

Landscape Management Plan

**HEYFORD PARK, BICESTER, PARCEL 5**

Dorchester Living

February 2017



## Landscape Management Plan

# Heyford Park, Bicester, Parcel 5 Dorchester Living

February 2017

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Prepared by:	<b>Sean Vessey</b>
Position:	<b>Chartered Landscape Architect</b>
Qualifications:	<b>CMLI</b>

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## APPENDICES:

APPENDIX A: DRAWINGS: 1619 A3 04, revision I,  
1619 A3 05, revision L

## 1 INTRODUCTION

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### 1.1 Background and Context

1.1.1 This report presents a Landscape Management Plan for the Public Open Space (POS) associated with the development at the land within Parcel 5 of the development of Heyford former military base and the wider context encompassing surrounding development parcels. The POS is to be managed for the primary purpose of low-key recreational use, to provide biodiverse ecological habitat and to provide an attractive setting to the new properties.

1.1.2 The management responsibility will be with the appointed Management Company. Areas are to be managed in accordance with this Management Plan for a minimum ten-year period, commencing at the time of completion of the contractor's defects liability period. For the duration of the contractor's defects liability period (12 months after completion of works) the maintenance liability of all areas will lie with the developer.

1.1.3 It is the intention that the areas of land that this document relates to are covered by landscape management instructions for a full duration of ten years. After the initial ten year management period, this document is to be reviewed to check for its relevance to the landscape.

1.1.4 This report has been designed to provide a steering manual for the day-to-day management of the site and one, which can be updated as required. It sets out in broad terms the landscape and biodiversity aspirations for the site, both in the short and longer term and provides practical means by which these aims may be translated to well managed results on the ground.

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### 1.2 Report Structure

1.2.1 The report is structured as follows:

- Section 2: describes the management aims and objectives for the Site.
- Section 3: gives a site description and evaluation of baseline conditions.

- Sections 4 and 5: sets out the management strategy for the existing Site. This includes new planting on the Site with specific advice relating to routine maintenance, management operations and species specific information.
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## 2 MANAGEMENT AIMS AND OBJECTIVES

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### 2.1 Aims and Objectives

2.1.1 The primary landscape objective for the landscape areas subject to this Management Plan is to create and maintain a functional, attractive and sustainable space, to increase the sense of site unity and to increase the visual appeal and emphasise the site's characteristics. The main aim of the Management Plan is to set mechanisms in place which ensure that the open space is well managed, for the benefit of the residents so that it does not become degraded through neglect, inappropriate management or misuse.

2.1.2 The primary biodiversity objective is to maintain ecological connectivity within the site and create a range of habitats to serve as resting, shelter, foraging and commuting habitat for a range of species. To this end, wild areas that interconnect without habitat fragmentation i.e. interlinking green corridors within and around the site will be maintained.

Where practicable the habitats and landscaped areas will be enhanced and managed to maximise the potential biodiversity in the site. Enhanced value to wildlife is important to the overall impact of the management proposals.

2.1.3 An acceptable visual appearance and the provision of an ecologically sustainable, healthy and diverse vegetative framework will ensure that the appeal and functional purposes of the area is sustained in the foreseeable future.

2.1.4 The general principle aims for managing the site are as follows:

- To introduce sensitive management policies which will enhance the visual and ecological appeal of the site.
- To encourage appropriate use of the site by residents, whilst strongly discouraging inappropriate and indiscriminate use of the site by, for example, vandalism, tipping, anti-social behaviour.
- To ensure that the long term health and vigour of the new planting is optimised in the future.

- To implement a programme of measures to increase the visual and amenity appeal of the site.
- To monitor developments and allow flexibility to the management approach.

#### 2.1.5

The specific site objectives are as follows:

- To optimise the biodiversity of the grassland and both native/ornamental planted areas within the Public Open Space.
  - Encourage populations of notable and protected species including bats, birds, insects, hedgehog and reptiles that may encounter the site by encouraging the development of habitats of notable and protected species, promote structural and age diversity of vegetation, including newly planted trees planted within close proximity to existing mature specimens.
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### 3 MANAGEMENT PLAN

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#### 3.1 Works Programme

- 3.1.1 It is expected that the Management Plan will commence following completion of the landscape works. The provisions of the establishment maintenance specification set out below should also be adopted by the contractor during the 12 month defects liability period, prior to handover.
- 3.1.2 It should be noted that the proposed annual timing of operations in the following Works Programme are flexible and it is anticipated that the exact programme of works will be influenced by seasonal weather conditions and factors such as variability in growth rates and perceived effects on biodiversity.
- 3.1.3 In the management schedules set out below, the timing of operations (by season or month) is only given where this is critical, either in terms of achieving optimum results or minimising potential disturbance to wildlife. In general terms pruning or other works to established trees, which may contain breeding birds, should avoid the bird breeding season. In most years, this is from February to August inclusive.

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#### 3.2 Legal Constraints

- 3.2.1 Presence/potential presence of statutorily protected species will need to be given due consideration with respect to management operations in the affected areas.

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#### 3.3 Management of Existing Mature Trees

**Objective :** existing mature specimen trees are to be subject to some arboricultural works, to ensure public safety but also to enhance their longevity, their value to the setting of the site and to optimise their wildlife potential. Mature/veteran trees will be retained if deemed structurally sound and dead branches/ standing dead wood only removed where it is not safe to be retained *in situ*. Annual inspections should be carried out on trees in areas of human activity i.e. near paths or roads, with other trees undergoing a detailed inspection every 3-5 years. Dead wood arisings will be maintained on site to create habitat piles. Prior to any works on mature trees

capable of providing suitable features for bat roosts these trees will be inspected by a licensed bat worker and works will be undertaken in accordance with 'Best Working Practice', as specified by The Bat Conservation Trust (Hundt 2012).

- 3.3.1 Following the inspection, a schedule will be provided of essential remedial surgery/other works or tree removal required for public safety/tree health reasons and this to be supplied by Cherwell District Council as required. Works are to be carried out in accordance with BS 3998 - 2010 Tree Work - recommendations or refer to 'the current document' of that standard. These works are to be undertaken at a time to avoid the bird breeding season and preferably during the winter months unless more urgent action is required. As the site is located within a conservation area, the local council will require consultation prior to major pruning works to existing trees.
- 3.3.2 A detailed Arboricultural Impact Assessment has been provided by Pegasus Group (D.0341\_AIATPP\_MGP\_22.10.15) and should be read in conjunction with this report.
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## 4 MANAGEMENT OPERATION FOR NEW PLANTING TO COMMUNAL AREAS AND POS

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### 4.1 Aims and Objectives

4.1.1 It is expected that the management operations will commence following Practical Completion of the new planting.

4.1.2 It should be noted that the proposed timing of operations in the following Works Programme are flexible and it is anticipated that the exact programme of works will be influenced by seasonal weather conditions and factors such as variability in growth rates.

4.1.3 In the maintenance schedules set out below, the timing of operations (e.g. by season or month) is only given where this is critical, either in terms of achieving optimum results or minimising potential disturbance to wildlife. In general terms pruning of mature shrubs as well as operations to mature trees, which may contain breeding birds, should avoid the bird breeding season. In most years this is from late February to August inclusive.

4.1.4 Please refer to Appendix A for detailed planting proposals, drawings 1619 A3 04-05 for proposed planting schedule.

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### 4.2 Operation 1: New Specimen Trees

4.2.1 **Objectives:** to promote early establishment and vigour in all newly planted trees within the development area. Longer-term management to include replacement as required and formative pruning to create a healthy, strategic landscape component and to perpetuate the original design aims.

#### **Establishment Maintenance of New Specimen Trees**

4.2.2 Establishment Maintenance of newly planted trees will be required for the first three years after planting to ensure rapid early growth. Visits shall be undertaken at least monthly between April and September, with two visits during the dormant season, to ensure that the following maintenance requirements are satisfactorily undertaken:

- Watering as required to ensure healthy growth, particularly in Years 1 and 2. All trees to be visited weekly in periods of dry weather and sufficient water to be applied to eliminate drought related stress.
- All trees to be treated with an annual application of an approved slow-release fertiliser (e.g. Osmocote) at the manufacturer's recommended rates in April of Years 1, 2 and 3.
- Trees that have become loosened, lifted up or out of the ground to be set upright and re-firmed by treading. Tree supports (including underground guys) to be regularly checked, adjusted, repaired and replaced as necessary and irrigation tubes to be kept free of blockages.
- Weed control is required to keep all planting areas free of grass and weed growth. This weed control must be by hand in Year 1, with chemical control, using Glyphosate, permitted only in 1.0m squares around clear-stemmed trees in Years 2 and 3.
- Trees to be kept free of pests and diseases; regular monitoring to be undertaken.
- General pruning to be carried out to remove straggling stems, over-vigorous shoots, suckers and dead, misshapen, broken or otherwise unhealthy branches.
- Planting areas to be kept free of litter and leaf fall and grass edges to be kept regularly trimmed and tidy.
- Where mulch is used as a top dressing, this to be regularly topped up to 100mm, to ensure a minimum depth of 75mm. Mulch to be kept cleared off adjacent grass, paved areas etc.
- General autumn tidy.
- All arisings to be removed from site and the site to be left clean and tidy at all times.

