

Ford Lane, Yapton, West Sussex

Landscape Maintenance & Management Specification

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Revision PL13



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Revisions

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1.0 INTRODUCTION

- 1.1 fabrik have been appointed by Redrow Homes to prepare this Landscape Maintenance and Management Plan for the external landscape associated with the proposed development of Ford Lane, Yapton, West Sussex (the Site).
- 1.2 This document should be considered as the starting point for an evolving document and is to be reviewed on an annual basis. It relates to an area of approximately 6.72ha for the whole Site.
- 1.3 This document sets out the management and maintenance objectives and schedule of operations for the protection and enhancement of the landscape fabric of the Site, how the issues of landscape and ecological significance will be managed and the requirements of the management company that will undertake the work and oversee an ongoing review of the strategy.
- 1.4 The legal agreement for the Site covers the land and, in-part, the trees within and on the boundaries of the Site. The agreement also covers tree related matters. As such, any works in relation to trees is to be carried out following consultation with the Local Planning Authority (LPA), Arun District Council.
- 1.5 The proposed landscape design at Ford Lane, Yapton is making a positive response to meeting a range of ecological and landscape objectives for the site with a positive Biodiversity Net Gain (BNG) by introducing wildflower meadow mixtures and limiting the amenity grasses, careful management of the native planting and hedgerows and grass species.
- 1.6 This LEMP has been prepared in conjunction with inputs from Wild London, and ecology matters have been prepared by RPS. The Ecology Mitigation Strategy is found within appendix E and is to be read in alongside this document.

2.0 GENERAL SITE DESCRIPTION

- 2.1 The proposed development site is located just north from the centre of Yapton. The Site is framed by a number secondary classified roads that forms part of the surrounding road network. Ford Lane to the north forms the northern boundary and Norht End Road forms the western boundary of the site. Existing commercial buildings frame the south-west boundary. The existing urban edge defines the southern boundary. The eastern boundaries are bounded by existing farm sparse hedgerows with mature trees defining the existing field boundaries.

- 2.2 Dominated by arable fields to the north and south-east and associated farm buildings, the Site is generally bounded by native hedgerows. Large field patterns are dominant within the landscape, formed by intensive farming activity. Further north the landscape becomes a little more wooded with large commercial activities present (Fresh Acres Nurseries). The landscape is divided by the existing railway 450m north of the site. To the north the more woodland blocks are present and to the south a more open landscape with riparian planting associated with the River Arun is evident.

3.0 POLICY, LEGAL PROTECTION (AND GUIDANCE) RELATING TO THE SITE

- 3.1 The Site lies within the administrative authority of Arun District Council.
- 3.2 The Site is not subject to any nature conservation or landscape designations.
- 3.2 This management and maintenance report is to be read in conjunction with the Ecology Mitigation and Enhancement Strategy prepared by RPS. This can be found in appendix E.
- 3.3 All bats and Great Crested Newts are protected as European Protected Species (EPS) under the Conservation of Habitats and Species Regulations 2010 (the 'Habitat Regulations' 2010). Any works are to be in accordance with the Habitat Regulations 2010, the Natural Environment and Rural Communities Act 2006 and the Wildlife and Countryside Act 1981 (as amended).
- 3.4 The National Planning Policy Framework (NPPF 2019) sets out the Government's planning policies for England and how these should be applied. It states that the purpose of the planning system is to contribute to the achievement of sustainable development, combining economic, social and environmental objectives, and 'protecting and enhancing our natural environment; including helping to improve biodiversity'. Within this framework, the requirements in relation to biodiversity are included within several policies. The two most relevant to individual planning decisions are Paragraphs 170 and 175, shown below:
- 3.5 European Protected Species (EPS), such as bats and great crested newts, are protected under both the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000) and under the Conservation of Habitats and Species Regulations 2017. Taken together, these make it an offence to:
- Deliberately capture, injure or kill a EPS;
 - Deliberately disturb any EPS, in particular any disturbance which is likely to (i)

impair their ability to survive, breed, reproduce or to rear or nurture their young; or in the case of hibernating or migratory species, to hibernate or migrate; or (ii) to affect significantly the local distribution or abundance of the species to which they belong.

- To be in possession or control of any live or dead EPS or any part of, or anything derived from a EPS;
- Damage or destroy a breeding site or resting place of a EPS;
- Intentionally or recklessly obstruct access to any place that a EPS uses for shelter or protection;
- Intentionally or recklessly disturb a EPS while it is occupying a structure or place that it uses for shelter or protection.

3.6 All bats and Great Crested Newts are protected as European Protected Species (EPS) under the Conservation of Habitats and Species Regulations 2010 (the 'Habitat Regulations' 2010). Any works are to be in accordance with the Habitat Regulations 2010, the Natural Environment and Rural Communities Act 2006 and the Wildlife and Countryside Act 1981 (as amended).

3.7 Existing trees and bank vegetation are to be retained and as such any removal is to be advised and written consent given by the Local Planning Authority (LPA) and in accordance with BS:5837 (2012) 'Trees in relation to design, demolition and construction'.

3.8 **Health and Safety:** All work undertaken on the site by contractors, volunteers or direct employees must comply with the appropriate legislation relating to health and safety and the control of hazardous substances. Particular caution should be employed to operations within five metres of any existing or proposed water bodies.

4.0 OBJECTIVES OF THE LANDSCAPE AND ECOLOGY MANAGEMENT PLAN

4.1 Generally, the landscape objectives for the site are:

- to maintain the existing wildlife and nature conservation interest and provide replacement wildlife habitat for that lost within the development areas;
- to create additional wildlife habitats and enhancements to biodiversity;
- to provide and maintain an attractive/visually appealing and robust landscape setting to the development, particularly along the access routes and residential frontages;
- to contribute to the value of the green infrastructure on site, and helping provide green links to the boundaries;

- to retain the majority of the mature tree stock and to put in place a management scheme which maintains the tree stock in perpetuity;
- to supplement existing trees with new tree planting to maintain the longevity of this resource and create a sense of place and different character areas within the Site;
- to control invasive and undesirable species and aim to reduce cover of other non-native species to a set level;
- to maintain and reinforce the landscape and ecology structure of the site;
- to preserve and enhance the ecology of the site and improve local biodiversity wherever possible;
- to undertake essential tree surgery/selective felling to avoid significant third party risks both internally and to the periphery of the site. Notably:
 - the main site entrances, all access roads, car parks and pedestrian routes;
 - existing ditches;
 - those trees located on the boundaries.
- to undertake essential tree surgery/selective felling to encourage an enhanced landscape structure bearing in mind the need to encourage bat roosting. Where trees need to be removed, replacement planting with the same or similar species is to be carried out where appropriate; and
- to maintain health and safety requirements to all areas of public open space for both residents and visitors.
- to maintain the existing ditches on site and the vegetation associated with the ditches.
- ensure not lighting is incorporated within “dark zones” within the site, namely along the eastern boundary.

5.0 MANAGEMENT OBJECTIVES

- 5.1 The key objective is to improve and maintain the existing and new landscape and ecology structure in perpetuity. This will be achieved through the implementation of this management plan by an appointed management company.
- 5.2 All operations are to be carried out in accordance with the Maintenance Specification included in sections 7 -15 of this document.
- 5.3 The Site has been divided into vegetation types and habitat areas, based on existing conditions, the relationship of particular areas to the development and the influences and constraints affecting those areas. The extent of these vegetation types and the

proposed habitat areas are given a brief description below, as are the influences and constraints on them. Specific objectives are given, drawn from the overall objectives, followed by proposals for the establishment of new habitats.

6.0 SCHEDULE OF OPERATIONS

6.1 1 – Trees and Woodland

A significant number of specimen trees, of local provenance, are proposed across the Site. These trees are located to allow the development of their full, natural shape and maturity. This will create a further structure and succession, a sense of place and different character areas within the Site. Existing trees and areas adjacent to woodland are to be retained with any removal to be advised and written consent given by the Local Planning Authority (LPA).

- Trees will be managed to enhance biodiversity of the Site and ensure safety of both residents and visitors;
- Essential tree surgery/selective felling will encourage an enhanced landscape structure and the need to encourage bird nesting and bat roosting. Where trees are removed, replacement planting with the same or similar species is to be carried out;

6.2 2 – Buffer, Native and Ornamental Shrubs

It is intended to further establish the comprehensive planting regime for the Site by introducing native and ornamental shrub areas. Native shrub expanses will be integrated to complement and enhance areas of existing woodland understorey and scrub. Ornamental shrub species will be located at strategic points and used for on-plot planting and site entrances for their amenity value. In addition:

- Existing areas of scrub will be reviewed for management in winter, outside bird nesting season and controlled where necessary;
- Existing scrub may be coppiced on rotation in order to prevent succession into woodland, except where desirable, and increase species diversity by exposing the understorey to light.

6.3 3 – Meadow Grassland and Wildflowers

Areas of meadow grassland and wildflower areas are proposed across the Site. These will be established from existing improved and semi-improved grassland and arable land with sowing of additional species to increase biodiversity:

- Meadow grass mixes will be composed of 20% wildflowers and 80% grasses;
- Where existing grassland is present, areas of bare ground will be opened up by light mechanical disturbance for sowing in a method known as 'oversowing';
- Seed mixes are based on relevant NVC communities (Rodwell, 1991 and Rodwell, 1992) and are obtained from local or regional sources and native to the soil type;
- A medium length sward will be achieved by mowing three times a year.

6.4 **4 – Hedgerows**

The Site contains a limited number of existing hedgerows which may be improved by:

- Planting additional trees and shrubs, of local provenance, adjacent to existing hedgerows to strengthen their function as wildlife corridors;
- To encourage a bushy and fruiting hedgerow a less frequent pruning regime shall be established allowing fruits to be consumed by birds and other wildlife and avoid impacts on breeding and nesting birds.

6.5 **5 – Wildlife Refugia and Nesting Habitats**

Bat and bird boxes will be located sensitively across the site and the arisings from grassland and woodland management; brash, grass cuttings and logs will be used for the construction of reptile refugia and hibernacula.

- All habitats will be subject to annual monitoring and inspection, with replacement of broken or damaged boxes or repairs as required.

6.6 **6 – Existing Ditches**

Existing ditches are to be maintained across the site and any arisings are to be removed to ensure the ditches functionality is maintained. It is intended to further establish the planting by introducing native species to the edges of the ditches. In addition:

- All new habitats will be subject to annual monitoring and inspection prior to works being undertaken.

7.0 **GENERAL MAINTENANCE CONDITIONS**

7.1 **Introduction**

- (i) The works consist of the maintenance and management of the existing trees and vegetation, together with new high-quality amenity planting, including trees, shrubs, bare-root transplants, herbaceous planting and seeded areas.

- (ii) The works to be maintained are detailed on the drawings accompany this Maintenance and Management Plan.
- (iii) The works shall be maintained by the responsible Landscape Contractor from practical completion for the Defects liability as follows (or unless otherwise specified within the contract);
 - Trees - 24 months from practical completion
 - Shrubs/Herbaceous Planting - 12 months from practical completion
 - Seed Areas - 12 months from practical completionOr, until works are signed over to the party adopting the landscape area or the appointed Estate Management Company where appropriate. At this point the responsibility will transfer to that party and the long-term landscape maintenance and management plan is to be followed.

7.2 Landscape Contractor

A suitable specialist Landscape Contractor, employed by the Estate Management Company or the LPA, shall carry out the works described in this specification.

The proposed Landscape Contractor shall be a full member of the British Association of Landscape Industries and shall only be selected from the list of approved Contractors.

7.3 Machines and Tools

Machines and tools are to be used that are suitable for the site conditions and the work to be carried out. Use hand tools around trees, plants and in confined spaces where it is impracticable to use machinery.

7.4 Workmanship

- (i) Method of Work – the method of executing any of the work in this specification and schedules unless specifically mentioned, is at the discretion of the Landscape Contractor and the Estate Management Company.
- (ii) Good Practice – Where and to the extent that materials, products and workshop are not fully specified they are to be suitable for the purposes of the works states in or reasonably to be inferred from the contract documents, and in accordance with good horticultural practice, including the relevant provisions of current British Standard documents.
- (iii) Maintenance standards should at all times reflect the development's high-quality image. The Contractor shall keep all planting area weed free, plants vigorous and healthy, and the overall landscape environment neat and tidy.

7.5 Programme of the Works

- (i) The Landscape Contractor shall co-ordinate with the Estate Management Company's programme then submit a detailed programme of works prior to starting work on site.
- (ii) The specification equates calendar months to Performance Periods. Performance Period 1 –12 equates to January to December (PP1 = January, PP12 = December).
- (iii) The Landscape Contractor shall report any potential failures to meet the specified programme to the Estate Management Company. Any changes to the agreed programme must be in writing with the Estate Management Company.

7.6 Chemicals

(i) Legislation

Pesticides include herbicides, insecticides, fungicides and plant growth regulators. The use of pesticides is governed by legislation. The Landscape Contractor must comply with the 'The Control of Pesticides Regulations 1986' made under the 'Food and the Environment Protection Act 1985', 'The Control of Substances Hazardous to Health Regulations 1988' made under the 'Health and Safety at Work Act 1974' and any other legislation enacted during the contract period.

