on windward side of plant, drive vertically into bottom of pit before planting, to a min. depth of 300mm and consolidate backfill material around stake; attach shelter to stake with a minimum of two ties.

18. Specimen Shrubs.

Depth of planting pit to be same as rootball, overall width space 100mm wider than rootball (50mm min. from rootball edge to sides of pit). Pit to be backfilled with 300mm depth of specified topsoil over subsoil as per spec.

19. Shrub and Ground Cover Planting.

All plants to be planted into cultivated planting beds (with 300mm depth specified topsoil) at densities shown in plant schedule, backfilled with same topsoil.

20. Grass.

Seeding (see amenity mix above) shall be carried out only during appropriate seasons and while soil and weather conditions are suitable for the relevant operations. Only machinery and tools suitable for the site conditions and the work to be carried out shall be used. Hand tools shall be used around trees, plants and in confined spaces where it is impractical to use machinery. The soil shall be weed free prior to seeding. Contact herbicide as specified should be applied to all areas of weed growth 4_6 weeks before grassing and repeated if necessary to maintain a weed free bed. Where deep rooted weeds are present (docks, thistles etc.) approved Glyphosate_based herbicide should be applied as a spot treatment. Seed shall be laid on prepared, levelled soil (minimum 150mm depth) in the areas indicated on the drawings in accordance with BS 4428:1989 'Code of practice for general landscape operations'.

21. Species-rich grassland.

See details of mixes above. Establish seed mix & soil requirements from supplier.

22. Root barrier.

Root barrier system to be used in locations as advised by Engineers. To be supplied by GreenBlue Urban 01424 717797 or other approved supplier. Thickness, size and depth of installation of root barrier to be to manufacturer's recommendations for particular circumstances.

23. Maintenance.

In accordance with terra firma Landscape Management Plan May 2015 Establishment maintenance for all planting for 5 years from Practical Completion to include weed control, watering and replacement of failures to original specification in the planting season following failure.

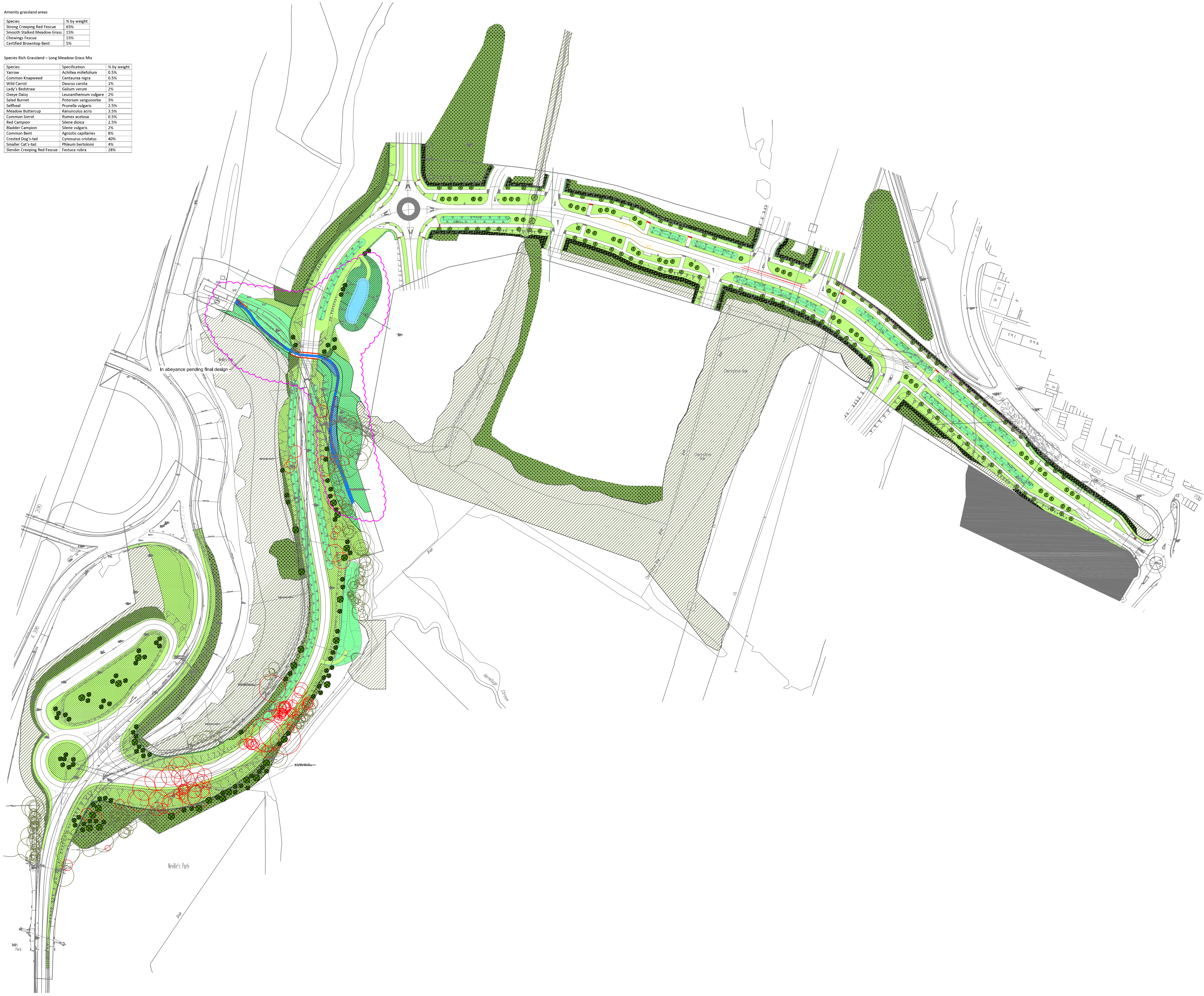
i. All plant material to receive annual pruning and hedges and groundcover to be trained and edged with minimum 2 trims per year.