#### 4.2.3

An inspection is to be made in August each year. Any losses of planted trees, whether by natural means or vandalism and any other plants that have failed to thrive, to be

replaced in the planting season following the loss. Replacement trees are to be of the same specification and size as the original plants.

- 4.2.4 New tree planting within the Public Open Space should be regarded in a different light to those within residential area. As such, in the longer term these trees may be subject to minimal management to allow the trees to develop into character trees of value to wildlife.

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### 4.3 **Operation 2: New Ornamental Shrub and Herbaceous Planting**

**Objective:** to encourage rapid establishment of a closed canopy of shrubs and ground cover planting in ornamental and native planting beds and to create consistently dense, substantial hedge structures. Longer term management will aim to sustain shrubs, hedges and herbaceous planting in a healthy, vigorous condition and to maximise the visual amenity of the planting. Please refer to Appendix A drawing 1619 A3 04/05 for planting schedule.

#### **Establishment Maintenance of Ornamental Shrub and Herbaceous Planting**

- 4.3.1 Establishment Maintenance of new planting will be required for the first five years after planting to ensure rapid early growth. Visits to be undertaken at least monthly between April and September, with two visits during the dormant season, to ensure that the following maintenance requirements are satisfactorily undertaken:
- 4.3.2 Watering as required to ensure healthy growth, particularly in Year 1 and 2. All planting areas to be visited weekly in periods of dry weather and sufficient water to be applied to maintain planting areas in moist condition but without risk of waterlogging, to eliminate drought related stress.
- 4.3.3 All shrubs, hedge plants and herbaceous plants to be treated with an annual application of an approved slow-release fertiliser (e.g. Osmocote), at the manufacturer's recommended rates in April of Years 1, 2 and 3.
- 4.3.4 Plants which have become loosened, lifted up or out of the ground to be set upright and re-firmed by treading. All tree and shrub guards and other protection, to be regularly checked, re-firmed, repaired or replaced as necessary.

- 4.3.5 Regular hand weeding will be required to ensure weed free planting areas throughout. The need for weed control will be minimised through the use of a 75mm minimum layer of mulch. The mulch is to be regularly topped up to 75mm, to ensure a minimum depth of 50mm, using the mulch originally specified. Mulch to be kept 10mm below adjacent grass, paved areas etc. and cleared off as necessary. In the gapping up planting areas, stringent weed control is also necessary and may be either by hand or with glyphosate, carefully applied to avoid damage and to create a weed free zone of 1m diameter centred on each plant.
- 4.3.6 It is necessary to ensure that the lower branches and foliage of plants within the mulched ornamental areas (e.g. Hebe) are not smothered. Mulch to be topped up as necessary and kept cleared off adjacent grass, paved areas etc. This will generally suppress weeds but there may be some localised ingress of weeds. Any additional weed control required must be by hand in Year 1, with chemical control, using glyphosate, permitted only in Years 2 and 3 in those areas without herbaceous plants. Where herbaceous species are present hand weeding will be required.
- 4.3.7 Plants to be kept free of pests and diseases, regular monitoring to be undertaken.
- 4.3.8 Ornamental planting areas to be kept free of litter and leaf fall, with all arising's removed from site and the planting areas to be left clean and tidy at all times.
- 4.3.9 General autumn tidy taking care not to discourage wildlife which may be present.
- 4.3.10 New hedging to be subject to specific formative pruning (see below).
- 4.3.11 An inspection to be made in August each year. Any losses of shrubs, hedging or herbaceous plants, whether by natural means, accidental damage or vandalism and any other plants that have failed to thrive, to be noted and replaced in the planting season following the loss. Replacement plants to be of the same specification and size as the original plants.
- 4.3.12 The new formal hedging shall be maintained in accordance with the preceding clauses, with special care to keep hedges clear of invasive ruderal species. Pruning, clipping, and training of hedges shall be carried out in September each year, to avoid disturbance to birds in the breeding season. Once new sections of formal hedge have

reached the desired height of 600mm high, they shall be managed according to the longer term management prescriptions as set out below.

- 4.3.13 The herbaceous planting is to be dead-headed after flowering and routinely managed.

#### **Longer Term Management of Ornamental Shrub and Herbaceous Planting**

- 4.3.14 Regular maintenance visits should be made at monthly intervals between April and September with two visits during the dormant season each year. It will be necessary to undertake general routine maintenance including weeding, removal and replacement of dead plants, litter and leaf fall clearance (except in native planting areas), topping up, raking and sweeping of mulch to provide a tidy appearance etc., as described above for the Establishment Period. All arising's to be removed from site and the site to be left clean and tidy at all times.
- 4.3.15 An inspection to be made in August of each year until Year 5. Any losses of planted plants, whether by natural means, wear and tear, accidental damage or vandalism and any other plants that have failed to thrive, to be replaced in the planting season following the loss. This to include any plants that are relatively short lived (e.g. Hebe and Lavandula) and which will require routine replacement during the 5 year period of the Management Plan. Replacement plants to be of the same specification and size as the original plants.
- 4.3.16 Following completion of the Establishment Period, the need for both watering and weed control is likely to be reduced but topping up of mulch must still be undertaken as necessary to maintain the ornamental beds in a weed free condition. At this stage, it may be possible for those areas without herbaceous planting, to be treated with glyphosate, to minimise the need for physical removal of weeds. Ornamental planting beds to be maintained in a weed free state and mulch material to be kept topped up to ensure a minimum depth of 50mm, as appropriate.
- 4.3.17 In dry summers, some ornamental beds may require watering to ensure healthy growth, in the longer term.
- 4.3.18 Regular monitoring for pests and diseases will also be needed on an on-going basis and any necessary control measures undertaken as soon as possible. At a time to be agreed (likely to be between Years 4 and 5) and when no longer considered

necessary / inflicting constraint on the plants, plant guards and other protection, to be removed with care to avoid damage to the plants.

4.3.19 General and formative pruning to shrubs to remove straggling stems, over-vigorous shoots, suckers and dead, misshapen, discoloured, thin, weak, over-crowded, old or broken branches from shrubs by pruning back with a clean cut to the main stem, or to a sound and healthy outward growing lateral. Ground cover plants e.g. Hedera and Pachysandra, to be trimmed to shape and to prevent encroachment onto adjoining hard surfaces, shrub species or grass edges in April to June each year.

4.3.20 Specific shrub species shall be pruned in accordance with best horticultural practice and as a general guidance note the following examples have been given:

<b>Agapanthus H. Hybrids</b>	No need to cut down in the autumn, as the seedheads look attractive over winter.
<b>Dryopteris filix-mas</b>	Remove dead or diseased fronds as necessary.
<b>Euonymus fortunei spp.</b>	Clip to shape in April and trim again if necessary in late August.
<b>Geranium spp.</b>	Remove the flowering stems and straggly growth in July after flowering, to encourage second flush of flowers. In March or April every 3rd year, lift, divide and replant if necessary.
<b>Hebe spp.</b>	To be neatly clipped to a maximum height 1m. Clip in April and remove any dead wood as necessary.
<b>Lavandula spp.</b>	Cut back flowering stalks on last year's wood in September /October and trim to create a tidy, dome shaped form.
<b>Lonicera nitida</b>	Cut all new growths back by half each year in March to encourage bushy growth. Prune in September to maintain shape.



**Viburnum davidii** Cut back 30% of stems to ground level in March, if overcrowded. Trim to shape in March and September and out of adjoining shrubs.

**PLEASE REFER TO PLANTING SCHEDULE ON 1619 A3 04/05 (APPENDIX A)**

**NB.** Viburnums are susceptible to a number of pests and disease, including Viburnum beetle and require particularly vigilant monitoring and early treatment.