All pesticides must be products on the current list of Agricultural Chemicals Approval Scheme. All pesticide users shall comply with the conditions of approval relating to use clearly stated on the product label.

The Contractor must comply with all relevant Codes of Practice issued by DeFRA. In particular where work is near water, comply with the 'Code of Practice for the Use of Herbicides on Weeds in Watercourses and Lakes'. Written approval from the Environment Agency (EA) should be obtained prior to the use of pesticides within these areas.

(ii) Certificates

A recognized nominated storekeeper's certificate of competence (BASIS) is required by a Contractor storing more than 200 litres of pesticides. All pesticides transported or stored in the Contractor's vehicles (regardless of quantity) shall be locked in a separate storage compartment in the vehicle or within a lockable container in 'pickups' that are bolted to the floor of the vehicle. The storage locker must be sealed and clearly marked as containing pesticides and must bear a standard black and yellow hazard sign. A

Certificate of Competence (National Proficiency Training Certificate) must be held by the Contractor applying pesticides and handed to the Estate Management Company prior to commencement on site. Only Certificate of holders shall mix, apply and dispose of pesticides and other chemicals on the site.

(iii) Use of Pesticides

Notification of at least 24 hours shall be given to the Estate Management Company of the Contractor's intention to carry out application of pesticides.

Note: The use of chemicals are to be limited and avoided if possible. If cultural and biological methods can be used these are to be explored first.

The Contractor shall select the most appropriate and effective method for each particular area or situation or for any particular use or specific work, and shall notify the Estate Management Company of the type of pesticide, active ingredient, and method and timing of application. The Contractor shall keep a written logbook detailing all uses and pesticide applications carried out and a copy shall be submitted to the Estate Management Company for record.

The Contractor is required to notify the public of any pesticide application. A warning sign shall be posted at the entrance to the areas to be treated. Where contained solely within planting beds the sign shall be placed adjacent to edges in noticeable positions. Details of the application and a contact person shall be indicated on the sign. The Contractor shall in accordance with COSHH Regulations protect employees and other persons, including the public, who may be exposed to substances hazardous to health.

The Contractor shall restrict the use of chemicals strictly to where necessary either to maintain formal landscape areas or to control notifiable weeds. Informal landscape areas and peripheral areas should be free of both pesticides and fertilizers except where absolutely necessary.

(iv) Disposal

The Contractor shall dispose of waste pesticides and containers in accordance with the control 'Control of Pesticides Regulations 1986', Control of Pollution Act 1974', and 'Water Act 1989'. Safe disposal arrangements shall be made before starting to apply pesticides.

Concentrated pesticides shall be disposed of in arrangement with the local Environmental Health Department or with a specialist waste disposal contractor.

Empty containers shall not be re-used for any purpose and containers shall be cleaned thoroughly in accordance with label instructions prior to safe disposal.

(v) Generally

The Contractor shall be responsible for making good and or compensation for any damage resulting from negligence in the application, handling and storage of pesticides.

The Contractor shall be responsible for keeping up to date with all legislation and regulations regarding the use of pesticides. The Landscape Contractor shall inform the Estate Management Company of any subsequent changes to legislation and regulations that affect the contract.

7.7 Liability for Damage of Existing Vegetation

Existing trees or vegetation damaged during the works shall be replaced by trees or plants of similar size and maturity or numbers considered reasonable by the Local Planning Authority (LPA). Cost of the replacement shall be borne by the Contractor.

7.8 Protection

The Landscape Contractor shall in respect of the maintenance works and adjacent areas of the site used by him in the course of the contract ensure that:

- Adequate protection of existing and newly planted/turfed areas is erected and maintained to prevent damage.
- There is appropriate making good on removal of any protective measures on completion.
- There is repair of any damage to adjacent and existing site works and features.
- All hard surfaces used are kept, protected, clean and tidy.
- All protective fencing at the end of the 12/24 months defect liability period will be removed.

7.9 Watering

After Practical Completion of the main contract the Landscape Contractor appointed shall supply all necessary hose attachments and fittings to keep the infrastructure landscape grass, planting and trees watered. Watering shall be undertaken as

necessary to ensure that trees, grass and plants remain healthy, establish and grow. Emergency legislation restricting the use of water from the mains during drought conditions, the Landscape Contractor shall arrange the collection and application of suitable second class water for irrigation purposes, by bowser or other means, from approved source to deliver to site and apply as specified. This shall be included for in the price for maintenance during the defects liability period.

7.10 Arisings

The Landscape Contractor appointed by the Estate Management Company is to remove from the Site and dispose of weeds, prunings, leaves, litter, rubbish, dirt and other arisings unless specifically described as to be left and spread over beds etc.

7.11 Focal Areas

When carrying out maintenance operations the Estate Management Company Landscape Contractor is to ensure the focal areas such as the landscape setting to the boundaries of the Site/Site entrances, water bodies, the main corridors of access and formal planting are given priority.

8.0 GRASS MAINTENANCE SPECIFICATION

[GC]

GRASS CUTTING

The Contractor shall maintain all grass areas in accordance with the specifications set out below.

8.1 Preamble

- (i) All grass cutting shall be carried out by cylinder or rotary machines, or a combination of the two: unless otherwise specified. The Contractor shall notify the Estate Management Company of the machines they propose to use on each of the regimes. The Contractor shall ensure that all machines engaged in this contract are sharp, properly set and operated at the speed in accordance with manufacturer's recommendations. All grass shall be cut cleanly and evenly to the same height as specified in the regimes allocated to each site and without damaging the existing surface or causing a washboard effect. Tractors and ride-on self-powered equipment shall not be operated on sloping ground with the gradient exceeding that recommended by the manufacturer.

- (ii) The Contractor shall produce and follow a programme of work approved by the Estate Management Company at the commencement of the Contract, in line with the submitted method statements, to ensure that all applicable areas are maintained to the standards specified in this section.
- (iii) The Contractor shall complete an entire area (plot) of grass cutting at each cyclic visit within the same day of the first grass cutting operation. The entire area is deemed to include: wall and fence bases; up to pavement edges or other boundary; tree base or any other obstruction.
- (iv) The Contractor shall not change the designated regime in this document, unless the Estate Management Company has granted written permission.
- (v) Where grass cutting is undertaken and the arisings are allowed to 'fly', all arisings shall be evenly distributed over the whole of the grass area and not left in windrows. Excess arisings due to the failure to meet the Specifications of Section 8.3 shall be removed immediately at the Contractor's own expense.
- (vi) Any arisings that 'fly' onto paths or other hard surfaces shall be removed by the Contractor and distributed evenly over the grass area or, if the arisings are deemed excessive, removed from the premises to a designated location for disposal. This shall take place promptly after grass cutting, in any event within one hour, at the expense of the Contractor.
- (vii) Where a boxed mowing machine is used, the arisings shall be removed from site at the end of each work period and taken to the designated location for disposal.
- (viii) The Contractor shall report to the Estate Management Company any damage to the grass surface, fences, walls, street furniture, any plant material or other property caused during grass cutting operations. Should it be determined by the Estate Management Company that the failure of a newly planted tree or shrub is due to the Contractor's negligence in grass cutting operations, then a replacement tree or shrub, approved by the Estate Management Company, shall be supplied, planted and maintained until established at the Contractor's expense.

- (ix) Prior to cutting any area, the Contractor shall remove all stones above 37mm in any dimension, as well as any litter, twigs, etc. All such material shall be removed to the designated location for disposal. If the amount to be removed is considered excessive and has been deposited as a single load in excess of 1- 2m³ (i.e. fly-tipping), the Contractor shall inform the Estate Management Company immediately, who will consider each site on its individual merit and may, in exceptional circumstances, arrange for the debris to be removed in accordance with the Contractor's tendered rates.
- (x) Any herbaceous plant growth, such as clover or flowering stalks of grass and weeds, within an area designated for grass cutting shall be cut as if it is grass.
- (xi) The Contractor may be required to cut grass on additional areas or new developments. These additional or reduced areas will be included in the Contractor's grass cutting programme. The Contractor shall ensure that they have enough resources to take on extra cutting if required.
- (xii) The Contractor shall not cut the grass in the area extending 75mm around the perimeter of a bulb area, until a minimum of six weeks, has elapsed after completion of flowering.

Areas shall not be left uncut for more than eight weeks after flowering has finished. In order to return such areas to the standard of the adjoining grass, the Contractor shall use suitable mowing machinery to reduce the bulb debris and grass growth to a sufficient height to enable the area to be cut with the type of machine designated for use on the adjoining grass area and to the same standard. All the arisings from the first cut will be collected and taken to the designated location for disposal at the end of each work period. The Contractor shall allow for this remedial work to return bulb areas to the required grass standards in his price for grass cutting.

- (xiii) Trees in formal areas shall be maintained with a cultivated tree ring 600mm in diameter greater than the largest diameter of the tree trunk. All newly planted trees shall be maintained with a cultivated tree ring 400mm in diameter greater than the largest diameter of the tree trunk for the remainder of the contract period.

(xiv) Any damage caused to grass areas by the Contractor's negligence shall be made good, as directed by the Estate Management Company and to the LPA's entire satisfaction, at the Contractor's expense.

(xv) The use of grass growth regulators is not permitted.

8.2 Variations to the Planned Grass Cutting Schedule

8.2.1 Unless weather conditions as stated in Section 8.2.2 prevail, the Contractor shall be required to keep to the standards detailed in the regimes.

8.2.2 In very wet weather, all operations involving grass cutting shall cease until conditions allow operations to continue without damaging the surface level and contours of the ground or creating grass cutting 'divots' from the rollers or cutters.

8.2.3 If inclement weather prevents the Contractor from grass cutting, the Contractor shall inform the Estate Management Company of work not completed from the programme. When the weather improves, the Contractor shall resume grass cutting in order to return to the agreed programme of work. The Contractor shall be expected to provide enough staffing and machinery to catch up if there is a substantial amount of mowing time lost through bad weather.

8.3 Grass Cutting Standards

8.3.1 **Regime A** **[AA4]**
***GCA1: Amenity Grass** (PP3 – PP12)

Performance Height 25 - 50mm

Cut grass with an approved tractor-drawn, ride-on or pedestrian guided cylinder mower. The Contractor shall allow for grass edge trimming on at least 16 occasions at fortnightly intervals from PP4 to PPI0, with an early and late cut in PP3 and PPI2.

8.3.3 **Regime B – Meadow Grass** **[EW1]**
***GCC1: Meadow Grass** (PP3, PP5, PP9/PP10)

Performance Height 50mm

Cut grass with approved rotary or flail machinery, rake and removal all arisings to designated area for disposal. To maintain species-richness, the meadow grass areas that have been sown with a species-rich seed mix will be mown in September. This will allow wildflowers to set seed. Furthermore, the annual over sowing of Rhinanthus

minor (Yellow Rattle) is to be included as part of the maintenance regime to assist with the management of potential dominate grasses.

8.4 Edging

Preamble

- (i) All edging operations shall be carried out at the times specified within the regimes for grass maintenance and considered as part of the grass cutting regime.
- (ii) All finished edges shall be neat and vertical with no grass overhanging the finished edge.
- (iii) All arisings from edging operations shall be collected and removed to the end of each work period and taken to the designated location for disposal.
- (iv) The Contractor shall cut smooth curves or use a line to obtain a straight edge. Edging operations shall not change the size of grass areas nor create new channels.
- (v) All channels adjacent to a flowerbed, shrub bed, tree base, etc. shall be maintained so that following each edging operation it is left clean and litter free.
- (vi) The Contractor shall be required to use a half-moon edging iron, mechanical edge and trim and/or long handled shears or spades.
- (vii) ***Kerb Edge Maintenance***
The Contractor shall cut a clean edge to all grass areas where they meet kerbs; other hard surfaces or gully channels. This operation shall include removing the overgrowth of grass and any soil that is covering the kerb gully channel or any other, hard surface. The frequency of this operation shall be in accordance with the edge requirements of the Grass Cutting Regime specification. All rates quoted for kerb edge maintenance shall include the removal of all weed and grass growth by scraping or brushing all soil, litter and other debris that has accumulated at this junction to a minimum width of 200mm for the entire length of edging.
The Contractor shall collect and remove all arisings to a designated location for disposal at the end of the work period.
- (viii) ***Trimming Grass Edges***
The Contractor shall cut the overgrowth of grass at edges of cultivated areas and chemical edging channels with long handled shears or mechanical edge trimmers approved by the Estate Management Company. The grass is to be cut to the same height as the surrounding grass. All edges will be neat and vertical, with no grass overhanging the finished edge. The rates quoted for trimming must include the collection and removal of all litter, arisings and

similar debris from the adjacent channel for disposal. The frequency for trimming will be in accordance with the Regimes for grass or cultivated area maintenance, as detailed within each section of this specification.

- (ix) Once per annum the Contractor shall reform and cut back all edges. The Contractor shall, during this operation, ensure that any cutting does not decrease the grass or bed area.