ii. Check tree stakes and ties annually and after strong winds.

iii. Check shrub shelters at least twice annually to remove weeds and any soil build up inside tube. Shelters to be removed in year 3 and recycled.

iv. Native shrubs plants to be trimmed during winter just after planting, then twice annually in summer and autumn to encourage lower branching and dense growth.

24. Species-rich grassland. Where left un-mown to receive a main summer hay cut in combination with autumn and spring mow. Leave grass to flower from spring through to late July/Aug to give sown species the opportunity to flower. After flowering carry out a 'hay' cut with a strimmer to 50mm. Leave 'hay' to dry and shed seed for 1-7 days then remove from site. Mow regrowth through to late autumn to 50mm and again in spring as needed. The grass is to be cut twice a year to a height of 100mm in March / April, to 100mm in August / September following flowering. Mowings / hay can be left to dry to allow seed shedding back into the sward and removed within 3 days. At the time of each cut, all grass edges are to be trimmed: round the base of trees, manholes, etc. All adjoining hard areas are to be swept clear of cuttings.



KEY

Existing trees
Refer to arboricultural survey 5099849
Dunsbury Hill Farm Tree Survey (23.8.2011)
and DHF31-ATK-TP30-xx-DR-L-0101
(20.1.2014) by Atkins

- ○ Existing tree retained
- ▨ Existing tree cover retained
- ○ Existing tree removed. Exact tree losses to be confirmed by Project Arboricultural Consultant

Proposed planting

- ⊕ Formal tree planting
- ⊗ Informal deciduous tree planting
- ▥ Mixed native hedge
- ▥ Clipped Beech hedge
- 🟩 Woodland planting
- 🟩 Woodland edge
- ■ Woodland edge clipped
- ▨ Grassland - Species-rich long meadow mix
- 🟩 Mown amenity grass
- ▭ Swale planted with water-tolerant grass mix (Emorsgate EM8) and clumps of herbaceous planting
- ▨ Waterside contemporary native. Details to follow
- 🟩 Water-tolerant herbaceous native Details to follow
- ▨ Bankside ecological planting Details to follow
- 🟦 Proposed pond Details to follow
- ▭ Hermitage Stream (re-routed) Details to follow

Based on drawing PB2348-P-12 D1

revision	date	by	notes
Rev 1	30.4.2015	KB	Revisions following revised layout, visibility splays, lighting and services input

drawing notes	© Copyright reserved Do not scale from this drawing Figure dimensions only to be taken from this drawing All dimensions to be checked on site
purpose of issue	Planning
project	Link Road, Dunsbury Hill Farm, Havant
drawing title	Landscape proposals
drawing no.	1569-1000 Rev 1

scale	1:1000 @ A0	date	26.3.14	drawn by	KB	checked by	AG

terrafirma
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