- 4.3.21 Vigorous species to be pruned as necessary to restrict lateral and top growth, to prevent infringement on adjoining plants, paths, grass, edges etc. It may be necessary in 5 - 15 years after planting, to undertake rejuvenate pruning of these and other species, if they outgrow their location or become over-mature. In these cases, shrubs to be cut to 100mm above ground level in March. Plant re-growth is to be monitored and any shrubs which do not regenerate successfully to be removed and replaced, with plants of the same size and specification as the original plants.
- 4.3.22 Herbaceous planting including Geranium and Nepeta to be dead headed after flowering, with flower stems cut to ground level. Similarly, dead top growth of deciduous species to be cut down to just above ground level in September / October. Where necessary to maintain a tidy appearance and in accordance with good horticultural practice, any dead leaves of evergreen species to be cut back to ground level in the autumn. Those species which retain attractive winter leaves e.g. Heuchera spp. to be retained un-pruned but tatty leaves to be cut out on a regular basis. Any woody growth of species to be cut hard back in late February.
- 4.3.23 Vigorous herbaceous species e.g. Geranium spp. to be divided and splits used to extend / gap up the original planting in October, as necessary to ensure longevity and free flowering of the parent plants. Particular care will be required in areas of perennial plants that die back in the autumn and in these areas, it will not be possible to use herbicides and mulch will need to be topped up with care to avoid smothering.
- 4.3.24 Due to the relatively short lived nature of the Hebe and Lavender plants, provision should be made for plant replacement after 5-10 years. Similarly, it may be necessary

4.3.25 to replace some of the herbaceous species, which have a tendency to die out, in time. This to be undertaken in early spring, as necessary.

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**4.4 Operation 3: Grass Cutting Native Wildflower Grassland (Emorsgate EM3) in Public Open Space**

4.4.1 **Objective:** Areas of native wildflower grassland are to be maintained as a high amenity space, with informal mown paths cut to create walkways where required. Meadow grass for the best part is limited to areas under existing mature trees with the purpose of restricting ambient disturbance by site users.

**Establishment Maintenance of Native Wildflower Grassland**

4.4.2 Areas of newly seeded/turfed grass to be subject to establishment maintenance during the first year after seeding.

4.4.3 Cut to height of 75mm, once in late August, once again in mid-October and in mild winters once again in mid-March. All cut material should be collected by sit on mower collection box at once, except for the August cut which shall be left for 3-5 days after cutting to allow to dry, for re-dispersal of seeds. This can then be collected using the collection box on a sit on mower. NB. It will be necessary for the company maintaining the wildflowers to have an understanding of the principles of wildflower management, which is different from normal amenity grass management. This should ideally be demonstrated before the contract for the grounds maintenance is let.

4.4.4 Strimming by hand may be required in more difficult to reach areas. In this instance, maintenance is to be conducted using the same techniques detailed above. Use of a trimmer will be beneficial and arisings will need to be raked up by hand.

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## 4.5 Operation 4: Site Housekeeping, Hard Landscaping and Open Spaces

- 4.5.1 **Objective:** Ensure that the site is respected and that the hard and soft landscape elements including high quality fixtures are maintained in good condition, without the risk of degradation through natural processes or abuse.

### Routine Site Monitoring

- 4.5.2 All furniture including benches and light fittings etc., are to be regularly checked and cleaned and if necessary repaired, treated with an appropriate preservative or replaced as appropriate, and in accordance with manufacturer's instructions.
- 4.5.3 Regular routine checks of the site within management, will be required and any litter, dumped material or other debris to be removed on a weekly basis. Vigorous attention will be required with respect to control of dog fouling.
- 4.5.4 All areas of paving, flush and raised edging to paths and planting, kerbs, macadam and other hard surface areas throughout the Management areas of the site, to be kept free of leaves, litter and silt deposits, swept or alternative method of debris removal e.g. suction or blowing, on a monthly basis and maintained free of grass, weed, moss or algae growth, using appropriate translocated (e.g. Glyphosate) and residual (e.g. Casaron) herbicides and moss-killers. Particular attention is required to areas that may be prone to slipperiness. It may be necessary to use a pressure washer on occasion to remove any silt or algae build up.
- 4.5.5 Longer term management of paths, as well as kerbs, macadam and other hard surfaces etc., will include twice annual monitoring in April and September of each year and repair/replacement to be undertaken as necessary, to prevent further deterioration.
- 4.5.6 Site drainage issues also to be addressed on a routine basis to ensure that there are no problems relating to blockages or disrepair of main drains or laterals, dispersal of surface water etc. This will include regular checking and clearance of any drainage gulleys and grated drainage channels and rodding of underground drainage pipes as necessary.
- 4.5.7 Gritting and snow clearance to be undertaken on an 'as required' basis to all paths and other hard surfaced areas.

- 4.5.8 Any unauthorised use of the areas or vandalism/graffiti/loitering/dens or other abuse or anti-social behaviour, to be reported immediately to the Local Authority/Police (as appropriate) for further action and/or removed as soon as possible. Similarly, any inappropriate use of the open space by residents e.g. installation of personal possessions/ children's play equipment etc. into the communal areas, dumping of shopping trolleys, storage of bikes etc., to be similarly reported and appropriate action/warnings issued.

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4.6 **Operation 5: LAP Provision**

*LAP provision subject to condition.*

*Refer to drawing 1619 A3 04, Appendix A.*

- 4.6.1 **Objectives:** Ensure surfacing and furniture and safety fencing is kept clean and safe in line with manufacturer's instructions.
- 4.6.2 This area is within the public open space which sits in the western corner. The LAP has no play equipment specified but all fencing/furniture should be installed.
- 4.6.3 Surfacing to play areas should be checked monthly for foreign objects and worn/reduced surface areas to ensure safety and aesthetics.
- 4.6.4 Bound safety surfaces should be monitored on a monthly basis with an annual inspection to verify fit for purpose and condition. This will also be in accordance with manufacturer's specification.
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**REFERENCES**

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Arboricultural Impact Assessment by Pegasus Group  
(D.0341\_ AIATPP\_MGP\_22.10.15, October 2015.



# HEYFORD PARK, BICESTER, PARCEL 5

## LANDSCAPE MANAGEMENT PLAN

### DRAWINGS

February 2017

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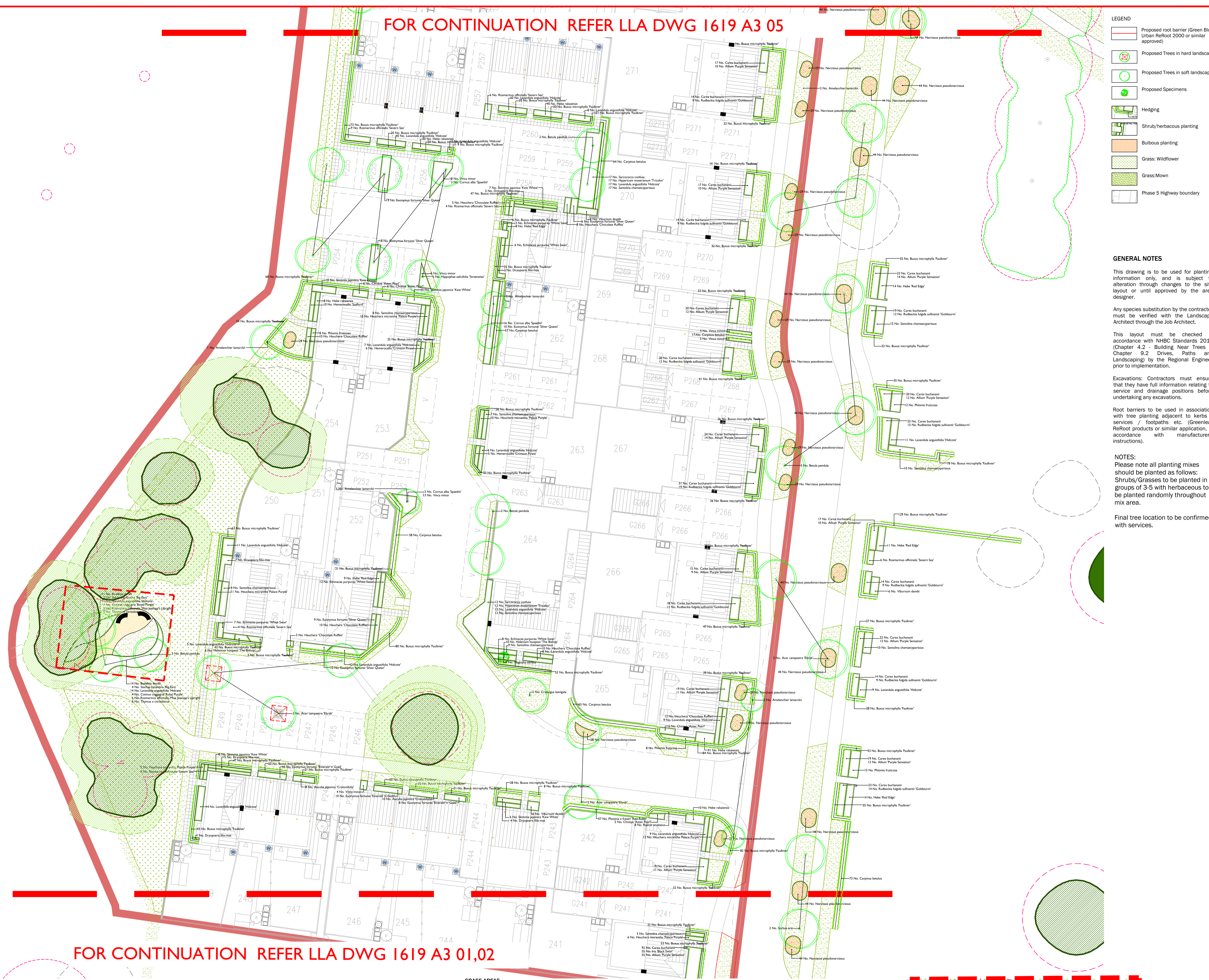
1619 A3 04 revision I: Detailed Planting Proposals