8.5 ***GCO1: Selective Herbicide Treatment***

Upon instruction from the Estate Management Company, the Contractor shall supply and apply an approved selective herbicide to specified areas. Application shall normally be made during April to June. The grass shall not be cut two days prior to, or after, the application. The use of herbicides on site are to be limited.

8.6 ***GCO2: Irrigation of Grass Areas***

During periods of prolonged dry weather, the Estate Management Company may instruct the Contractor to water grassed areas, using an irrigation method approved by the Estate Management Company. The Contractor shall provide a rate to ensure that enough water is applied to the entire area of grass to moisten the soil to a depth of 125mm.

8.7 ***GCO3: Cut 'Weed' Stalks***

The Estate Management Company may instruct the Contractor to cut areas of grass which are normally cut with cylinder mowing machines (other than grass cut 'high'), with a suitable rotary mower to removal all bent stalks from the entire area.

8.8 ***GCO4: Rake Arisings by Machine and Remove***

The Contractor shall collect all arisings from areas specified by the Estate Management Company, using machinery approved by the Estate Management Company. Arisings shall include all grass cuttings, litter, leaves, debris and similar items. All arisings shall be collected and removed to the designated location for disposal at the end of the work period.

8.9 **Grass Replacement**

8.9.1 **Preamble**

- (i) Bare and damaged patches shall be identified by the Estate Management Company for re-turfing and re-seeding works.
- (ii) The Contractor shall continue all operations necessary, to include top dressing, watering and further over-seeding, to achieve a 100% grass cover within eight weeks.
- (iii) Where soil has been contaminated by chemicals, oils, etc., the Contractor shall remove to tip all such soil, replacing it with suitable soil, to enable re-

seeding or turfing as specified and to ensure the pollutants do not affect the future growth of the vegetation.

- (iv) If the seed fails, due to any cause whatsoever. He shall be required to make good the soiling and repeat the seeding until a good sward is obtained.
- (v) Grass areas will only be accepted as reaching practical completion when germination has proved satisfactory and all weeds have been removed. Management will be necessary to prevent infestation by weed species after seeding an area. A weed species may be defined as a species that is undesirable to the purpose/ objective of the grassland; species considered to be weeds will depend on the grassland type.
- (vi) Damage, failure or dying back of grass due to neglect of watering, especially for seeding out of normal season, shall be the responsibility of the Contractor.
- (vii) Any settlement below the specified levels during the contract or defects liability period shall be rectified at the Contractor's expense.
- (viii) The Contractor shall exercise care in the use of rotary cultivator and mowing machines to reduce to a minimum the hazards of flying stones and debris. All rotary mowing machines shall be fitted with safety guards.

8.9.2 **GC05: Seed and seeding**

Preparation

During any fallow period prior to sowing seed, tilth shall be maintained free from weeds.

8.9.3 **Fertilising**

The Contractor shall use pre-seed fertilizer on formal amenity grass seeded areas only, British Seed House No.1 or equivalent approved by the Estate Management Company prior to use, which shall be applied at the minimum rate of 70gm/m² (700kg per ha). **No fertiliser** is to be used on the species-rich wildflower or meadow seed mix areas.

8.9.4 **Final Preparation**

In preparation for sowing, the surface shall be lightly and uniformly formed and reduced to a fine tilth of a minimum depth of 25mm, by raking or harrowing with a spike and chain harrow. All large stones more than 50mm in any dimension, perennial weeds and rubbish shall be removed from the surface and removed to the designated location for disposal.

8.9.5 **Finished Levels**

- (i) Finished levels shall, after allowing for settlement to marry in with adjacent grass levels, be just proud of adjacent hard surfaced areas (paving, kerbs, etc.) or as otherwise indicated on drawings.
- (ii) There shall be a minimum gradient for run-off of 1:60 and maximum of 1:3, or as indicated on drawings. The area shall be free of depressions.

8.9.6 **Seed**

The seed mixture shall be selected according to the soil type, light conditions and climate; the intended use of the area; and be from an approved source and of proven germination. Seed type is to be approved by the Estate Management Company prior to works. Seed of local provenance should be used wherever possible.

8.9.7 **Sowing**

- (i) **Season**
Sowing operations shall be carried out from the end of August to mid-October, or the end of March to the beginning of May. Outside these timings written approval of the Estate Management Company must be obtained prior to sowing.
- (ii) **Weather and Rate**
Sowing shall be carried out during suitable calm weather conditions at a minimum rate of 45 gm/m².
- (iii) **After Sowing**
After sowing, the ground shall be raked or chain harrowed. On light soils, the surface shall be rolled and cross-rolled with a suitable lightweight roller.
- (iv) **Pre-Emergent Weedkiller**
Where fallowing has not been possible, the Contractor may apply a pre-emergent weedkiller after sowing, in accordance with the manufacturer's instructions. The herbicide shall be of an appropriate type and one which has no soil persistence and shall be approved by the Estate Management Company.

8.9.8 **Initial Cut (Topping)**

- (i) The Contractor shall remove all large stones (more than 50mm in any dimension) and roll all flat and terraced areas with a light roller to firm the grass and press in any remaining stones. This shall be done approximately 48 hours prior to topping.
- (ii) A rotary mower to the flat and terraced areas and a strimmer shall be used to top grass when it is 80mm high, to leave a height of 50mm to cut weeds, control the growth of coarser grass and encourage tillering.

- (iii) Where mowing without a box produces a swathe, this shall be spread evenly to prevent drainage to the growing grass beneath. This applies particularly to grass cut during periods of dull or wet weather.

8.9.9 **Protection of Seeded Areas**

- (i) The Contractor shall protect newly grassed areas at vulnerable points, as necessary.
- (ii) For this purpose, the Contractor shall provide and fix a fence of three strands of wire supported on wooden posts 900mm out of the ground at approximately 1.8m centres. These fences shall be maintained by the Contractor and, when grass is established, shall be cleared away and the ground reinstated.
- (iii) Any damage to the grass shall be made good until the areas are handed over.

8.9.10 **Maintenance**

- (i) The Contractor shall maintain all seeded areas to establish a uniform and healthy sward until notification by the Estate Management Company. This shall include all necessary watering, weeding, cutting, repair of all erosion and settlement, and re-seeding operations.
- (ii) The Contractor shall treat pernicious weeds with a suitable approved selective herbicide twelve weeks after seeding if the grass was sown in the spring. Grass sown in the autumn shall be similarly treated at the end of May the following year.

8.9.11 **GCO6: Turf and Turfing**

The Contractor shall comply with British Standards BS 3969 1998 and BS 4428 1989

(i) **Condition of Turf**

The Contractor shall provide good quality lawn turf complying with BS 3969 1998, the grass being of close texture, even density and a healthy green in colour. The grass shall be closely mown, so the height does not exceed 25mm and show no visible sign of pest or disease.

The turf shall be sufficiently fibrous for turves to hold together during handling and an excess of fibre of mat is desirable.

(ii) **Dimensions**

Turves shall be of a rectangular shape and of uniform thickness. They shall have a minimum soil thickness of 25mm and a width of 300mm, unless otherwise agreed by the Estate Management Company.

(iii) **Weedkiller**

A selective weedkiller shall be applied to the turf no less than four weeks prior to lifting.

(iv) **Lifting**

Turves shall not be lifted in frosty weather or when waterlogged. They shall be packed to avoid drying out in transit and shall be rolled or laid flat.

(v) **Delivery**

Turf shall be delivered to site within 24 hours of lifting and offloaded by hand to be stacked to a maximum height of 1m, unless arranged on pallets for mechanical handling. All turf delivered on a specific day is to be laid on the same day, therefore, deliveries to site are to be staggered to ensure turves are not left staked on pallets for long periods of time.

(vi) **Stacking**

Turves shall be placed grass to grass if stacked. Stacked turves shall be inspected at frequent intervals for deterioration. If kept for any period, the turves shall be laid out and maintained as turfed areas.

8.9.12 **Cultivation**

- (i) The Contractor shall cultivate the area to be turfed to a depth of 100mm, removing all large stones (over 50mm in any dimension), perennial weeds and rubbish to designated area for removal.
- (ii) All topsoil shall be conserved to provide a minimum depth of 100mm after re-leveling.

8.9.13 **Final Preparation**

The Contractor shall reduce the surface to a fine tilth, to a minimum depth of 25mm and lightly and uniformly firm the surface.

8.9.14 **Laying Turf**

(i) **Season**

Turf shall be laid when weather and soil conditions are suitable. No turf shall be laid in exceptionally dry or frosty weather, or in other unsuitable weather conditions. The Contractor shall give preference to autumn and early winter for this operation.

(ii) **Laying**

No turf shall be laid until topsoiling has been completed to the satisfaction of the Estate Management Company.

(iii) At no time shall turves support workmen, barrows or provide access.

- (iv) Turves shall be laid on the prepared soil bed and be firmed into position in consecutive rows with broken joints, closely butted and to the correct levels. The turves shall be laid off planks, working over turves previously laid.

- (v) A dressing of finely sifted topsoil or fine peat shall be applied to the joints and well brushed in. The Contractor shall adjust any inequalities in the finished levels, owing to variation in turf thickness or uneven consolidation of the soil, by raking and/or packing fine soil under the turf. **The use of a roller is not permitted.**

8.9.15 Finished Levels

- (i) Finished levels shall, after allowing for settlement, be just proud of adjacent hard surfaced areas (paving, kerbs, etc.), or as otherwise indicated on drawings.
- (ii) There shall be a minimum gradient for run-off of 1:60 and maximum of 1:40 or as indicated on drawings. The area shall be free from depressions.
- (iii) Margins shall be laid with whole turves.

8.9.16 Maintenance

Identical to that for seeded areas.

8.10 Native wildflower grass and meadow grass seeding

8.10.1 Preamble

The purpose of seeding the native grassland meadow is to encourage an increase in the floral diversity of the grassland and to provide native planting to the existing vegetation on site.

8.10.2 Preparation

Prior to seeding, the surface of the meadow is to be scarified using a tine harrow.

8.10.3 Sowing

- (i) *Season* - Sowing operations shall be carried out from the end of August to mid-October, or the end of March to the beginning of May. Sowing outside of these timings will require the written approval of the Estate Management Company prior to operations.
- (ii) *Rate* - The seed is to be applied to the grassland at the manufacturer's suggested rate, this will be determined by the specific seed mixture.

8.10.4 Maintenance

- (i) The Contractor shall maintain all seeded areas to establish a uniform and healthy sward until notification by the Estate Management Company. This shall include all necessary watering, weeding, cutting, repair of all erosion and settlement and re-seeding operations.
- (ii) The Contractor shall treat pernicious weeds with a suitable approved selective herbicide twelve weeks after seeding if the grass was sown in the spring. Grass sown in the autumn shall be similarly treated at the end of May the following year.

9.0 HARD LANDSCAPE [HL]

9.1 **HLS1: Maintenance of Hard Landscape Surfaces* (PP1-PP12)

9.2 Preamble

In addition to, and at the same time as, the general litter and refuse clearance is being carried out, the Contractor shall clean all paths, hard surfaces and gullies.

9.3 **HLM1: Sweeping of Hard Landscape Surfaces* (PP1-PP12)

- (i) In the areas specified, the Contractor shall be required to maintain surfaced areas clear of litter, twigs, leaves, glass, debris and similar at all times. The term 'sweeping' is deemed to include the raking of hoggin/gravel or similar surfaced paths with a Springbok rake or similar approved implement. The Contractor shall remove all arisings from site at the end of each work period and take them to the designated location for disposal.
- (ii) The Contractor shall inform the Estate Management Company immediately they are aware of any occurrence of acts of vandalism to these areas.

9.4 **HLM2: Weeds* (PP1-PP12)

- (i) The Contractor shall maintain all hard landscape surfaces weed-free and at no time shall weed growth exceed 5% of any area. Should the Contractor wish to employ any chemical methods for this particular item, it shall be with the written approval of the Estate Management Company.
- (ii) Weed growth is deemed to include the removal of moss.

9.5 **HLM3: Gullies and Slot Drains* (PP1-PP12)

- (i) The Contractor shall allow for inspection of all gullies, grilles, covers, on each site visit. The Contractor shall thoroughly clean them of any silt, dirt, debris, leaves, litter, stones, concrete etc. as necessary.
- (ii) The Contractor shall check that water is running freely in gullies and drains,

reporting any defects or unacceptable obstruction to the Estate Management Company.

- (iii) On removing any grating, cover or grille, the Contractor shall clean the rebate in the frame and ensure that it is replaced flush in the frame. All arisings shall be removed from site to the designated location for disposal.

9.6 **Associated Works**

9.6.1 ***HLO1: Additional Sweeping***

The Contractor may be required to undertake additional areas of sweeping outside the normal routine sweeping.

9.6.2 ***HLO2: Clear Snow and Supply and Apply Rock Salt***

- (i) The Main Contractor/Estate Management Company may at times of inclement weather require the Contractor to clear snow and ice and apply approved rock salt, evenly spread at 20 grammes per square metre, to specified areas within the Contract area. Payment for this operation will be in accordance with the quantity and the tendered rate submitted by the Contractor.
- (ii) The Contractor shall take care to avoid spreading rock salt near and around trees, shrubs, seed and other plant material. Any damage caused by the Contractor's negligence shall be fully reinstated at the Contractor's expense to the Estate Management Company's satisfaction.

