KEY

- Existing trees with root protection area indicated
- Existing trees to be removed
- Existing vegetation
- Existing pond vegetation to be retained and enhanced (ref. Azure Ecologist's Report)
- Proposed trees
- Ornamental shrub and groundcover planting
- Native shrub mix with standards
- Native hedge with post and wire fence
- Mown grass
- Mixed native and ornamental planting
- Woodland wildflower grass mix (Emorsgate EW1)
- Dry grassland mix (Emorsgate EM4)
- Wet grassland mix (Emorsgate EM8)
- Pond edge plug planting
- 2m x 3m x 0.3m deep reed bed channel where drainage enters pond; planted with Phragmites australis @ 5 rhizomes per m²
- Proposed landform - swales (based on C & A Consulting Engineers plan)
- Existing ditch filled
- Existing ditch retained in RPA
- Proposed drainage channel
- Proposed boardwalk / bridge w/,guardrails
- Proposed vehicular bitmac, standard
- Proposed vehicular bitmac, tinted
- Proposed pedestrian bitmac
- Proposed loose gravel
- Proposed slab paving
- Underground lined storm water storage with permeable paving - shrub planting in raised planters
- 1.2m h chainlink fence to open ditches
- Pedestrian maintenance gate
- Timber vehicular maintenance gate
- Schwegler ISP Sparrow terraces
- Schwegler 1B nest boxes
- Schwegler 9A nest boxes
- Locations targeted for positioning bat boxes / features
- 60cm wide amphibian tunnel
- Proposed root barrier
- Proposed landform mound (10cm contours)
- Proposed overflow detention basin (10cm contours)



SPECIFICATION NOTES

1. General
This plan to be read in conjunction with the following documents:
- Landscape and Visual Impact Assessment by Terra Firma
- Risk Register by Terra Firma
- Arboricultural report by B. Hanerson.

2. General landscaping
i. Existing levels to be preserved around retained existing trees and vegetation. Existing trees and vegetation to be retained protected as detailed in Tree Protection Plan by B Hanerson.
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.

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

4. Subsoil
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 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

5. Topsoil
Existing topsoil to be stripped and re-used provide 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; 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	35
Silt (0.002>0.05mm)	%	0	45
Sand (0.05>2.0mm)			
Of which at least 40% shall fall into fine to medium sand range	%	40	85
Stones (2>50mm)	%DW	--	35
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	%	3.0	8.0
Total Nitrogen	%	0.15	--
Carbon: Nitrogen Ratio	--	--	20:1
Extractable Phosphorus	mg/l	16	100
Extractable Potassium	mg/l	121	1250
Extractable Magnesium	mg/l	50	600

6. Fertilizer and compost
Topsoil amelioration to be determined by analysis. If amelioration ascertained as required, approved (peat free) composts to PAS100 to be incorporated during cultivation at required rate to full depth of growing medium.

7. 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 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 planting, 150mm for grass, 500mm for tree pits (over 400mm sand). Finished soil levels to be 25mm above 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.

8. 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.jcli4ebs.co.uk/spc/handling_establishment.aspx). The contractor shall comply with Part 3: Recommendations for plant handling from delivery to site to successful establishment.

9. General planting notes
General plant stock to conform to BS 3936, advanced nursery stock to BS 5236, 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: 1989 '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 and weed control is provided
- Bulbs : September/October

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 7(i) above. All tree pits, tree circles in lawn and planting beds are to be mulched with approved bark mulch to 75mm depth after planting.

10. Trees
Trees shown on plan to be planted with species as labelled or similar approved. All trees to be planted in pits minimum size 1m x 1m x 0.9m deep, with base decompacted. Trees to have 'Rhizoller' tree irrigation/aeration system installed as supplied by Platipus 01737 762300 www.platipus-anchors.com or approved equivalent. Pits to be backfilled with 500mm depth mix of 80% clean topsoil and 20% approved green compost (as required) to PAS100 and 100 gms granular fertilizer per tree, over 400mm washed medium coarse grade sand bed to base of pit. Water-in heavily after planting and mulch surface. Trees to be underground guyed shall have suitable guying systems installed as supplied by Platipus 01737 762300 www.platipus-anchors.com or approved equivalent. Trees to be staked shall be double staked, with crossbar and adjustable tie. Multi stemmed trees to have diagonal single stake with adjustable tie. Tree stakes to be stained black. 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.

11. Native hedges
Specification and planting density to be as specified in plant schedule. Species to be randomly mixed for natural effect, and planted in groups of 3-5 plants of any one species. Plants to be planted in 400mm wide x 300mm deep trench, with base decompacted, backfilled with 300mm depth 80% clean topsoil well mixed with 20% compost as required to PAS 100 and 20gms granular fertilizer per plant. 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.