1619 A3 05 revision L: Detailed Planting Proposals





FOR CONTINUATION REFER LLA DWG I619 A3 05



**LEGEND**

- Proposed root barrier (Green Blue Urban ReRoot 2000 or similar approved)
- Proposed Trees in hard landscape
- Proposed Trees in soft landscape
- Proposed Specimens
- Hedging
- Shrub/herbaceous planting
- Bulbous planting
- Grass: Wildflower
- Grass: Mown
- Phase 5 Highway boundary

**GENERAL NOTES**

This drawing is to be used for planting information only and is subject to alteration through changes to the site layout or until approved by the area designer.

Any species substitution by the contractor must be verified with the Landscape Architect through the Job Architect.

This layout must be checked in accordance with NHBC Standards 2013 (Chapter 4.2 - Building Near Trees & Chapter 9.2 - Drives, Paths and Landscaping by the Regional Engineer prior to implementation.

Excavations: Contractors must ensure that they have full information relating to service and drainage positions before undertaking any excavations.

Root barriers to be used in association with tree planting adjacent to kerbs / services / footpaths etc. (Greenleaf ReRoot products or similar application, in accordance with manufacturer's instructions).

**NOTES:**

Please note all planting mixes should be planted as follows:  
 Shrubs/Graasses to be planted in groups of 3-5 with herbaceous to be planted randomly throughout mix area.

Final tree location to be confirmed with services.

FOR CONTINUATION REFER LLA DWG I619 A3 01,02

**LANDSCAPE SPECIFICATION**

**SITE PREPARATION**

**Topsoil**  
 Existing topsoil shall be stripped before building works begin. Imported topsoil shall be to BS3882: 2007 Specification for Topsoil and Requirements for Use. Topsoil shall be multi-purpose grade, of medium texture, with a high proportion of fertile loamy material. It shall be free from subsoil, rubbish, rubble, contamination, roots of perennial weeds and other materials injurious to plant growth. The maximum stone content of the soil shall be 20%, with the maximum size of stone 25mm in any one dimension. All topsoil shall be stacked in heaps, not exceeding 2m high. During storage, topsoil heaps shall be kept free from compaction, contamination and weeds.

**Excavation**  
 Excavation shall NOT be undertaken within the root protection area of any existing trees or shrubs to be retained. Unless otherwise indicated areas to be planted / seeded shall be cleared of all surface rubbish and excavated to the dimensions below finished level as follows, when the soil is not waterlogged or frozen. Ensure the location of all services is known before any excavation operations.

**Tree pits:** 1000 x 1000 x 800mm deep unless otherwise shown  
 Shrub and hedge pit / trench: 450mm deep  
 Grass areas: 300mm deep  
 Wildflower grassland areas: Excavate to finished levels

The base of excavated areas shall be forked or otherwise cultivated to a depth of 150mm to facilitate drainage and all bricks, stones and other debris, etc. over 75mm in any one dimension shall be removed. Similarly, areas trafficked by construction vehicles shall be ripped to a depth of 150-300mm to relieve compaction.

**Backfilling with Subsoil**  
 Where excavated areas are lower than the required depths, excavations shall be backfilled with selected subsoil and lightly consolidated to make up levels. Selected subsoil shall be friable, second quality topsoil or similar and be free of rubbish, roots, stones over 75mm in any one dimension, perennial weeds or other materials injurious to plant growth.

**Backfilling with Topsoil**  
 Tree, shrub and hedge pit / trench excavations shall be backfilled, in layers, with clean topsoil (as specified above) thoroughly mixed with planting compost e.g. 'Melcourt Topgrow' compost at a rate of 20 litres/m<sup>3</sup>. An approved tree and shrub fertilizer shall be added to topsoil, prior to backfilling tree pits. Grass areas (excluding wildflower grassland areas) shall be backfilled with topsoil in layers of 150mm depth.

**Cultivation**  
 Prior to cultivation if planting / seeding areas are weed infested, weed growth to be trimmed, the arisings removed and re-growth treated with an approved herbicide ie Glyphosate. Treatment to be undertaken in the growing season preceding planting, at a minimum 4 weeks prior to works to allow for repeat treatment if necessary.

Cultivation shall not be undertaken within the root protection area of any trees / shrubs to be retained, without prior agreement from the Local Planning Authority. Topsoil shall be cultivated by hand or machine prior to planting, with minimal compaction by machine. Cultivate to the following depths and tith, removing all rubbish, vegetation, perennial weeds, roots, stones over 25mm in any one dimension and rake to even levels.

**Planting areas:** 300mm deep cultivation to medium tith  
 Grass seeding areas: 150mm deep cultivation to fine tith raked to a smooth evenly firmed bed  
 Turf areas: 150mm deep cultivation to medium tith raked to a smooth evenly firmed bed  
 Wildflower grassland areas: 150mm deep cultivation to medium tith raked to a smooth evenly firmed bed

**Wildflower Grassland Areas:** Where un-excavated areas are to be seeded with wildflower grassland mix the topsoil shall be cultivated to turn the soil over to a depth of 300mm to bring subsoil to the surface. Elsewhere, excavated areas to be seeded with wildflower grassland mix to be backfilled to finished levels with subsoil (as above).

**PLANTING**

**Plant Stock and Timing**  
 Plant material and operations shall conform to BS6854: 2014, BS 3936 Nursery Stock (Parts 1-10), BS 4428: 1989, BS 4043: 1989 and BS 5837: 2012. The planting season shall be from the 1st October to the 31st March. Container grown stock may be planted outside this season if accompanied by daily watering, or as necessary to ensure healthy establishment. Planting shall not be carried out during periods of frost, drought, cold drying winds or when the soil is waterlogged or frozen.

**Planting**  
 All planting that is within the root protection area of existing trees/shrubs to be retained, shall be undertaken by hand and positions altered should trees be encountered, in order to avoid damage to the root system.

All plants shall be set out evenly over the areas as indicated, to the density and quantities shown. All plants shall be planted upright at the same depth as the nursery soil level and evenly spaced, leaving room for growth. All restrictive containers shall be removed with roots not twisted. Immediately following planting, all plants shall be watered-in to field capacity.

Container grown and root balled plants shall be planted in a planting pit sufficient to accommodate the plant without causing root damage, with a minimum 50mm backfill beyond the root ball extent. Plants to be firmed, watered-in and dead, damaged or topsoiled branches shall be removed after planting. Bare-root plants shall be silt planted, incorporating an approved high phosphate, slow-release fertilizer.

**Tree Planting and Support**  
 Trees planted in landscape areas shall be double staked and tied to timber crossbar positioned 25mm below the top of each stake, using 1no. biodegradable fixing with spacer. Tree stakes shall have a minimum top diameter of 75mm, with the length of stake maximum 500mm above ground and minimum 500mm below ground.

All trees to be firmed in after planting. All trees shall have irrigation / aeration system units fitted to fully surround the root ball.

**Hedge Planting**  
 Hedges shall be planted in a double staggered row as per detail. Dead, damaged or straggly branches shall be removed after planting. All transplants in hedge and native mixes shall be fitted with individual protection in shrub shelters, spiral guards as specified, or alternatively the planting areas shall be protected with rabbit-proof fencing. All shrub shelters / spiral guards shall be black or green, adequately supported and installed to allow for expansion.