9.6.3 ***HLO3: Supply and Apply Rock Salt***

- (i) This rate shall assume no snow requires moving prior to application.
- (ii) The Contractor may be required to undertake these operations during normal working hours, outside normal working hours; at weekends and during Bank Holidays.
- (iii) Payment shall be in accordance with the area treated and the tendered rate submitted by the Contractor.

9.6.4 ***HL04: Spray and Scrape Weeds on Hard Surfaces***

The Contractor shall provide a rate to apply an approved pesticide to areas of weeds growing in paved or hard surfaced areas at the manufacturer's recommended rates. The purpose of this rate is to treat areas of hard surfaces where weeds have rooted and require a thorough drench in order to achieve a complete root kill.

The Contractor shall allow in this rate to return to site in approximately two weeks following application (as agreed by Client), depending on the time of year and the prevailing weather conditions, to scrape the remaining surface growth off the weeds (which should by then be browned and showing signs of die-back) and remove all

arising to designated location for disposal at the end of each work period. The Contractor shall allow in this all-inclusive rate to apply chemicals in accordance with manufacturer's recommendations.

9.6.5 **HL05: Street Furniture**

All elements, such as bollards, railings, gates, fences, tree grilles/guards, litter bins, benches and all other street furniture elements are to be regularly maintained throughout the year to meet function and health and safety requirements.

10.0 **HEDGE MAINTENANCE** **[HM]**

10.1 **Preamble**

- (i) The Contractor shall, at all times, maintain hedges so that they are neat, tidy, vigorous, dense and do not obstruct or overhang footpaths and roads or encroach on other maintained areas. Cutting shall generally maintain the original profile, both linear and sectional.
- (ii) All hedges shall be cut using sharp shears, reciprocating hand held cutters or secateurs. The use of tractor mounted hedge cutting equipment during the establishment of new hedges will not be permitted.
- (iii) All cuts shall be clean and any ragged edges shall be removed using a sharp knife or secateurs.
- (iv) The Contractor shall supply and use planks, trestles or similar where necessary to increase reach.
- (v) All hedges shall be cut to leave a clean, even height and well cared for appearance.
- (vi) All arisings shall be collected immediately following cutting or at the end of each work period and taken to the designated location for disposal. This includes trimmings hung up in hedges and the sweeping of adjacent hard surfaces.
- (vii) The Contractor shall ensure that the width of the hedge or any vegetation within it, i.e. brambles, does not present a hazard or obstruction to pedestrians, pavements, roads or signs at any time. The Contractor shall allow for this in their tendered rate.
- (viii) Once commenced, the cutting operation shall continue and be completed without delay.
- (ix) The Contractor shall give the Estate Management Company 5 working days notice of their intention to commence hedge cutting works.

10.2 Pruning

- (i) The hedge shall be pruned back to the same height, width and general shape as that which existed at the completion of the last approved pruning. The sides of the hedge shall be slightly inward sloping (i.e. wider at the bottom of the hedge than at the top to give more stability) with the top of the hedge level and at right angles to the ends.
- (ii) As a general rule, large leafed plants, such as Laurel, shall only be pruned by using secateurs or similar approved equipment.
- (iii) No pruning shall take place when the hedges are in flower unless this has been approved by the Estate Management Company.
- (iv) Should the Contractor believe that they have been asked to do anything which, in their opinion, is detrimental to the hedge, an obstruction to pedestrians/vehicles, or they consider it appropriate to deviate from the specification, the Estate Management Company shall be notified prior to the work commencing.
- (v) The Contractor shall avoid cutting/pruning in March to July to cause minimum disturbance to nesting birds and wildlife, in compliance with the Wildlife and Countryside Act.

10.3 Pruning Regimes

- (i) Hedge cutting will be undertaken according to vigor and type, as listed in the Bills of Quantity. All hedges are to be cut once every two years when they are fully established.
* HMA1: Prune low vigor hedges
- (ii) Pruning shall be carried out at times appropriate to each species, defined below:-

Species	Cutting regime	Time(s) of Cut
Mixed native hedge	Once every year once established. Once a year during the period of establishment. Hedgerows are to be cut on a three rotation	Late October (PP10)
Formal hedge Carpinus betulus Ilex crenata	Once every year once established Once every year once established	(PP05) (PP05 – PP10)

10.4 **Associated Maintenance Work**

10.4.1 **HMO2: Maintenance of Hedge Base** (PP1 – PP12)

- (i) The Contractor shall be required to leave the base of the hedge clean, tidy and weed free on every occasion that hedge maintenance operations are carried out, and this shall include the removal of all litter, leaves, debris and other such deleterious matter.
- (ii) The soil shall be lightly cultivated (taking care not to damage the root system) to a distance of 0.5m from the centre of the hedge and all litter, leaves, debris and any other rubbish shall be removed to the designated area for disposal. The site shall be left clean and tidy.
- (iii) All hedges and associated beds together with bare areas shall be maintained 95% free of litter and weeds at all times.
- (iv) For native hedges all herbaceous species at the base of the native hedgerows are to be retained to increase biodiversity and none of the above operations apply save the clearance of litter as defined in Section 11.2.

11.0 **HERBACEOUS BORDERS MAINTENANCE** [HB]

11.1 **Litter**

Herbaceous borders shall be kept free of litter, so that at no time shall litter coverage of 5% be tolerated.

11.2 ***HBM1: Maintenance of Herbaceous Borders** (PP1-PP12)

The Contractor shall provide an all-inclusive rate HBM1 to include the undertaking of all operations from HB01 to HB05.

11.3 ***HBO1: General Maintenance Visits** (PP3 – PP10)

The Contractor shall provide a rate to carry out a minimum of 32 weekly visits for general maintenance at equally spaced intervals from March to October inclusive.

The Contractor shall maintain the borders in a tidy and attractive appearance, ensuring maximum flowering.

- 11.3.1 All borders shall be kept clear of weeds by hoe, fork or hand weeding as required, avoiding excessive treading of the border. Care shall be taken not to damage the plants' root system. At no time shall weed growth in excess of 5% of the area of the border be tolerated.

- 11.3.2 The Contractor shall ensure that all plants that require staking shall be staked and tied by using pea sticks or similar material and secured with twine or similar. All materials must be approved by the Estate Management Company prior to use. This operation shall be undertaken, as necessary, in accordance with good horticultural practice.
- 11.3.3 The Contractor shall immediately inform the Estate Management Company of all insect or fungal attacks and damage caused by vandalism.
- 11.4 ***HBO2: Cultivate and Supply and Apply Fertiliser** (PP3)
The border shall be forked over lightly in March and a general fertiliser, approved by the Estate Management Company, with an N.P.K. ratio of 7:7:7, shall be supplied and applied at a rate of 35gm per square metre and incorporated into the surface by fork or hoe.
- 11.5 ***HBO3: Edging of Herbaceous Borders**
The herbaceous borders shall be edged as detailed in 8.4(i-vi) of this specification, Grass Edge, on two occasions - once in November (PP11) and again in March (PP3).
- 11.6 ***HBO4: Autumn Maintenance Visits** (PP11 – PP12)
(i) The Contractor shall carry out a minimum of eight weekly visits for autumn maintenance, at equally spaced intervals throughout November and December. The Contractor shall, on each visit, cut down all growth of the herbaceous perennials that have finished flowering and stems have died back and shall fork over the soil, minimising disturbance to plants.
(ii) This operation shall be undertaken, as necessary, in accordance with good horticultural practice. and the Contractor shall allow for the gradual treatment of the entire border over the full eight planned visits. All arisings shall be removed from site at the end of each work period and taken to the designated location for disposal.
- 11.7 ***HBO5: Water Planted Areas** (PP1 – PP12)
During periods of prolonged dry weather, the Contractor may be required to water herbaceous borders to achieve saturation of the soil to a depth of 225mm. The Contractor shall provide all equipment necessary to undertake watering and shall be responsible for arranging supplies of water. Care shall be taken that no soil erosion or plant damage occurs as a result of irrigation.

11.8 Associated Works

11.8.1 ***HBO6: Supply and Apply Pesticide***

The Estate Management Company may instruct the Contractor to treat an insect or fungal attack with pesticide approved by the Estate Management Company. The Contractor shall supply and apply the pesticide at the rate of application, strictly in accordance with the manufacturer's recommendations.

11.8.2 ***HBO7: Dig Up, Split and Replace Plants***

- (i) The Contractor may be required to undertake the following operations on specified areas of border between November (PP11) and March (PP3).
- (ii) In these areas, plants shall be dug up and split in accordance with good horticultural practice, removing any perennial weed entwined within the plants. The Contractor shall dig over area disturbed by the lifting and splitting operations, using a spade to a depth of 275mm.
- (iii) The Contractor shall incorporate into the soil an approved, well-rotted manure. This shall be supplied and applied at a rate of 10kg per square metre and the soil shall then be consolidated and raked prior to planting. The Contractor shall then replant as per plan supplied by the Estate Management Company.

11.9 Vandalism

Damage caused by vandalism shall be immediately reported to the Estate Management Company. The Estate Management Company may instruct the Contractor to make good vandal damage.

12.0 LEAF CLEARANCE

[LE]

12.1 Standard

- (i) The Contractor shall be responsible for the clearance of leaves, twigs, etc., from areas specified from leaf fall (normally October (PP10) until the end of December (PP12)). The Estate Management Company will instruct the Contractor when leaf clearance will commence.
- (ii) The Contractor shall carry out leaf clearance by hand raking or sweeping, or using machinery appropriate to this work and approved by the Estate Management Company.
- (iii) The Contractor shall ensure that all flowerbeds, shrub beds, grass areas, paths, channels, drains, designated driveways, steps and play areas, or other specified by the Estate Management Company, are kept clear of leaves.

- (iv) Machines used for the clearance of leaves from large grassed areas must be fitted with suitable tyres to prevent damage. Any damage caused by the Contractor's negligence shall be reinstated at the Contractor's expense.
- (v) The Contractor shall remove all collected leaves to the designated location for disposal, at the end of each work period. The Contractor shall not leave groupings of collected leaves on site for bulk removal, unless specific approval from the Estate Management Company has been issued in writing.
- (vi) All pieces of play equipment or trim trail elements are to be kept free from leaves at all times.

12.2 ***LEO1: Leaf Clearance**

(PP10 – PP12)

The Contractor shall ensure that all leaves, as specified in 12.1(i)-(v), are not laying on the ground for any more than one week. The Contractor shall schedule operations to achieve this standard.

13.0 **LITTER CLEARANCE**

[LC]

13.1 **Preamble**

The Contractor shall maintain all sites and all areas covered by the Contract to a clean and litter free standard by removing all litter to the standards defined below.

13.1.1 **Definition of Litter**

- (i) 'Litter' is anything whatsoever which is thrown down, dropped or otherwise deposited in, onto or from any place in the open air to which the public are permitted to have access without payment, unless otherwise by law or done with the written permission of the Estate Management Company. This shall include all items, i.e. beverage containers, fast food packaging, tree branches and animal faeces.
- (ii) Large items such as discarded furniture and household effects, mattresses, etc., which require two or more people to lift and single deposits in excess of 1-2m³ will be treated as fly tipping. The Contractor shall inform the Estate Management Company soon as possible after discovering any fly tipping. The Estate Management Company will, in appropriate circumstances, issued instructions to the Contractor to remove such waste material. Payment for this work will be in accordance with the Contractor's tendered rates.

13.1.2 **Method of Litter Collection**

- (i) Methods of litter collection may be by hand, paper picker or mechanical means as approved by the Estate Management Company.

- (ii) Any damage caused to the soft landscaped or hard landscaped areas due to lifter picking/collection operations being carried out by the Contractor shall be made good at the Contractors expense and to the completed satisfaction of the Estate Management Company.
- (iii) All arisings from litter collection operations shall be immediately cleared from each plot on completion. The Contractor shall leave groupings of collected litter on site for bulk removal unless specific approval from the Estate Management Company has been issued in writing.

13.2 Standards

13.2.1 (i)

Grade	Condition of Site
1	No litter or refuse
2	Predominantly free of litter and refuse apart from small items such as cigarette ends and ring pulls
3	Widespread distribution of small items such as beverage containers fast food packaging and animal faeces
4	Heavy littering of large and small items, with accumulations on boundaries
5	All litter picking to be carried out on a fortnightly basis.

- (ii) Sites are zoned by performance category. In all cases, the requirement is to maintain or return the site to the standard set out below:

Zone

- A All communal open spaces, and amenity space.
- B All other areas and street scenes that are not adopted.

13.2.2 (i) ***LCA1: Zone A** (PP1 – PP12)

- (a) The Contractor shall achieve Grade 1 after cleaning.
- (b) If the standard of the site falls to Grade 2 or below, it shall be restored to Grade 1 within 48 hours of notification.

(iv) ***LCB1: Zone B** (PP1 – PP12)

- (a) The Contractor shall achieve Grade 2 after cleaning.
- (b) If the standard falls to Grade 3, it shall be restored to Grade 2 within five days.
- (c) If the standard falls to Grade 4, it shall be restored to Grade 3 within 48 hours.