12. Native tree and shrub mix
Specification and planting density to be as specified in plant schedule. Species to be randomly mixed for natural effect, and planted in groups of 3-5 plants of any one species. Plants to be notch- or pitch-planted with an application of 20gms granular fertilizer per plant. 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.

13. Specimen Shrubs
All specimen shrubs to be planted in pit of minimum size 400mm x 400mm x 300mm deep so as to accommodate full root spread, backfilled with 300mm depth 80% clean topsoil and 20% approved green compost as required to PAS100 and 20 gms granular fertilizer per plant.

14. Shrub and ground cover planting
All plants to be planted in cultivated planting beds at densities shown in plant schedule, in pits of minimum size 300m x 300m x 300mm deep so as to accommodate full root spread, backfilled with 300mm depth 80% clean topsoil and 20% approved green compost as required to PAS100 and 20 gms granular fertilizer per plant.

15. Climbers
All climbers to be planted in pit of minimum size 300mm x 300mm x 300mm deep so as to accommodate full root spread, backfilled with 300mm 80% clean topsoil and 20% approved green compost as required to PAS100 and 20 gms granular fertilizer per plant. All climbers to be provided with steel line wires attached to the wall or fence (min 3 no.) at 300mm vertical spacing with climbers spread out and tied in using appropriate horticultural ties.

16. Bulb planting
All bulbs to be planted at the rate given in the schedule, in random mixed drifts of single species in areas indicated on the plan, minimum 15 bulbs per drift of single species. For planting, naturalize bulb positions by dropping bulbs from waist height. Neatly remove a plug of turf and replace after planting. Plant so that the top of the bulb is at a depth of approximately twice its height with base in contact with bottom of hole. Bulbs should be no closer together than approximately twice the width of a single bulb.

17. Grass
Turfing and 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. Turf or 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'. All grass areas to be approved landscape quality turf for external areas and lawn turf for internal garden areas, or equivalent seed.

18. Wildflower meadows
Mixes to be Emorsgate EM4 dry grassland mix, Emorsgate EM8 wet grassland and Emorsgate EW1 woodland mix as indicated on the plan. Sow at a rate of approximately 4g / metre square as per supplier's instructions.

19. Pond edge plug planting
Plant plugs in groups of 3 of one species in each 2 litre basket and spread around areas indicated on the plan.

20. Root barrier
Root barrier system to be used in locations as indicated on plan. To be supplied by Greenleaf 01424 717797 or other approved supplier. Thickness, size and depth of installation of root barrier to be to manufacturer's recommendations for particular circumstances.

21. Maintenance
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. Lawn & amenity grass areas – Mowing is to be carried out using approved machinery to maintain the vegetation length within the limits of 30 mm and 50 mm during April to August inclusive and between 50 mm and 70 mm during the rest of the year.
III. Meadow grass, first year: Wet grassland: Cut back annual weed growth to encourage the development of a good perennial ground cover. Dry and woodland grassland: Control by mowing throughout the first year to minimise competition and weed seed production. Cutting should be frequent enough to disperse the cuttings, or if less frequent remove the cuttings.
IV. Meadow grass, on-going: All areas 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. 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.
V. 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.
VI. 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.

PLANT SCHEDULE

Trees		
Species	Specification	Number of Plants
Acer campestre	16-18cm girth 4-4.5m ht, RB141 No.	
Acer campestre 'William Caldwell'	16-18cm girth 4-4.5m ht, RB17 No.	
Crataegus prunifolia	16-18cm girth 4-4.5m ht, RB114 No.	
Malus sylvestris	14-16cm girth 3.5-4m ht, RB23 No.	
Pinus nigra laricio	150cm ht CG	3 No.
Prunus 'Tai-haku'	14-16cm girth 3.5-4m ht, RB9 No.	
Quercus robur	16-18cm girth 4-4.5m ht, RB951 No.	
Sorbus aria	16-18cm girth 4-4.5m ht, RB112 No.	
Tilia cordata 'Green Spire'	16-18cm girth 4-4.5m ht RB 14 No.	

02	18.05.14	KB	Minor amendment to key
01	02.05.14	PS	Dry grassland mix added to pond area.
revision	date	by	notes

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: Land west of Horndean Road; Emsworth

drawing title: Landscape Masterplan

drawing no.: 1375-1001 02

scale	1:500 @ A0	date	23.4.14	drawn by	AOC WJ	checked by	AG

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