**Bulb Planting**  
 Bulbs shall be planted according to species and good horticultural practice. Swaths of bulbs shall be randomly planted avoiding straight lines and / or formal layout unless otherwise specified.

**Mulching**  
 Prior to the application of mulch the planting areas shall be completely weed free and watered sufficiently to achieve field capacity. The surface of the planting areas shall be mulched with a minimum 75mm depth layer of 15-65mm nominal particle size, dark, matured woodchip mulch, ensuring that the lower branches of trees, shrubs and / or herbaceous plants are NOT smothered.

Mulch shall be an approved product and completely weed and weed seed free. The mulch shall be topped up to maintain, after settlement, a depth of 100mm above 50mm. Trees in grass areas shall be planted centrally within a 1m diameter mulch bed, to be mulched to 75mm deep. The surface of mulch to be 10mm below the surface of adjacent lawn / hard surface.

**HERBACEOUS**

Number	Plant Name	Container	Specification	Density
20 No.	Anemone hepuchensis 'Prinz Heinrich'	3L	Full Pot C	4/m <sup>2</sup>
7 No.	Bergenia 'Bresinger Ruby'	3L	Full Pot C	5/m <sup>2</sup>
16 No.	Bergenia 'Silverlicht'	3L	Full Pot C	5/m <sup>2</sup>
56 No.	Echinacea purpurea 'White Swan'	3L	Full Pot C	4/m <sup>2</sup>
28 No.	Helenium hoopesii 'The Bishop'	3L	Full Pot C	4/m <sup>2</sup>
21 No.	Helleborus niger	3L	Full Pot C	4/m <sup>2</sup>
24 No.	Hemerocallis 'Crimson Pirate'	3L	Full Pot C	3/m <sup>2</sup>
10 No.	Hemerocallis 'Saffron'	3L	Full Pot C	4/m <sup>2</sup>
79 No.	Heuchera 'Chocolate Ruffles'	3L	Full Pot C	4/m <sup>2</sup>
54 No.	Heuchera micrantha 'Palace Purple'	3L	Full Pot C	4/m <sup>2</sup>
55 No.	Iris 'Black Swan'	3L	Full Pot C	3/m <sup>2</sup>
419 No.	Rudbeckia fulgida sullivanii 'Goldsturm'	3L	Full Pot C	3/m <sup>2</sup>
7 No.	Stachys byzantina 'Big Ear'	5-7.5L	Full Pot C	2/m <sup>2</sup>
11 No.	Thymus x citriodorus	5L	Full Pot C	3/m <sup>2</sup>
5 No.	Thymus x citriodorus 'Silver Queen'	3L	Full Pot C	4/m <sup>2</sup>

Total: 812 No.

**BULBS**

Number	Plant Name	Container	Specification	Density
435 No.	Allium 'Purple Sensation'	3L	Full Pot C	3/m <sup>2</sup>
1803 No.	Narcissus pseudonarcissus	Grade 5/6	5/10m <sup>2</sup>	

Total: 2238 No.

**FERNS**

Number	Plant Name	Container	Specification	Density
42 No.	Dryopteris filix-mas	3L	Full Pot C	2/m <sup>2</sup>

Total: 42 No.

**GRASSES**

Number	Plant Name	Height	Container	Specification	Density
1419 No.	Carex buchananii	40-60cm	5L	Full Pot C	5/m <sup>2</sup>

Total: 1419 No.

**GRASS AREAS**

**Turf**  
 Turf shall accord with BS 3969: 1998. It shall be good quality meadow / cultivated, amenity turf free from weeds and be laid on even, prepared ground (as detailed above), during periods of suitable warm and moist weather conditions. Pre-turfing fertiliser shall be applied to manufacturer's recommendations and turf shall be laid in accordance with BS 4428: 1989.

**Turf**  
 Turf shall be laid with broken joints well-butted up, working from timber planks to avoid damaging turf when laying. Water as necessary to avoid shrinkage and achieve satisfactory establishment. Undertake good horticultural practice to ensure establishment of a healthy grass sward.

**Grass Seeding**  
 Areas of amenity grass shall be seeded with a general amenity grass mix as specified during the period March to May or September to October, during periods of moist, warm weather conditions without significant wind. Pre-seeding fertiliser shall be applied to manufacturer's recommendations. Seed shall be sown on even, prepared ground (as detailed above), at a rate of 25g/m<sup>2</sup> or as specified, in two transverse operations. Lightly roll seed bed after sowing. Water as necessary to avoid shrinkage and achieve satisfactory establishment. Undertake good horticultural practice to ensure establishment of a healthy wildflower grass sward.

**Wildflower Grassland Seeding**  
 Areas of wildflower grassland shall be seeded with a wildflower grassland mix suitable for the soil type as specified, during the period March to May or September to October, during periods of suitable warm and moist weather conditions. Seed shall be sown on prepared ground (as detailed above), at a rate of 5g/m<sup>2</sup> or as specified. Lightly roll seed bed after sowing. Water as necessary to avoid shrinkage and achieve satisfactory establishment. Undertake good horticultural practice to ensure establishment of a healthy wildflower grass sward.

**AFTERCARE PERIOD**

**Regular Visits**  
 During the specified Aftercare Period maintenance visits shall be carried out, at least monthly from April to September and twice during the dormant season to carry out the following operations to establish healthy growing plants / grass in weed free areas: watering, firming-up, removal of litter, pest and disease control, general pruning, checking growth, ties and stakes, weed control, grass cutting and autumn tidying. All arisings shall be carted away and the site shall be left clean and tidy at all times.

**Watering**  
 All planting and grass areas shall not be allowed to dry out and shall be kept well watered during the growing season, ensuring the soil is kept moist at all times but avoiding waterlogging.

**Replacement Planting**  
 During each August within the Aftercare Period an inspection shall be made and all plants that have died, are missing, damaged or have failed to thrive, shall be noted and replaced in the following planting season.

**Grass Cutting**  
 During the first and subsequent growing seasons amenity grass shall be kept at a height of 25mm to 50mm. Any bare patches are to be reseeded. Selective weed control shall be undertaken as necessary once the sward is sufficiently established.

**Wildflower Grassland Cutting**  
 During the first growing season cut wildflower grassland every 2 months to a height of 50mm and in subsequent growing seasons cut to 50mm height during late March and late August / early September or as specified. All arisings shall be collected and removed from the site to avoid smothering the sward and to reduce nutrient levels. Spot treat perennial weeds with Glyphosate at the manufacturer's recommended dose rate / or tank mix.

**TREES**

Number	Plant Name	Height	Girth	Specification
1 No.	Liquidambar styraciflua 'Worpleston'	550-650cm	18-20cm	Extra Heavy Standard 3x: Clear Stem min. 200cm: C
18 No.	Acer campestre 'Bianchi'	500-550cm	16-18cm	3x: Clear Stem min. 200cm: C: Extra Heavy Standard
3 No.	Crataegus laevigata	400-450cm	18-20cm	Extra Heavy Standard 3x: Clear Stem min. 200cm: C
13 No.	Beaulia pendula	400-450cm	16-18cm	Extra Heavy Standard 3x: Clear Stem min. 200cm: C
11 No.	Amelanchier lamarckii	450-450cm	16-18cm	Extra Heavy Standard 3x: Clear Stem min. 200cm: C
6 No.	Hippocoe salicifolia 'Sweetwee'	400-450cm	16-18cm	Extra Heavy Standard 3x: Clear Stem min. 200cm
2 No.	Beaulia pendula	400-450cm	16-18cm	Extra Heavy Standard 3x: Clear Stem min. 200: C
9 No.	Sorbus aria	500-550cm	16-18cm	Semi-Mature: 3x: Clear Stem min. 200cm: C

Total: 63 No.

**HEDGING**

Number	Plant Name	Height	Container	Specification	Density
3842 No.	Buxus microphylla 'Tulkeri'	35-40cm	5L	Bushy: 8 brks: C	5/m
869 No.	Carpinus betulus	100-125cm	5L	Branches: 5 brks: C	5/m
76 No.	Escallonia 'Donard Seeding'	40-60cm	5L	Bushy: 5 brks: C	5/m
420 No.	Phytolita x Fraseri 'Red Robin'	40-60cm	5-7.5L	Branches: 6 brks: C	5/m

Total: 5207 No.

