



INDICATIVE SPECIES LIST

Amenity grass

Design intent: To have a close mown border along roadways and paths.

- Amenity areas: DLF Seeds Ltd, PM85 DOT for road verges, DOT official mix or similar approved.

Species-rich flowering meadow

Design intent: Species-rich flowering meadow for enhanced biodiversity and visual interest. To have close mown border where it abuts roadways and paths.

Ecological areas to include remote areas / peripheral areas as shown - Emorsgate Seeds, EM4 (meadow mixture for clay soils).

Swales and attenuation ponds

Design intent: To create ecologically rich ponds which provide both drainage solution and enhanced biodiversity.

- Swales & attenuation ponds, Emorsgate Seeds, EM8 (meadow mixture for wetlands).

Ecological ponds

Wildlife ponds created separate from the drainage system to retain water with marginal planting. Species to include

- Brooklime
- Meadowswet
- Water mint
- Common water starwort
- Marshy marigold
- Purple loosestrife
- Water forget-me-not
- Water plantain
- Bur-reed
- Greater spearwort

Aquatic planting to include.

- Water lily
- Water milfoil
- Hornwort or broadleaved pondweed

Specimen trees

Design intent: To create sense of place, enhance biodiversity, provide shade, visual amenity and connection to the northern site, reduce urban heat island and visually break up extent of built form.

Specimen trees (14cm to 20cm girth).

- Acer campestre (Field Maple)
- Acer platanoides (Norway Maple)
- Aemulanchier lamarkii
- Betula var. jacquemonti (Birch)
- Carpinus betulus (Hornbeam)
- Prunus avium (Bird Cherry)
- Quercus palustris (Pin Oak)
- Tilia cordata (Lime)
- Ulmus 'New Horizon' or similar (disease resistant Elm)

Woodland vegetation

Design intent: To create significant areas of vegetation for the benefit of wildlife and to enhance green infrastructure and integrate (over time) the built form in the landscape.

Whips (80-80cm) @ 1.5m centres.

- Alnus glutinosa
- Quercus robur
- Acer campestre
- Prunus avium
- Fagus sylvatica
- Malus sylvestris
- Ilex aquifolium
- Corylus avellana
- Sorbus aucuparia
- Sorbus aria
- Taxis baccata

Native hedgerow mix to create new hedgerows

Design intent: To enhance biodiversity through provision of food, shelter and connectivity and contribute to green infrastructure.

Whips (80-100cm). Double staggered row.

- Acer campestre (Field maple) 5%
- Cornus sanguinea (dogwood) 10%
- Crataegus monogyna (Hawthorn) 40%
- Eucrymum europaeum (Spindle) 10%
- Ligustrum vulgare (privet) 5%
- Prunus spinosa (Blackthorn) 10%
- Viburnum opulus (Goulden rose) 10%
- Viburnum lantana (wayfaring tree) 10%

0m 50m 100m north

- All dimensions in millimetres unless otherwise indicated. All levels in metres relative to Ordnance Datum and any positive (AOD) unless otherwise indicated.
- Figure dimensions only to be taken from this drawing, do not scale. Dimensions to be checked on site.
- For civil and structural matters including existing and proposed services, sub-base construction and site structures (including retaining walls over 800mm height) refer to information by others.
- The original version of this drawing was produced in colour - monochrome copies should not be relied upon to accurately reflect all drawing elements.
- This drawing should be scaled for planning purposes only and should not be used for quantification, tender or construction.

Existing tree to be retained and protected in accordance with BS 5837:2012 - refer to arboricultural report and drawings

Root Protection Area - refer to arboricultural report. To remain undisturbed and uncompacted (no material or equipment storage permitted)

Existing tree to be removed

Existing woodland and hedgerows to be maintained, protected and enhanced (including highways planting).

Proposed specimen trees

New landform - raised contours, utilizing site won spoil.

New drainage attenuation network of ditches, basins and ponds. Mixture of shallow (green hatched) and deep (blue).

Meadow grassland.

Mown verge (June-September).

New woodland planting.

New ornamental planting including avenue trees, hedges, beds.

New footpath and cycle network with trim trails etc.

Outdoor amenity gathering spaces.