13.2.3 Response Times

- (i) The Contractor shall price to provide a 'call-out' facility. The Contractor shall price to attend areas specified by the Estate Management Company and commence operations to collect and remove the excessive litter from the areas failing to meet the designated zone requirements within the appropriate response time call-out.

LC01:	(a)	1 hour emergency litter pick	(during working hours)
LC02:	(b)	3 hours emergency litter pick	(during working hours)
LC03:	(c)	6 hours emergency litter pick	(during working hours)
LC04:	(d)	1 hour emergency litter pick	(out of normal hours)
LC05:	(e)	3 hours emergency Litter pick	(out of normal hours)
LC06:	(f)	6 hours emergency Litter pick	(out of normal hours)

Normal working hours are deemed for the purpose of this Specification to be 7.30 am. - 6.00 pm Monday to Friday. Out of hours shall not include Bank Holidays.

13.3 LC07: Remove Fly – Tipped Material

The Contractor shall price to collect and remove 'fly-tipped' material and remove to the designated location for disposal.

13.4 Emptying of Rubbish Bins

- (i) As part of the litter scavenge the Contractor shall allow for the emptying of rubbish bins and baskets within the contract area for the duration of the contract
- (ii) The Contractor shall note that there are several different sizes and designs of litter bins used in this contract and the Contractor shall take this into account when pricing the following rates.
- (iii) Every rubbish bin/basket shall be lined with an approved black plastic bag, which will be renewed at each time of collection. The Contractor shall include in their rate for the supply and installation of the black plastic bags, as detailed above.
- (iv) All arisings shall be removed from site at the end of each work period and taken to the designated location for disposal.
- (v) All damaged or missing litter bins and baskets shall be reported to the Estate Management Company within two working days.
- (vi) Any additional litter bins or baskets installed within the boundary of the contract shall be emptied.

- (vii) The Contractor shall clean the bins as regularly as is necessary to ensure that they remain clean, do not smell or attract unwanted insects or animals or become insanitary.
- (viii) All litter bins shall be emptied at least once monthly, spaced at equal intervals, or more frequently where this is necessary to meet the standard specified in 13.5.(i).

13.5 ***LCO8: Standard***

- (i) Each bin shall be emptied regularly so that at no time is a bin more than 75% full.
- (ii) The Estate Management Company opinion shall be final when determining whether a bin requires emptying.
- (iii) At no time shall there be litter protruding from the bin or around its base.
- (iv) The Estate Management Company may instruct the Contractor to empty a litter bin which is not yet 75% full. This will be in exceptional circumstances, such as the presence of odorous rubbish. This shall be carried out at the Contractor's own expense.
- (v) Each time a bin is emptied; all litter that has fallen within a 2.0 metre radius of the bin shall be removed.

13.6 ***LCO9: Clean and Disinfect Bins***

The Contractor shall price a rate to clean and disinfect a bin or basket following emptying, leaving the site clean and tidy, ensuring public health and safety at all times.

14.0 **SHRUB BED MAINTENANCE**

[SB]

Preamble

14.1 **Litter**

- (i) The Contractor shall remove all litter as detailed in Section 13 from all shrub areas.
- (ii) All arisings shall be collected and removed from site at the end of each work period and taken to the designated location for disposal.
- (iii) Remove, using correct horticultural practices, all fallen flowers, leaves and other debris. All cultivated areas shall be cleared of litter and other debris on each maintenance visit.

(iv) **Edging**

(a) ***SBO1: Maintain Edges of Shrub Beds** (PP1-PP12)

The Contractor shall maintain the edges of all shrub beds in a neat and tidy appearance by using a half moon edging iron on one occasion between October (PP10) and March (PP3). Bed soil shall be pushed back and left at a 45 degree angle from the edge, starting slightly below surrounding levels. The edges of beds abutting grassed areas shall be slightly sloped to avoid a vertical or undercut appearance.

The shape and size of the bed edge shall not be altered by this operation. All litter, arisings and similar debris shall be removed from the adjacent channel for disposal in order to leave the channel neat and tidy following each visit.

(b) ***SBO2: Trimming Grass Edges** (PP1-PP12)

The edges of grass areas which abut maintained beds and similar areas shall be trimmed with long handled shears or other approved mechanical means.

14.2 **Shrub Beds Regime A - 'Ornamental'**

[SBA]

14.2.1 **Hand Weeding and General Maintenance**

***SBA1: Ornamental Shrub Area Maintenance** (PP1 - PP12)

- (i) The Contractor shall visit each shrub bed identified for Regime A Maintenance on a minimum of 26 occasions equally spaced through the year, i.e. fortnightly visits. The Contractor shall undertake the following operations on each visit;
- (ii) Remove, using correct horticultural practices, all fallen flowers, leaves and other debris. All cultivated areas shall be cleared of litter and other debris. The Contractor shall ensure that each maintenance visit coincides with a litter removal visit.
- (iii) The Contractor shall prune shrubs in accordance with this specification, in order to prevent obstructions to paths, roads, signs, steps, sight lines, windows, doors and other similar situations and to allow access as directed by the Estate Management Company.
- (iv) The Contractor shall at each visit remove all dead, damaged, infested, reverted or diseased branches and stems using correct horticultural practices. The Contractor shall otherwise prune all plant material at the correct pruning time. Any plants grown for winter stem colour or similar effects, as specified by the Estate Management Company shall be pruned at the optimum time to provide the maximum display.

- (v) All dead shrubs and plants shall be removed and the Estate Management Company advised.
- (vi) The Estate Management Company may instruct the Contractor to supply and plant new plant material in accordance with the Planting Specification, at the same time as the plant material is removed or as specified by the Estate Management Company within the planting season.
- (vii) Remove weeds by pulling by hand, hoeing and raking, avoiding damage to stems, branches and plant roots, leaving a clean weed free surface cultivated to a medium tilth. No herbicides shall be used.

14.2.2 * **SBA2: Cultivation Visit** (PP11)

- (i) The Contractor shall undertake the following works to the entire shrub bed on one occasion during November (PP11).
- (ii) The Contractor shall cultivate beds to relieve areas of compaction to a depth of 75mm in order to maintain a high standard of appearance, by forking or similar approved method. Care will be taken not to damage or disturb roots, branches and stems, and avoid excessive treading of the surface. The Contractor shall break down any lumps and leave the surface weed free with a medium/fine tilth.

14.3 **Shrub Beds Regime B - 'Native'** [SBB]

14.3.1 **Hand Weeding and General Maintenance**

***SBB1: Native Shrub Area Maintenance** (PP1 - PP12)

- (i) The Contractor shall visit each shrub bed identified for Regime B Maintenance on a minimum of 12 occasions equally spaced through the year, i.e. monthly visits. The Contractor shall undertake the following operations on each visit;
- (ii) Remove, using correct horticultural practices, all fallen flowers, leaves and other debris. All cultivated areas shall be cleared of litter and other debris. The Contractor shall ensure that each maintenance visit coincides with a litter removal visit.
- (iv) The Contractor shall at each visit remove all dead, damaged, infested, reverted or diseased branches and stems using correct horticultural practices. The Contractor shall otherwise prune all plant material that can be correctly pruned. Any flowering materials or plants grown for winter stem effect, that would have their display value reduced if pruned at this time, shall not be pruned. The Estate Management Company will instruct the Contractor to prune such shrubs in accordance with the timing for pruning.

- (v) All dead shrubs and plants shall be removed and the Estate Management Company advised.
- (vi) The Estate Management Company may instruct the Contractor to supply and plant new plant material in accordance with the Planting Specification, at the same time as the plant material is removed or as specified by the Estate Management Company within the planting season.
- (vii) Remove weeds by pulling by hand, hoeing and raking, avoiding damage to stems, branches and plant roots, leaving a clean weed free surface cultivated to a medium tilth. No herbicides shall be used.

14.3.2 * **SBB2: Cultivation and Pruning Visit** (PP11 - PP3)

- (i) The Contractor shall visit each shrub bed on one occasion in the winter during November (PP11) to March (PP3). The Contractor shall undertake all the following operations during this visit.
- (ii) The Contractor shall cultivate beds to relieve areas of compaction to a depth of 75mm in order to maintain a high standard of appearance, by forking or similar approved method. Care will be taken not to damage or disturb roots, branches and stems, and avoid excessive treading of the surface. The Contractor shall break down any lumps and leave the surface weed free with a medium/fine tilth.
All arisings shall be collected and disposed of.
- (iii) The Contractor shall allow in their rates to cut back shrubs when necessary by not more than one-third of the previous year's incremental growth in order to prevent obstructions to paths, roads, signs, steps, sight lines, windows, doors and other similar situations to allow access as specified by the Estate Management Company. Where plant material becomes an obstruction, the Contractor shall be required to re prune the material within 48 hours of notification by the Estate Management Company and at no additional cost to the Estate Management Company.

14.3.3 * **SBC2: Cultivation and Pruning Visit** (PP11 - PP3)

- (i) The Contractor shall visit each shrub bed on one occasion in the winter during November (PP11) to March (PP3). The Contractor shall undertake all the following operations during this visit.
- (ii) The Contractor shall cultivate beds to relieve areas of compaction to a depth of 75mm in order to maintain a high standard of appearance, by forking or similar approved method. Care will be taken not to damage or disturb roots, branches and stems, and avoid excessive treading of the surface.

The Contractor shall break down any lumps and leave the surface weed free with a medium/fine tilth.

All arisings shall be collected and disposed of.

- (iii) The Contractor shall allow in their rates to cut back shrubs when necessary by not more than one-third of the previous year's incremental growth in order to prevent obstructions to paths, roads, signs, steps, sight lines, windows, doors and other similar situations to allow access as specified by the Estate Management Company. Where plant material becomes an obstruction, the Contractor shall be required to re prune the material within 48 hours of notification by the Estate Management Company and at no additional cost to the Estate Management Company.

14.4 *** SBB3/SBC3: Winter Chemical Application** (PP1 - PP4)

- (i) The Contractor shall visit each Regime B shrub bed on one occasion during January (PP1) – April (PP4). The Contractor shall supply a residual herbicide approved by the Management Company and apply it at the manufacturer's recommended rates during frost free conditions to all shrub beds. The Contractor shall ensure that the herbicide is applied to ground free of weeds, leaves and litter to prevent all weed re-growth, until 31st July of the following summer.
- (ii) The Contractor shall, by use of approved herbicides or hand weeding, ensure that the weed coverage does not exceed 5% of the total area of each shrub bed during the period defined in section 12. The Contractor shall ensure that no damage to ornamental plants results from herbicide applications.

14.5 ***SBB4/SBC4: Autumn Chemical Application** (PP10)

- (i) The Contractor shall on one occasion during October (PP10), supply a translocated herbicide such as 'Glyphosate' or similar approved by the Estate Management Company and apply it during suitable conditions, in accordance with manufacturer's recommended rates and instructions, to all shrub beds identified for maintenance under this regime to prevent all weed growth until 31st December of the year in which the herbicide was applied. Any subsequent Weed growth shall be immediately treated at the Contractor's expense.
- (ii) The Contractor shall, by use of approved herbicides or hand weeding, ensure that the weed coverage does not exceed 5% of the total area of each shrub bed. The Contractor shall ensure that no damage to ornamental plants results from herbicide applications.

14.6 *** SBB5/SBC5: Hand Weed Replanted Areas** (PP1 – PP12)

- (i) Following 'gap planting', normally November (PP11) to March (PP2), the Contractor shall carry out the following regime until beds are deemed by the Estate Management Company to have become established enough for winter chemical application. This shall include hand weeding, re-firming any planted material and pruning as necessary, in order to establish the planted area.
- (ii) Should the Contractor apply pesticide to the areas that the Estate Management Company has designated as 'newly planted', then the Contractor shall be required to replace all plant material deemed by the Estate Management Company to be damaged or dead due to the Contractor's negligence, at no extra expense.

14.7 **Pruning**

14.7.1 **Preamble**

- (i) The Contractor shall prune all plant material at the correct pruning time and in accordance with this Specification.
- (ii) This represents general guidelines for pruning. The Contractor shall note that pruning methods differ with species, cultivar, maturity and the exact position of the shrub. If the Contractor is in any doubt about the appropriate method to be used, then the advice of the Estate Management Company shall be sought.
- (iii) Pruning of individual shrubs shall be carried out using skilled labour only and adopting correct horticultural practice.
- (iv) The purpose of pruning is to build a strong framework, keeping shrubs healthy and vigorous, maintaining the shape and balance, ensuring the maximum amount of flowering wood is produced and that the shrubs do not create a nuisance or danger. All pruning shall be carried out to the highest horticultural standards using secateurs, loppers and other method approved by the Estate Management Company. Cuts shall be made to an outward pointing bud. Suckers shall be removed at their source on the roots of affected shrubs. Reverted branches shall be treated in a similar manner. All areas adjoining footpaths and other surfaces shall be swept/raked following pruning works at the end of each work period, leaving the area neat and tidy.
- (v) The Contractor shall allow when pruning shrubs in order to prevent obstructions to paths, roads, signs, steps, sightlines, windows, doors and other similar situations, and to allow access.
- (vi) The Contractor shall remove all dead, damaged, infested, reverted or diseased branches and stems, using correct horticultural practices.