**SHRUBS**

Number	Plant Name	Height	Container	Specification	Density
30 No.	Aucuba japonica 'Crotomifolia'	40-60cm	5L	Bushy: 3 brks: C	3/m <sup>2</sup>
25 No.	Buddleya davidii	60-80cm	5L	Branches: 5 brks: C	3/m <sup>2</sup>
65 No.	Chrysa 'Azzee Pearl'	30-40cm	5L	Bushy: 6 brks: C	3/m <sup>2</sup>
56 No.	Cornus alba 'Spathel'	60-80cm	5L	Branches: 4 brks: C	2/m <sup>2</sup>
7 No.	Cotinus coggygria 'Royal Purple'	60-80cm	10L	Branches: 5 brks: C	1/m <sup>2</sup>
28 No.	Euonymus fortunei 'Emerald n' Gold'	25-30cm	5-7.5L	Bushy: 9 brks: C	3/m <sup>2</sup>
142 No.	Euonymus fortunei 'Silver Queen'	20-30cm	5L	Bushy: 7 brks: C	3/m <sup>2</sup>
72 No.	Hebe 'Red Edge'	50-60cm	5-7.5L	Bushy: 7 brks: C	3/m <sup>2</sup>
110 No.	Hebe rakaiensis	50-60cm	5-7.5L	Bushy: 7 brks: C	3/m <sup>2</sup>
29 No.	Hypericum moserianum 'Tricolor'	50-60cm	5-7.5L	Bushy: 7 brks: C	3/m <sup>2</sup>
127 No.	Laurus nobilis	150-175cm	30-35L	Ball on Stem: Topiary Half Standard: Ball diameter 50-60cm: C: Clear Stem 90-120cm: Neatly Clipped	Counted
22 No.	Lavandula angustifolia 'Hidocoe'	20-30cm	5L	Bushy: 7 brks: C	3/m <sup>2</sup>
1 No.	Magnolia stellata	100-125cm	25L	Branches: 5 brks: C	Counted
11 No.	Pachysandra terminalis 'Green Carpet'	50-60cm	5L	Several Shoots: 11 brks: C	3/m <sup>2</sup>
43 No.	Philomelic frutescens	30-40cm	5-7.5L	Branches: 5 brks: C	3/m <sup>2</sup>
11 No.	Rosmarinus officinalis 'Miss Jessopp's Upright'	40-60cm	10L	Bushy: 7 brks: C	3/m <sup>2</sup>
41 No.	Rosmarinus officinalis 'Severn Sea'	40-60cm	5L	Bushy: 5 brks: C	3/m <sup>2</sup>
8 No.	Ruscus aculeatus	30-40cm	5L	Several Shoots: 3 brks: C	4/m <sup>2</sup>
107 No.	Santolima chamaecyparissus	30-40cm	5L	Bushy: 8 brks: C	3/m <sup>2</sup>
29 No.	Sarcococca confusa	25-30cm	5-7.5L	Bushy: 9 brks: C	3/m <sup>2</sup>
6 No.	Skimmia japonica 'Kew White'	30-40cm	5L	Bushy: 4 brks: C	3/m <sup>2</sup>
8 No.	Spiraea japonica 'Goldflame'	30-40cm	5-7.5L	Bushy: 7 brks: C	3/m <sup>2</sup>
94 No.	Viburnum davidii	30-40cm	5-7.5L	Bushy: 4 brks: C	3/m <sup>2</sup>
6 No.	Viburnum davidii	30-40cm	5-7.5L	Bushy: 4 brks: C	2/m <sup>2</sup>
26 No.	Viburnum sinus 'Eve Price'	30-40cm	5L	Bushy: 5 brks: C	3/m <sup>2</sup>
117 No.	Vincia minor	5-7.5L	Several Shoots: 5 brks: C	3/m <sup>2</sup>	
6 No.	Vincia minor	5-7.5L	Several Shoots: 5 brks: C	2/m <sup>2</sup>	

Total: 1581 No.

**CONFISERS**

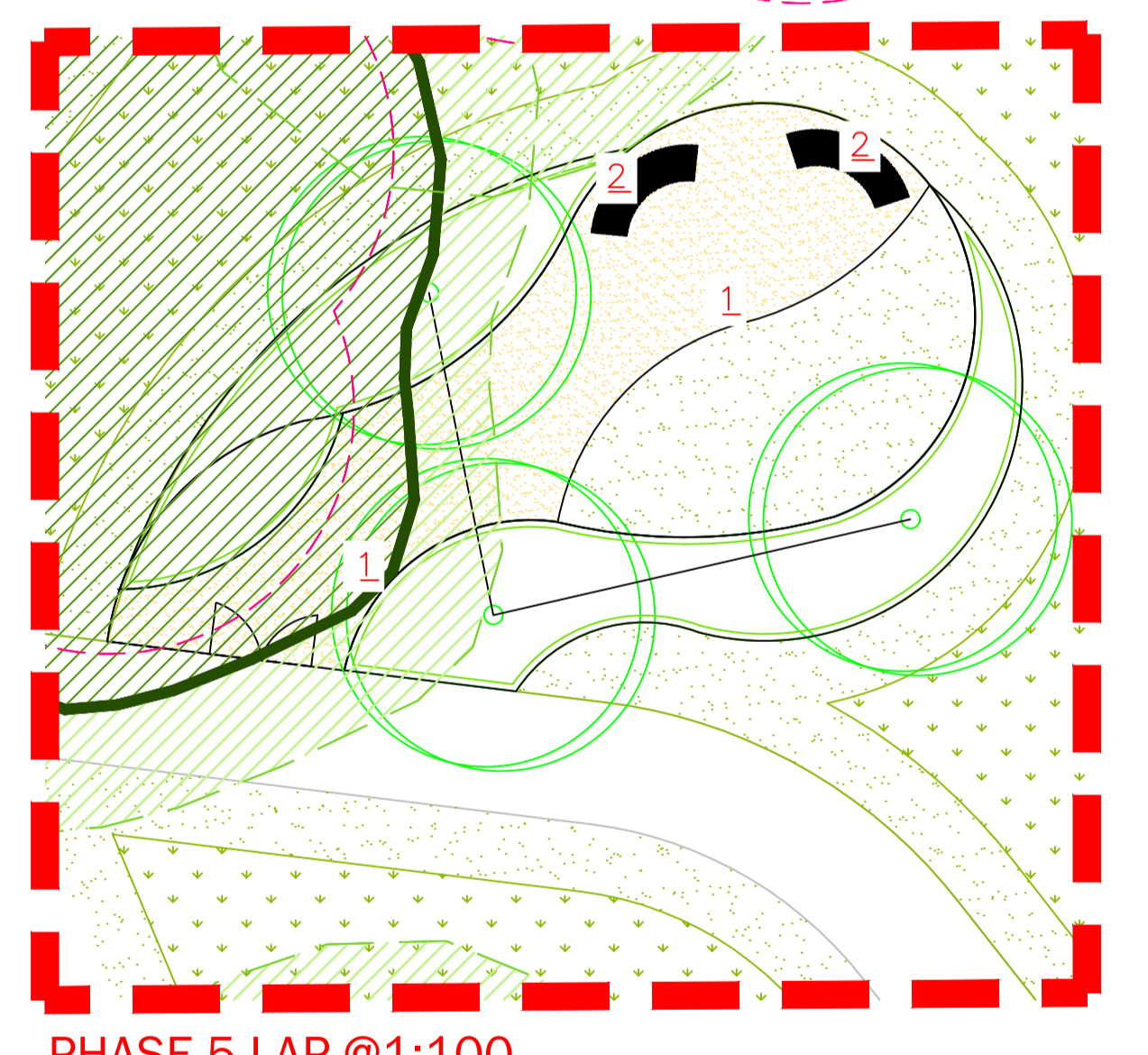
Number	Plant Name	Height	Container	Specification	Counted	Abbreviated Text
1 No.	Pinus sylvestris	450-500cm	200-285L	Extra Heavy Standard: Branched 4x	Counted	CONFIF
1 No.	Pinus wallichiana	400-450cm	200-285L	Extra Heavy Standard: Branched 4x	Counted	PNWA

Total: 2 No.

**TOPIARY**

Number	Plant Name	Height	Container	Specification	Density
12 No.	Laurus nobilis	150-175cm	30-35L	Ball on Stem: Topiary Half Standard: Ball diameter 50-60cm: C: Clear Stem 90-120cm: Neatly Clipped	Counted

Total: 12 No.