Road surfaces

Parking

SPECIFICATION NOTES

- General.**
This plan to be read in conjunction with the following documents:
 - Landscape works specification and other drawings by terra firma
 - Arboricultural report and survey by B. Harverson
- 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 airways to be removed from site at contractor's expense unless noted otherwise. (e.g. woodchip, gravel, topsoil, timber sleepers).
- Services.**
The contractor must ascertain for himself/herself the exact location of underground services before commencing work.
- Soil Materials Generally.**
 - i. Purity: Soils shall be free from roots, stones, rhizomes, propagules of perennial or invasive weeds couch grass, bindweed, docks, Japanese knotweed, giant hogweed and horsetail/marestail (Equisetum arvense).
 - ii. Foreign matter: On visual inspection, free from non-soil material, brick and other building materials and wastes, sharp, and any other foreign matter or material to 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.
- Soil testing**
Each soil source (imported and site-won topsoil and subsoil - see below) shall be analysed by Tim O'Hare Associates, Howbery Park, Wallingford Oxon OX10 9BA, Tel: 01491 622653. Email: info@toha.co.uk, www.toha.co.uk (or equivalent approved).
- 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: 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 (>50mm)	% dry wt.	—	0
pH Value	Unit	5.5	8.5
Electrical Conductivity (12.5 water extract)	µS/cm	—	1500
Electrical Conductivity (CaSO4 extract)	µS/cm	—	2800
Exchangeable Sodium Percentage	%	—	15
Organic Matter	%	—	1.5
- Subsoil for general landscaping (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 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 and should be free from commonly tested contaminants, including asbestos. Subsoil parameters 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.	0	20
Stones (20-50mm)	% dry wt.	0	10
Stones (>50mm)	% dry wt.	0	0
pH Value	Unit	5.5	8.5
Electrical Conductivity (12.5 water extract)	µS/cm	—	1500
Electrical Conductivity (CaSO4 extract)	µS/cm	—	2800
Exchangeable Sodium Percentage	%	—	15
Organic Matter	%	—	1.5

- 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.

- Soil handling and depths.**
Management of soils to be in accordance with the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites.
 - 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. Topsoil to be spread in lightly compacted layers, max. 150mm depth, gently firm each layer before spreading the next.

- Plant handling and establishment.**
Plant handling shall be in accordance with 'Handling and establishing landscape plants', published by the CPSE through the JCLI (<https://www.csdhub.com/wp-content/uploads/2014/12/The-National-Plant-Specification-Handling-and-Establishment.pdf>). The contractor shall comply with Part 3: Recommendations for plant handling from delivery to site to ensure successful establishment.

- General planting notes.**
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 3538: 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'.
 - 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
 - Bulbs: September/OctoberSetting 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.

- Plant biosecurity**
Plant procurement should follow the latest recommendations from DEFRA and landscape contractors should verify the status of all specified species prior to procuring. Plant material should be sourced from UK growers with a sound Biosecurity Policy and management systems that can demonstrate the traceability of their stock with plant health certificates / plant passports or other documentation (commensurate with the HTA Plant Health Assurance Scheme (all in development phases)).
Selected plants, including trees should be propagated and grown on a UK nursery, or containerised and grown-on in the UK for a minimum of 5 years (trees) or 2 years (shrubs). Any Xylella fastidiosa plants specified must come from a UK nursery and must not be imported from Europe or anywhere else in the world, directly to site. There must be full traceability on the Xylella host plants (directly back to its origin). The contractor is responsible for checking compliance of growers and to submit their own Biosecurity Plan with their tender

- 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 to deep access soil or fibrous root growth should be removed before planting. All trees to have 'Fiddler' tree irrigation/variation 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. 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 tree circles, 1m diameter around tree trunk, with turf firmed 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.

- 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 stake to stake with a minimum of two ties.

- 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. Fertiliser to be incorporated as required to ensure establishment and continued thriving of plants - type and application rate to be determined by analysis.
- Grass.**
Seeding 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 turfing and 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.

- Species-rich grass.**
Establish seed mix & soil requirements from supplier.

- Root barrier.**
Root barrier system to be used in locations as indicated on plan. 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.

rev	date	by	chk	notes
06	29.07.22	TJ	AS	Path routes updated
05	15.07.22	TJ	LF	Draft in progress (for consultation)
04	07.07.22	TJ	LF	Revised architectural and highways layout
03	15.03.22	AS	LF	Arboricultural constraints shown
02	01.02.22	AS	LF	Revised species list to include ecologist recommendations
01	12.01.22	AS	LF	First issue

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