- (vii) If a shrub is winter berry-bearing, pruning shall not be carried out until March (PP3), or until there are no berries remaining (whichever is the sooner). When pruning is undertaken, care shall be taken to leave as many berries as possible and at least 2" (60mm) of the previous year's growth, to allow flowering the following year.
- (viii) All dead flower heads shall be removed to maintain display and keep a well cared for appearance.
- (ix) All climbing plants shall be tied in as necessary and the Contractor shall inspect any wires, frames and supports for damage. Any damage shall be reported to the Estate Management Company.

14.7.2 Important Pruning Instructions

The following practices shall not be tolerated:

- (i) Never cut everything off at one level.
- (ii) Never prune up the stems of plants to access litter.
- (iii) Do not open up shrub beds unnecessarily by pruning back each shrub all over. A natural looking shrub bed shall be achieved, not topiary.
- (iv) If in the opinion of the Estate Management Company, the Contractor has incorrectly pruned any shrubs, then the Contractor shall prune to make good to the complete satisfaction of the Estate Management Company. Replacement or remedial work shall be carried out at the Contractor's expense, unless the damage to the shrubs has resulted from acts of vandalism or theft.

14.7.3 Pruning Schedule

A Slow Growing Specimen

If pruning is required, it will only involve light shaping and shall be carried out February (PP2) to March (PP3).

B Spring Flowering

All wood which has borne flowers shall be removed. Young wood shall be retained to ripen and produce flowers in the following year. Thin out crowded and crossing shoots and remove weak growth. Pruning shall be carried out after flowering in May (PP5) to July (PP7).

C Most Deciduous/Vigorous Evergreen

One or two old stems shall be removed completely and the younger flowering shoots shall cut back to the fresh growth of the main branches. Thin out crowded and crossing shoots and remove weak growth. Pruning shall be carried out between November (PP11) and March (PP3).

D *Stem Effect/Marginal Hardiness*

The previous season's wood shall be cut back to within two or three buds of the old wood. Thin out crowded and crossing shoots and remove weak growth during March (PP3) to April (PP4).

14.7.4 Remedial Pruning

The Estate Management Company may instruct the Contractor to undertake remedial pruning to shrubs. This work will be assessed on a square meter basis and may include the entire bed or part of it. Examples might include shrubs which have overgrown their position and become too tall, wide or mature. Some of the techniques are detailed below but this list is not exhaustive and the Contractor shall be required to liaise closely with the Estate Management Company to ensure methods adopted are appropriate to particular situations.

14.7.5 Solid Shrub Blocks Abutting Pavements

Where shrubs have been historically faced up, they may resemble hedges and may even have been cut accordingly. If the Estate Management Company applies the remedial pruning rate to convert such beds back to a specified regime, then it may be carried out over two or more seasons, treating half or less of the bed at a time, adopting the following:

- (i) Branches which are strongly growing towards the pavement or road shall be cut off at ground level or back to the main trunk.
- (ii) The remaining branches shall be reduced beyond any twiggy front edge to expose the structure. Where possible, the branches shall be thinned as necessary to create a structure appropriate to its position.
- (iii) All dead, diseased, damaged and crossing branches shall be removed and the resultant shape must be natural. Where possible, pruning cuts shall be above a bud.
- (iv) When pruning is complete, the structure shall be such that the shrub will not extend over the pavement after a season's growth.
- (v) To prevent the face of evergreen shrubs being cut back too hard in one season, the Estate Management Company may specify that the work shall be extended over two growing seasons.
- (vi) During remedial pruning, the removal of berrying or flowering wood may be necessary but this will only take place with the Estate Management Company authorization.

14.7.6 Tall and Specimen Shrubs

- (i) Where such beds front the pavement and form impenetrable blocks access can be gained to the centre of the beds.

- (ii) At this stage, sufficient of the oldest, upright branches shall be removed at ground level or back to a main trunk to open up the canopy and encourage healthy, young wood.
- (iii) Work shall now continue using approved hand tools to produce a new structure of a size appropriate to its position to a maximum of 2.4m but this is dependent on species/cultivar. With vigorous shrubs, such as certain *Pyracantha* cultivars, pruning cuts' shall be made to encourage less vigorous, down aimed shoots.
- (iv) The pruning shall be deemed complete when shrubs have a naturally shaped canopy, with the bulk of the growth being between 1.5m and 2.0m.

15.0 TREE MANAGEMENT

[TM]

Tree work

The Contractor shall allow a sum to maintain all tree stock in accordance with the specification set out below.

15.1 Preambles

- (i) Prior to starting work the Estate Management Company and Contractors shall agree the trees that are to receive work.
- (ii) Prior to, during and after work the Contractor should avoid damage to neighbouring trees, plants and property.
- (iii) All works should be in accordance with BS:3998 2010 and Forestry and Arboricultural Training and Safety Council Safety Guides. All operatives undertaking chainsaw work must hold appropriate certification and should be approved members of the Arboricultural Association.
- (iv) As a general rule, wherever possible, management should be as minimal as possible, subject to meeting health and safety requirements.
- (v) Any works to the trees is to be carried out in accordance with the legal agreement for the site and therefore following consultation and written consent from the Local Planning Authority (LPA).

15.2 Generally

15.2.1 **TMSG01: Tree Stakes and Ties* (PP1 - PP12)

- (i) The Contractor should check on a two monthly basis the condition of Tree Stakes and Guys. In addition further inspections should be carried out immediately after strong winds.

- (ii) Stakes – replace loose, broken or decayed stakes to original specification. If longer than half of clear tree stem height, cut to this height in spring. Retie to tree firmly but not tightly with a single tie.
- (iii) Ties – Adjust, re-fix or replace loose or defective ties, allowing for growth and prevent chaffing. Where chaffing has occurred, reposition or replace ties to prevent further chaffing.
- (iv) Removal of Stakes and Ties – remove stakes and ties two years after planting. Fill stake holes with lightly compacted soil.

15.2.2 ***TMR01: Re-firming Trees and Specimen Shrubs** (PP1 – PP12)

Re-firming Trees and Shrubs – shall be carried out after strong winds, frost heave and other disturbances. To re-firm the Contractor should tread around the base until firmly bedded.

Any collars in the soil at the base of tree stems, created by tree movement should be broken up by fork, avoiding damage to roots.

The voids should be backfilled with topsoil and re-firmed.

15.2.3 ***TMTGG01: Tree Guards and Grills** (PP1/PP7)

- (i) Tree Guards – loose or defective guards; adjust, re-fix or replace to original specification and to prevent chafing. Visit on a minimum of two occasions per annum.
- (ii) Tree Grilles – lift grilles, remove weeds, adjust levels as necessary and lightly compact. Refit grilles, refill interstices and lightly compact to correct level. Material for making up levels and refilling should be horticultural grit.

15.2.5 ***TMFP01: Formative Pruning** (PP1–PP4)

- (i) Formative Pruning of young trees – This work should be undertaken to ensure the successful establishment of the trees. The works should not be carried out during the late winter/early spring sap flow period.
- (ii) Young trees up to 4m high should be crown pruned by removing dead branches and reducing selected side branches by one third to preserve a well balanced head and ensure the development of a single strong leader. Remove duplicated branches and potentially weak or tight forks. In each case cut back to live wood.
- (iii) Extensive pruning of young trees and any surgery to larger trees must be carried out by an approved member of the Arboricultural Association or other approved specialist.

15.3 ***TMCOD01: Cleaning Out and Deadwooding**

(PP4/PP10)

Remove:

- Dead, dying, or diseased wood, broken branches and stubs.
- Fungal growths and fruiting bodies
- Rubbish, wind blown or accumulated in branch forks
- Wires, clamps, boards and metal objects, if removable without causing further damage and not part of a support structure that is to be retained.
- Other unwanted objects, e.g. tree houses, swings.
- Climbing plants

15.4 ***TMCP01: Cutting and Pruning Generally**

(PP4/PP10)

- (i) All the tools used should be appropriate, well maintained and sharp. Final pruning cuts – do not use chainsaws on branches of less than 50 cm diameter.
When using handsaws, cut in one continuous operation to form a smooth cut surface. Do not use anvil type secateurs.
- (ii) When removing branches do not damage or tear the stem.
- (iii) Keep wounds as small as possible, cut cleanly back to sound wood leaving a smooth surface, and angled so that water will not collect on the cut area.
- (iv) When cutting, cut at fork or at the main stem to avoid stumps wherever possible.
- (v) Large branches – remove only if unavoidable. Remove in small sections and lower to the ground with ropes and slings.
- (vi) Dead branches and stubs – when removing do not cut into live wood.
- (vii) Unsafe branches – remove epicormic shoots and potentially weak forks that could fail in adverse weather conditions.
- (viii) Disease of fungus – give notice if detected. Do not apply fungicide or sealant unless instructed.
- (ix) Bark Damage – wounds – do not attempt to stop sap bleeding. Gently remove ragged edges and remove splintered wood from deep wounds as small as possible. Give notice if there is any liquid or flux oozing from apparently healthy bark.
- (x) Cavities in Trees – Cavities should be investigated. Old cavities in mature trees should be left alone subject to health and safety audit. New cavities are likely to have been made by woodpeckers and may reflect nesting in which case disturbance is illegal. Where the extent of a cavity is not visible, there is also a risk a bat or bats may be present. Such cavities should be notified but no further action taken without advice from a suitably qualified ecologist. For

new small cavities in ornamental species, where bats or nesting birds are obviously absent, rubbish and rotten wood should be removed. The cavity should be probed to find the extent of any decay, and give notice. The cavities should not be covered.

- (xi) Stack all wood arising from the works in neat piles in areas to be agreed with the ecologist to provide invertebrate habitat opportunities.

15.5 ***TMCRS01: Crown Reduction/Shaping***

- (i) In general cut back selectively to lateral or sublateral buds or branches to retain flowing branch lines without leaving stumps.
- (ii) The extent of the works will be as instructed by the client.

15.6 ***TMCL01: Crown Lifting***

- (i) Removing branches: remove whole branches back to the stem, or cut lower portions of branches back to lateral or sublateral buds or branches. Do not leave stumps.
- (ii) The extent of the works will be as instructed by the Estate Management Company. In general for clearance remove branch systems to give clearances as follows: 2.5m above pathways, 3m above cycleways, above vehicle carriageways.

15.7 ***TMCT01: Crown Thinning***

- (i) When removing branches, remove inward growing, crossing, rubbing, dead and damaged branches. When thinning selectively remove an agreed percentage of secondary and small live branch growth evenly throughout the crown.

When cutting make no cuts of more than 50mm diameter. Cut portions of branches back to lateral or sublateral buds or branches without leaving stumps. The appearance should be uniform with a well-balanced structure of branches and foliage.
- (ii) The extent of the works will be as instructed by the Estate Management Company.

15.8 ***TMSF01: Selective Tree Felling***

Carry out selective felling of weaker specimens and replace with native trees.

15.9 ***TMTI01: Tree Inspection***

Review the existing and newly planted trees at regular intervals to maintain the longevity of the tree stock on site. Remove all stakes and ties after year 2. Carry out works in accordance with 13.2.3 to 13.2.8 inclusive.

15.10 **TMEC01: Emergency Call Out**

- (i) The Contractor shall price to provide a call out facility
TMEC01a: 1 hour emergency call out (during working hours)
TMEC01b: 1 hour emergency call out (out of working hours)
- (ii) Normal working hours are deemed for the purpose of the Specification to be 7.30am – 6.00pm, Monday to Friday. Out of hours shall not include Bank Holidays.

16.0 **MAINTENANCE AND INSPECTION OF PLAY AREAS** **[PA]**

16.01 **Litter**

Play areas shall be kept free of litter, so that at no time shall litter coverage of 5% be tolerated, and in accordance with this specification.

16.02 **PA1: Play Areas Inspection**

- (i) The Contractor shall allow a sum to maintain ensure that the play areas are inspected **weekly** in accordance with ROSPA Information Sheet Number 24, attached in appendix B and any work required is carried out.
- (ii) In addition to (i) the Contractor shall allow a sum to maintain ensure that the play area is inspected **annually** in accordance with ROSPA Guidance and EN1176/7.
- (iii) Inspection should be by an independent specialist.
- (iv) A report should be written covering site safety and condition of equipment, surfacing and ancillary safety items and compliance with EN1176 where relevant. The report should include any remedial action required with an assessment of the degree of risk.

16.03 **PA2: Treatment of Play Gravel**

The Contractor shall rake over play gravel and check for sharps 24 times a year, and annually top up the gravel to the approved levels where necessary.

16.04 The contractor shall inspect all benches and safety signs on a regular bases to ensure no damage has be incurred. The contractor will notify the Estates Management Company of any defects.