PHASE 5 LAP @ 1:100



1. Self binding gravel  
 2. Marshall's M3 curved bench (or similar approved)

Note: For further detail please see Phase 5 application reference: 16/00627/REM

**Revisions**

Rev	Date	Description
A	04.08.15	Changes to Plant Schedule
B	07.08.15	New layout / planting amendments
C	13.05.16	New layout / planting amendments
D	17.05.16	Planting amendments
E	19.05.16	New layout / planting amendments
F	19.05.16	Planting amendments
G	22.08.16	Amendments to tree species
H	21.11.16	Planting amendments following
I	17.01.17	Update to plant schedule - hedging

**Titles:**

- 1 Detailed Planting Proposals
- 2 3 of 2
- 3 Hedged path, Boxer seat panel 5
- 4 Doctostair living

**Project:** 1619 A3  
**Client:** LIZ LAKE ASSOCIATES  
**Date:** 16/08/16  
**Scale:** 1:50000 AD  
**Drawing No:** 1619 A3 01  
**Rev:** 1

**LIZ LAKE ASSOCIATES**





- LEGEND**
- Existing Vegetation
  - Proposed root barrier (Green Blue Urban RootBar 2000 or similar approved)
  - Proposed Trees in hard landscape
  - Proposed Trees in soft landscape
  - Proposed Specimens
  - Hedging
  - Shrub/herbaceous planting
  - Bulbous planting
  - Grass: Wildflower
  - Grass:Mown

**GENERAL NOTES**

This drawing is to be used for planting information only and is subject to alteration through changes to the site layout or until approved by the area designer.

Any species substitution by the contractor must be verified with the Landscape Architect through the Job Architect.

This layout must be checked in accordance with NHC Standards 2013 (Chapter 4.2 - Building Near Trees & Chapter 9.2 Drives, Paths and Landscaping) by the Regional Engineer prior to implementation.

Excavations: Contractors must ensure that they have full information relating to service and drainage positions before undertaking any excavations.

Root barriers to be used in association with tree planting adjacent to kerbs / services / footpaths etc. (Greenleaf ReRoot products or similar application, in accordance with manufacturer's instructions).

**NOTES:**

Please note all planting mixes should be planted as follows:

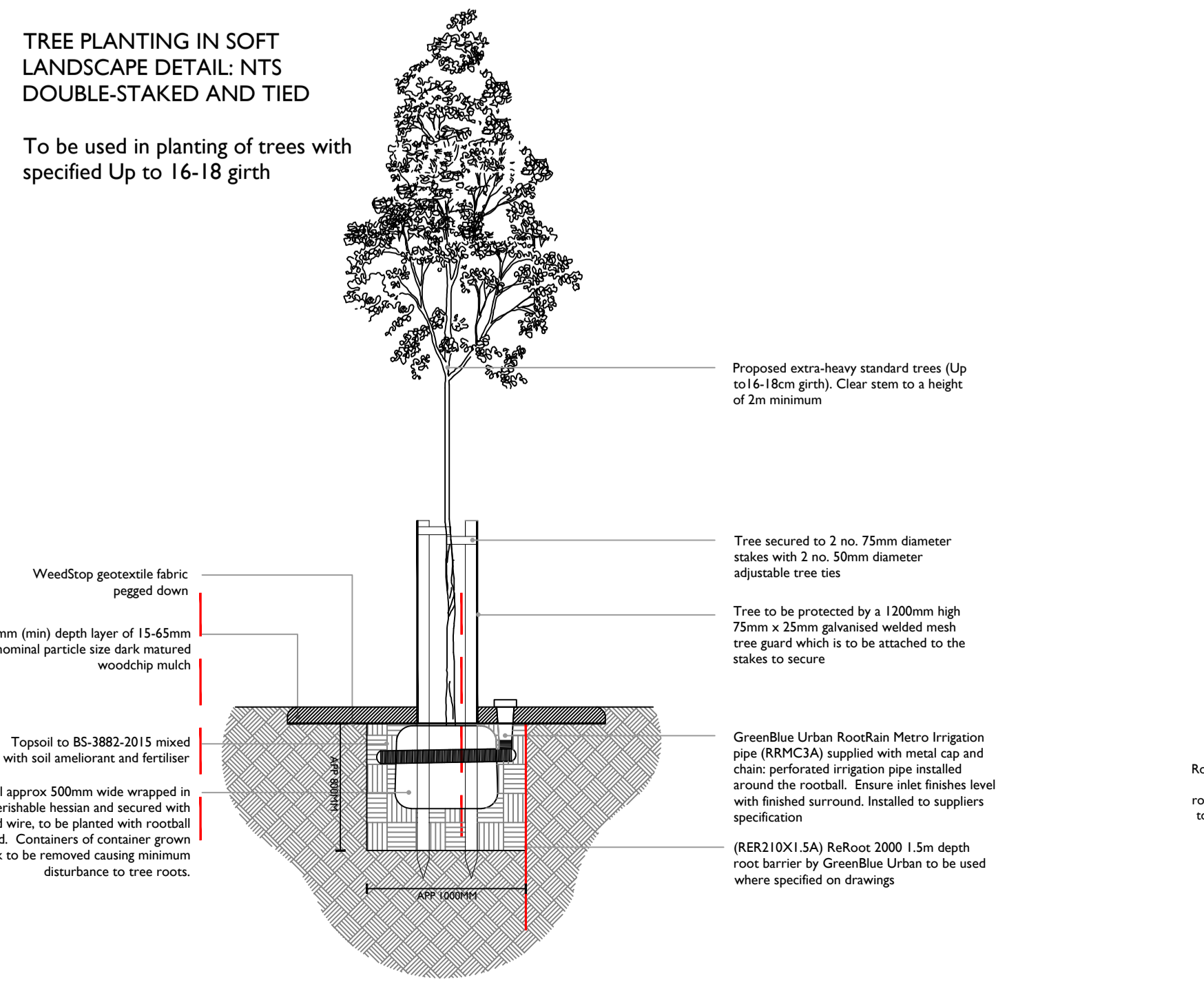
- Shrubs/Grasses to be planted in groups of 3-5 with herbaceous to be planted randomly throughout mix area.

Final tree location to be confirmed with services.

**FOR CONTINUATION REFER LLA DWG 1619 A3 04**

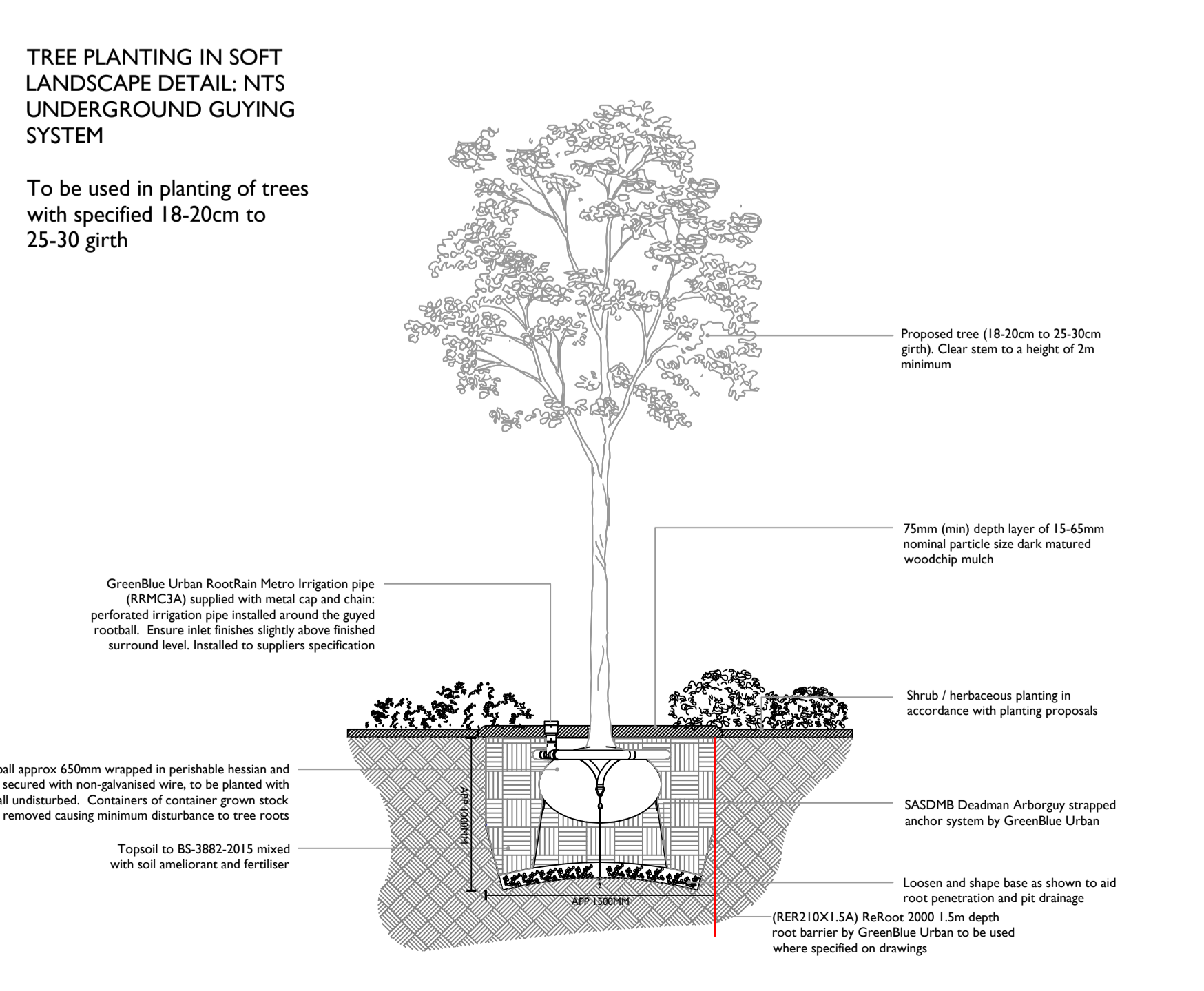
**TREE PLANTING IN SOFT LANDSCAPE DETAIL: NTS DOUBLE-STAKED AND TIED**

To be used in planting of trees with specified Up to 16-18 girth



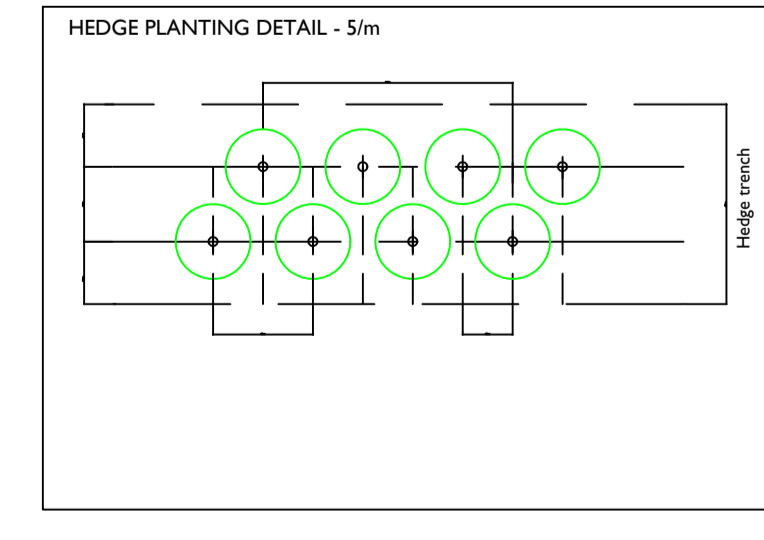
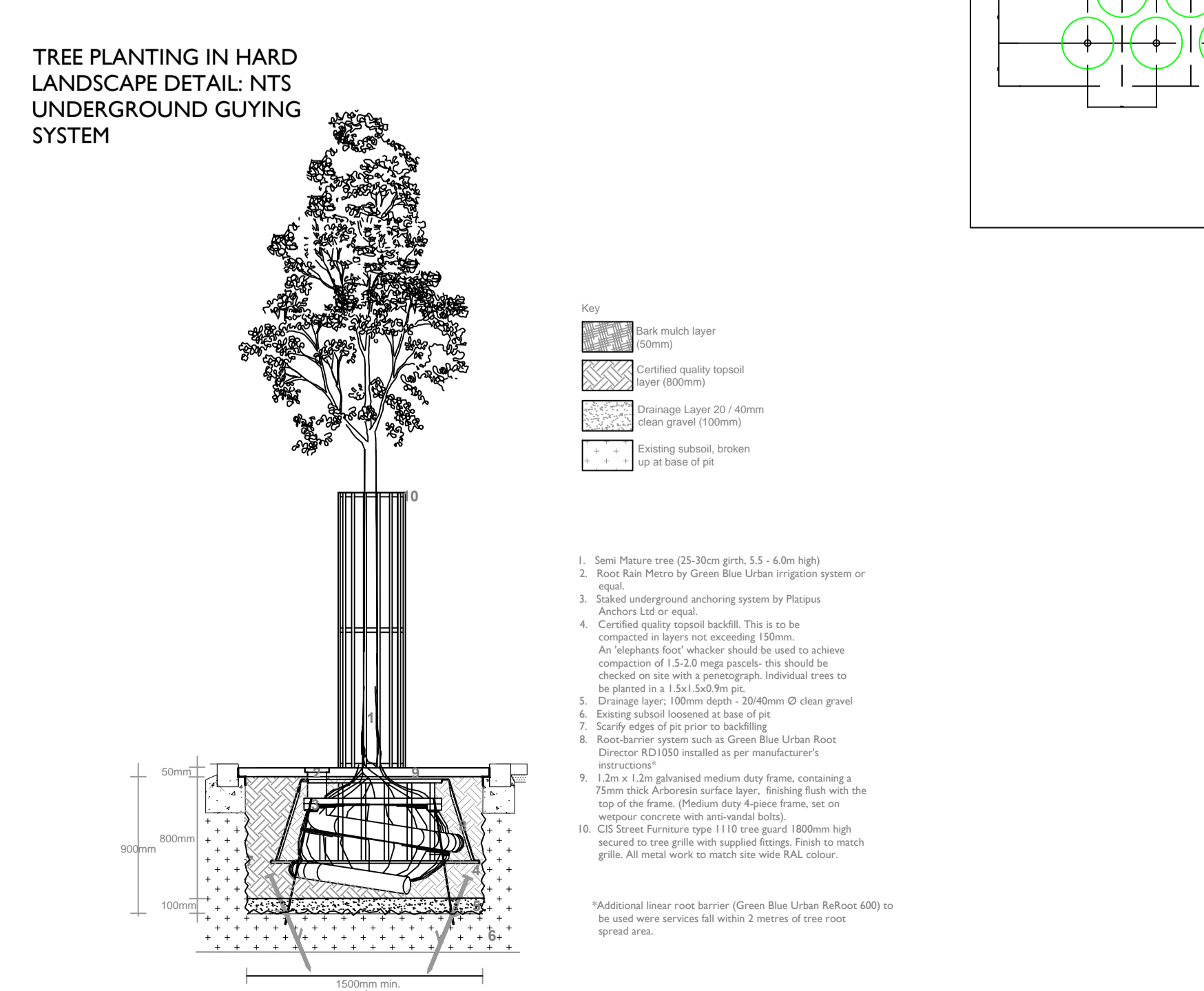
**TREE PLANTING IN SOFT LANDSCAPE DETAIL: NTS UNDERGROUND GUYING SYSTEM**

To be used in planting of trees with specified 18-20cm to 25-30 girth



**TREE PLANTING IN HARD LANDSCAPE DETAIL: NTS UNDERGROUND GUYING SYSTEM**

To be used in planting of trees with specified 18-20cm to 25-30 girth



Notes: For further detail please see Phase 0 application reference: 15/0027-REM

Rev	Date	Description
A	04.08.15	Alterations to front of plot 294
B	07.08.15	New layout / planting amendments
C	10.02.16	New layout / planting amendments
D	13.05.16	New layout / planting amendments
E	17.05.16	Planting amendments
F	19.05.16	New layout / planting amendments
G	19.05.16	Planting amendments
H	22.06.17	Amendments to tree species
I	15.11.16	Tree specifications updated in relation to condition 6.
J	21.11.16	Planting amendments following inclusion of lighting layout
K	23.11.17	Update to lighting layout
L	17.01.17	Update to plot boundary of 287 and 288

Title: **1619 05 L**  
 Date: **16/09/17**  
 Scale: **1:500**  
 Drawing No: **1619 05 L**





**Stansted:**  
Unit 1, The Exchange,  
9 Station Road,  
Stansted, CM24 8BE

t +44 (0)1279 647044  
e office@lizlake.com  
www.lizlake.com

**Bristol:**  
1 Host Street,  
Bristol, BS1 5BU

t +44 (0)117 927 1786  
e office@lizlake.com  
www.lizlake.com

**Nottingham:**  
Suite 201,  
20 Fletcher Gate,  
Nottingham NG1 2FZ

t +44 (0)115 784 3566  
e office@lizlake.com  
www.lizlake.com

**LIZ LAKE**  
**ASSOCIATES**  
**LANDSCAPE ARCHITECTS**

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