- 17.0 WATER BODIES, MARGINAL AND AQUATIC PLANT MAINTENANCE (AQ)**
- 17.1 Litter**
- All waterbodies shall be kept free of litter, so that at no time shall litter coverage of 5% be tolerated, and in accordance with litter clearance within this specification.
- 17.2 *AQM1: Maintenance of water bodies, marginal and aquatic plants (PP1-PP12)**
- All operations from AQ01 to AQ04 shall be carried out.
- 17.3 *AQO1: General Maintenance Visits (PP1-PP12)**
- The Contractor shall provide a minimum of 20 weekly visits to ensure that litter is removed from the water body, but no dead plant material and leaf litter should be removed as this would have detrimental effects on the aquatic invertebrate populations and diversity.
- 17.4 *AQO2: Cutting and Removal of Marginal and Aquatic plants (PP09 – PP11)**
- The Contractor shall monitor growth of reeds and marginal plants (as a percentage cover of pond area) and carry out control by pulling, if plants become too dominant (retaining 80% of the areas as open water). Control of shading and succession in pond by hand pulling of woody species (allow up to 10% cover of woody species only) establishing in areas of marginal planting. Removal of non-native invasive species (such as Indian Balsam) as they occur.
- 17.5 *AQO3: Build up of algae and water quality (PP01 –PP012)**
- The Contractor shall monitor water quality and the growth of algal blooms and treat if necessary, seeking specialist advice.
- 17.6 *AQO4: Monitor and maintain safety equipment and protective fencing (PP01 – PP12)**
- The Contractor shall maintain the RoSPA approved safety equipment and protective fencing.

Appendix A

Typical Maintenance Schedule

Cont/..

ANNUAL MAINTENANCE PROGRAMME

ACTIVITY	J	F	M	A	M	J	J	A	S	O	N	D
GRASS MAINTENANCE												
Amenity Grass Cutting (GCA1)												
General Amenity Grass Cutting (GCB1)												
Meadow Grass Cutting (GCC1)												
Wildflower Cutting (GCD1)												
Damp Meadow Grass Cutting (GCE1)												
Damp Wildflower Cutting (GCF1)												
Bulbs (GCG1)												
Edge Trimming												
Chemical Turf Care (GCO1)												
Arisings (GC04)												
Repairs (GC05 / GC06)												
ACTIVITY	J	F	M	A	M	J	J	A	S	O	N	D
HARD LANDSCAPE												
Sweeping of Roads, Car Parks, Paths (HLM1)												
Inspect and Repair Fencing												
Weed Control (HLM2)												
Gullies (HLM3)												
ACTIVITY	J	F	M	A	M	J	J	A	S	O	N	D
HEDGE MAINTENANCE & CORNISH HEDGE MAINTENANCE												
Pruning - Low Vigor (HMA1)												
Maintenance - Hedge Base (HM02)												
ACTIVITY	J	F	M	A	M	J	J	A	S	O	N	D
HERBACEOUS BORDERS												
General Maintenance Visits (HB01)												
Cultivate / Fertilise (HB02)												
Edging of Herbaceous Borders (HB03)												
Autumn Maintenance Visits (HB04)												
Water Planted Areas (HB05)												
Split / Replace Plants (HB07)												
ACTIVITY	J	F	M	A	M	J	J	A	S	O	N	D
LEAF CLEARANCE												
Leaf Clearance (LE01)												
ACTIVITY	J	F	M	A	M	J	J	A	S	O	N	D
LITTER CLEARANCE												
Litter Clearance (LCA1 – LCB1)												
Emptying of Litter Bins (LC08 / LC09)												

ACTIVITY	J	F	M	A	M	J	J	A	S	O	N	D
SHRUB BED MAINTENANCE												
Edging / trimming of Shrub Beds (SB01 / SB02)												
Shrub Area Regime A 'Ornamental' (SBA1)												
Cultivation Visit Regime A (SBA2)												
Shrub Area Regime B 'Native' (SBB1)												
Cultivation Visit Regime B (SBB2)												
Shrub Area Regime C 'Buffer' (SBC1)												
Cultivation Visit Regime C (SBC2)												
Winter Chemical Application (SBB3 / SBC3)												
Autumn Chemical Application (SBB4 / SBC4)												
Hand Weed (SBB5 / SBC5)												
Formative / remedial pruning												
Weed control												
Replacement planting												
Guards/fencing/supports												
Maintain woodchip/mulch												
ACTIVITY	J	F	M	A	M	J	J	A	S	O	N	D
TREE MANAGEMENT												
Formative / Remedial Pruning (TMFP01)												
Refirming Trees (TMR01)												
Replacement Planting												
Stakes / Supports (TMSG01 / MGW01)												
Tree Guards and Grilles (TMTGG01)												
Pruning / Deadwooding (TMCOD01 / TMCP01)												
Avoid Nesting Birds/Bat Roosting												
ACTIVITY	J	F	M	A	M	J	J	A	S	O	N	D
PLAY AREAS												
Inspection of play gravel												
Inspection of play equipment												
Inspection of signs and furniture												
ACTIVITY	J	F	M	A	M	J	J	A	S	O	N	D
WATERBODIES												
Removal of debris and litter												
Removal of dead plants												
Cutting back of aquatic planting												
Checking of safety equipment and fencing												

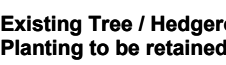
Appendix B

Detailed Planting Plans

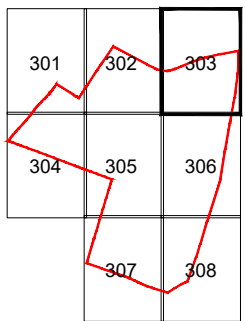
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Detailed planting plan 2 of 8 0302 PL11
Detailed planting plan 3 of 8 0303 PL12
Detailed planting plan 4 of 8 0304 PL12
Detailed planting plan 5 of 8 0305 PL15
Detailed planting plan 6 of 8 0306 PL14
Detailed planting plan 7 of 8 0307 PL12
Detailed planting plan 8 of 8 0308 PL09
Detailed planting schedule 1 of 1 0309 PL15



 Existing Tree / Hedgerow
Planting to be retained



FT1		FT1 Timber Bollards Square with Pyramid top
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landscape architects

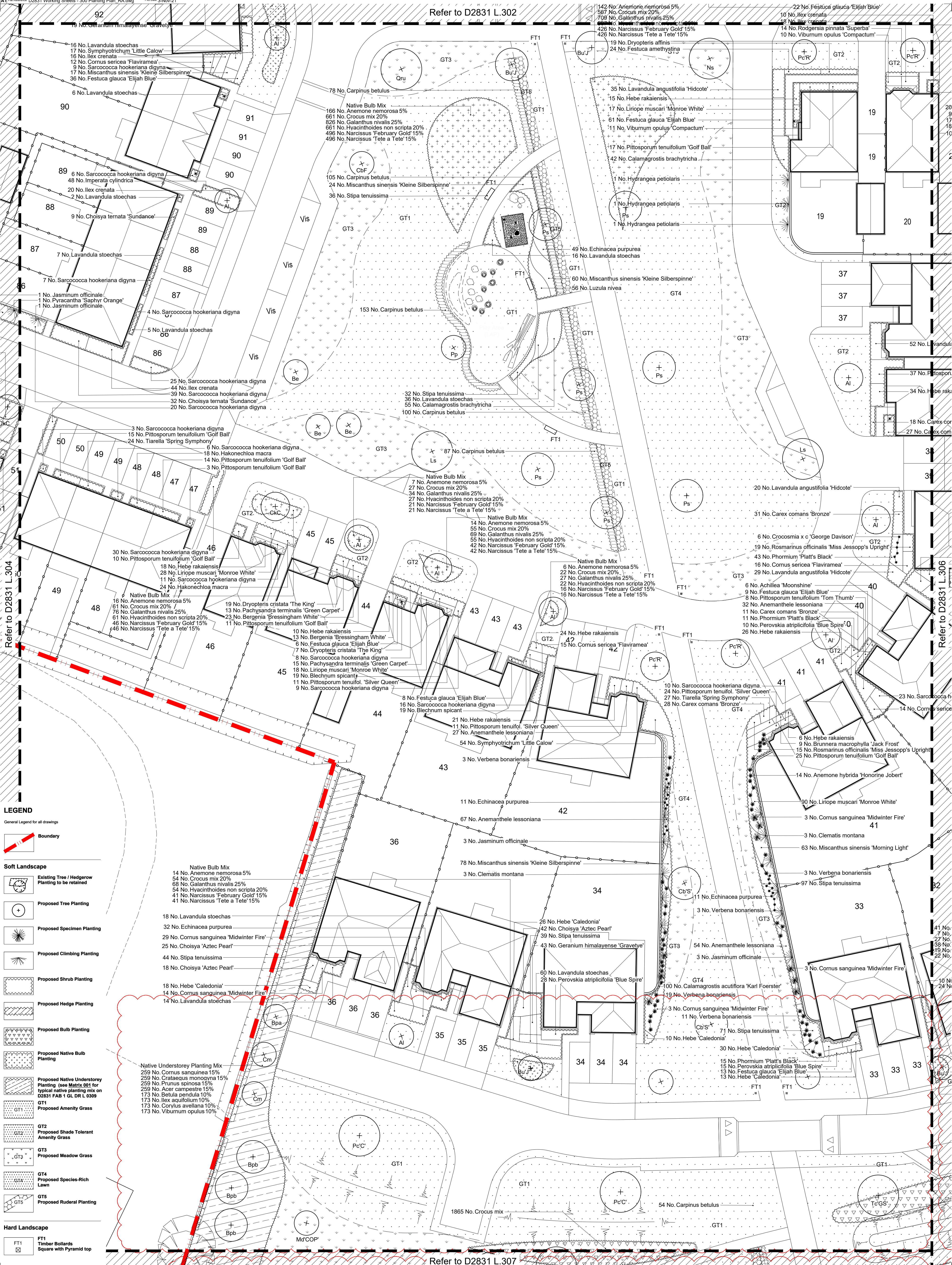
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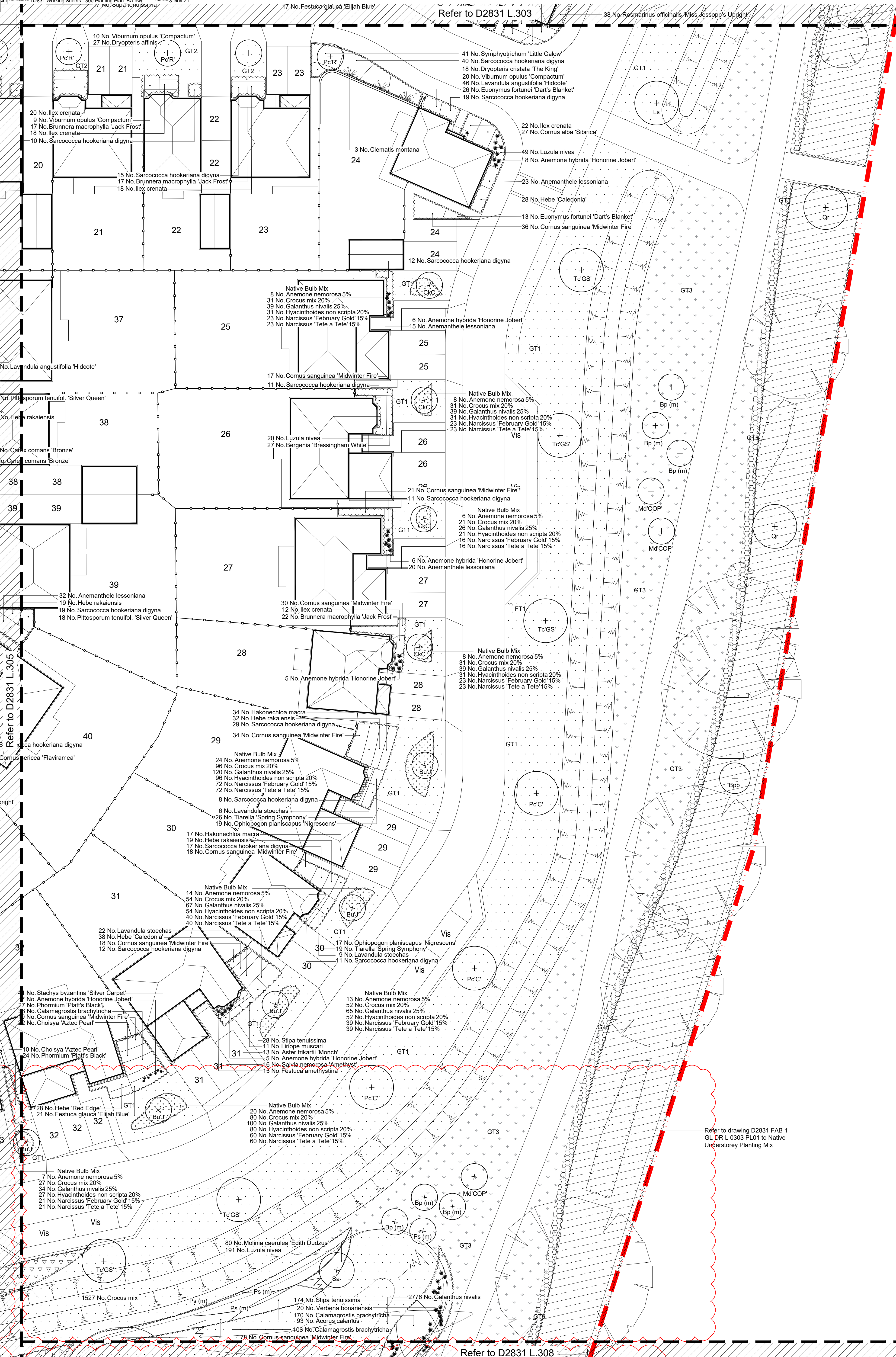
Project
Ford Lane, Yonkers, Westchester County, New York

Drawing Title

Detailed Planting Plan - Sheet

Purpose of Issue				Drawn By	Checked By	Drawn Scale	Date of First Issue
ISSUED FOR PLANNING APPROVAL				pm	sg	1:200 @ A1	Nov 2019
Project Number	Origin	Zone	Level	File Type	Role	Number	Revision
D2831	FAB	00	GL	DR	L	0303	PL12





LEGEND

General Legend for all drawings

Soft Landscape

- Existing Tree / Hedgerow Planting to be retained
- Proposed Tree Planting
- Proposed Specimen Planting
- Proposed Climbing Planting
- Proposed Shrub Planting
- Proposed Hedge Planting
- Proposed Bulb Planting
- Proposed Native Bulb Planting
- Proposed Native Understorey Planting (see Matrix 001 for typical native planting mix on D2831 FAB 1 GL DR L 0309)
- Proposed Amenity Grass
- GT2 Proposed Shade Tolerant Amenity Grass
- GT3 Proposed Meadow Grass
- GT4 Proposed Species-Rich Lawn
- GT5 Proposed Ruderal Planting

Hard Landscape

- FT1 Timber Bollards Square with Pyramid top



Proposed Specimen Planting

☐ **Proposed Climbing Planting** **Proposed Shrub Planting**

Proposed Hedge Planting

Proposed Bulb Planting **Proposed Native Bulb**

Proposed Native Understorey Planting (see Matrix 001 for typical native planting mix on D2824 F&B 1 CL DB L 0209)

GT1
Proposed Amenity Grass

	GT2 Proposed Shade Tolerant
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GT3
Proposed Meadow Grass

GT4
Proposed Species-Rich

GT5
Proposed Ruderal Planting

FT1		FT1 Timber Bollards Square with Pyramid top
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[illegible]

DETAILED PLANTING SCHEDULE

TREES	Number	Species	Abbreviation	Girth	Height	Specification	Density
6 No.	Acer campestre 'Streetwise'	ACS	14-16cm	RB	Extra Heavy Standard	Clear Stem 150-175	Counted
12 No.	Amelanchier lamarkii	Al	14-16cm	RB	Extra Heavy Standard	Clear Stem 150-175	Counted
8 No.	Betula ermanii	Be	12-14cm	RB	Heavy Standard		Counted
4 No.	Betula papyrifera	Bpa	2.5-3.0m	RB	Multi-Stemmed		Counted
10 No.	Betula pendula	Bp (m)	14-16cm	RB	Extra Heavy Standard		Counted
13 No.	Betula pendula (Multi-Stemmed)	Bp (m)	2.5-3.0m	RB	Multi-Stemmed		Counted
14 No.	Betula pubescens	Bpb	2.5-3.0m	RB	Multi-Stemmed		Counted
11 No.	Betula utilis var. jacquemontii	Bu J	14-16cm	RB	Extra Heavy Standard	Clear Stem 150-175	Counted
4 No.	Carpinus betulus 'Fastigiata'	CbF	3.0-4.0m	C	Feather		Counted
13 No.	Carpinus betulus 'streetwise'	CbS'	14-16cm	RB	Extra Heavy Standard	Clear Stem 150-175	Counted
9 No.	Cornus kousa Chinensis	KCC	14-16cm	RB	Extra Heavy Standard	Clear Stem 150-175	Counted
9 No.	Liquidambar styraciflua	LS	14-16cm	RB	Extra Heavy Standard		Counted
14 No.	Malus domestica 'Cox's Orange Pippin'	Md'COPI	12-14cm	RB	Heavy Standard		Counted
2 No.	Nyssa sylvatica	Ns	14-16	RB	Extra Heavy Standard		Counted
5 No.	Parrotia persica	Pp	2.5-3.0m	RB	Multi Stem		Counted
8 No.	Prunus 'Umineko'	PU'	14-16cm	RB	Extra Heavy Standard	Clear Stem 150-175	Counted
7 No.	Prunus serrula	Ps	14-16cm	RB	Extra Heavy Standard	Clear Stem 150-175	Counted
7 No.	Prunus Serrula (Multi-Stemmed)	Ps (m)	2.5-3.0m	RB	Multi-Stemmed		Counted
9 No.	Pyrus calleryana 'Chanticleer'	PcC'	16-18cm	RB	Extra Heavy Standard	Clear Stem 150-175	Counted
10 No.	Pyrus calleryana 'Redspire'	PcR'	14-16cm	RB	Extra Heavy Standard	Clear Stem 150-175	Counted
6 No.	Quercus palustris 'Green Pillar'	Qp'GP'	3.0-4.0m	RB	Feather		Counted
16 No.	Quercus robur	Qr	14-16cm	RB	Extra Heavy Standard		Counted
1 No.	Quercus rubra	Qru	14-16cm	RB	Extra Heavy Standard		Counted
5 No.	Sorbus aucuparia	Sa	14-16cm	RB	Extra Heavy Standard		Counted
11 No.	Tilia cordata 'Green Spire'	TcGS'	16-18cm	RB	Extra Heavy Standard	Clear Stem 150-175	Counted
Total :212 No.							

NATIVE UNDERSTOREY PLANTING MIX

Number	Species	Height	Pot Size	Specification	Density
719 No.	Acer campestre			Native Understorey Planting Mix	1C1r
479 No.	Betula pendula			Native Understorey Planting Mix	1C1r
719 No.	Cornus sanguinea	60-80cm	BR	Native Understorey Planting Mix	1C1r
479 No.	Corylus avellana			Native Understorey Planting Mix	1C1r
719 No.	Crataegus monogyna	100-125cm	BR	Native Understorey Planting Mix	1C1r
479 No.	Ilex aquifolium	80-100cm	BR	Native Understorey Planting Mix	1C1r
719 No.	Prunus spinosa	60-80cm	BR	Native Understorey Planting Mix	1C1r
479 No.	Viburnum opulus	60-80cm	BR	Native Understorey Planting Mix	1C1r
Total :4792 No.					

HEDGING

Number	Species	Height	Pot Size	Specification	Density
1811 No.	Carpinus betulus	80-100cm	5L	BR	0.3C1r Double Staggered at 0.3m offset
527 No.	ilx crenata	40-60cm	3L	C	0.3C1r Double Staggered at 0.3m offset
Total :2338 No.					

SHRUBS

Number	Species	Height	Pot Size	Specification	Density
14 No.	Berberis thunbergii 'Atropurpurea'	60-80cm	3L	C	5/m²
68 No.	Ceratostigma willmottianum	30-40cm	5L	C	Bushy 7/m²
133 No.	Choisya 'Aztec Pearl'	40-60cm	3L	C	5/m²
133 No.	Choisya ternata 'Sundance'	40-60cm	3L	C	5/m²
95 No.	Cornus alba 'Elegantissima'	60-80cm	3L	C	5/m²
27 No.	Cornus alba 'Sibirica'	40-60cm	3L	C	5/m²
820 No.	Cornus sanguinea 'Midwinter Fire'	60-80cm	3L	C	5/m²
9 No.	Cornus sanguinea 'Midwinter Fire'	60-80cm	10L	C	Counted
221 No.	Cornus sericea 'Flaviramea'	60-80cm	3L	C	5/m²
5 No.	Crataegus monogyna	2.5m	RB	Multi-Stemmed	Counted
502 No.	Eunymus fortunei 'Dart's Blanket'	20-30cm	3L	C	7/m²
50 No.	Eunymus fortunei 'Emerald Gaiety'	20-30cm	3L	C	Bushy 7/m²
163 No.	Hebe 'Caledonia'	30-45cm	5L	C	7/m²
21 No.	Hebe 'Margret'	30-45cm	5L	C	7/m²
111 No.	Hebe 'Red Edge'	30-40cm	5L	C	7/m²
576 No.	Hebe rakaiensis	30-40cm	5L	C	7/m²
585 No.	Ilex crenata	30-40cm	3L	C	Bushy 5/m²
313 No.	Lavandula angustifolia 'Hidcote'	20-30cm	5L	C	Bushy 7/m²
29 No.	Lavandula intermedia 'Alba'	20-30cm	5L	C	7/m²
593 No.	Lavandula stoechas	20-30cm	5L	C	5/m²
191 No.	Pachysandra terminalis 'Green Carpet'	20-30cm	3L	C	7/m²
223 No.	Perovskia atriplicifolia 'Blue Spire'	40-60cm	3L	C	7/m²
201 No.	Phormium 'Platt's Black'	40-60cm	3L	C	7/m²
62 No.	Pittosporum tenuifol. 'Irene Patterson'	40-60cm	3L	C	5/m²
101 No.	Pittosporum tenuifol. 'Silver Queen'	40-60cm	3L	C	5/m²
163 No.	Pittosporum tenuifolium 'Golf Ball'	40-60cm	5L	C	Bushy 5/m²
82 No.	Pittosporum tenuifolium 'Tom Thumb'	40-60cm	5L	C	Bushy 5/m²
165 No.	Rosmarinus officinalis 'Miss Jessopp's Upright'	40-60cm	5L	C	Bushy 7/m²
58 No.	Salix alba	60-80cm	3L	C	5/m²
123 No.	Sarcococca hookeriana diglyna	40-60cm	5L	C	5/m²
227 No.	Viburnum opulus 'Compactum'	20-30cm	5L	C	3/m²
85 No.	Viburnum tinus 'French White'	60-80cm	10L	C	Bushy 3/m²
Total :7265 No.					

HERBACEOUS

Number	Species	Pot Size	Specification	Density
28 No.	Acanthus mollis	3L	Full Pot	5/m²
38 No.	Achillea 'Moonshine'	3L	Full Pot	7/m²
42 No.	Anemone hepuchensis 'September Charm'	3L	Full Pot	Counted
70 No.	Anemone hybrida 'Honoreine Jobert'	3L	Full Pot	Counted
11 No.	Anemone hybrida 'Queen Charlotte'	3L	Full Pot	5/m²
13 No.	Aster frikarti 'Monch'	3L	Full Pot	7/m²
46 No.	Bergenia 'Bressingham Salmon'	3L	Full Pot	9/m²
259 No.	Bergenia 'Bressingham White'	3L	Full Pot	9/m²
148 No.	Brunnera macrophylla 'Jack Frost'	3L	Full Pot	9/m²
6 No.	Crocossmia x c 'George Davison'	3L	Full Pot	Counted
81 No.	Echinacea purpurea	3L	Full Pot	9/m²
52 No.	Echinacea purpurea	3L	Full Pot	Counted
94 No.	Echinacea purpurea 'Magnus'	3L	Full Pot	Counted
149 No.	Geranium himalayense 'Gravetye'	3L	Full Pot	7/m²
99 No.	Hyotylephium telephium 'Purple Emperor'	3L	Full Pot	7/m²
70 No.	Liriope muscari	3L	Full Pot	9/m²
167 No.	Liriope muscari 'Monroe White'	3L	Full Pot	9/m²
69 No.	Luzula sylvatica 'Aurea'	3L	Full Pot	9/m²
36 No.	Ophiopogon planiscapus 'Nigrescens'	3L	Full Pot	9/m²
14 No.	Rodgersia pinnata 'Superba'	3L	Full Pot	7/m²
194 No.	Rudbeckia fulgida 'Goldsturm'	3L	Full Pot	9/m²
16 No.	Salvia nemorosa 'Amethyst'	3L	Full Pot	7/m²
41 No.	Stachys byzantina 'Silver Carpet'	3L	Full Pot	9/m²
155 No.	Symphoricarum 'Little Calow'	3L	Full Pot	5/m²
167 No.	Tiarella 'Spring Symphony'	3L	Full Pot	9/m²
154 No.	Verbena banariensis	3L	Full Pot	Counted
Total :2219 No.				

CLIMBERS

Number	Species	Height	Pot Size	Specification	Density
14 No.	Clematis montana	80-100cm	10L	Caned	Counted
2 No.	Hedera helix 'Green Ripple'	80-100cm	10L	Caned	Counted
6 No.	Hydrangea petiolaris	80-100cm	10L	Caned	Counted
11 No.	Jasminum officinale	80-100cm	10L	Caned	Counted
2 No.	Parthenocissus tricuspidata	80-100cm	10L	Caned	Counted
4 No.	Pyracantha 'Saphyr Orange'	80-100cm	10L	Caned	Counted
Total :39 No.					

SOFT SPECIFICATION NOTES

Proposed Tree Planting

Nursery Stock and Selection

All trees and planting are to be selected and tagged by the landscape architect prior to any stock being delivered to site. All planting should comply with the requirements specified in BS 3936:1992 'Nursery Stock' (Part One). All nursery stock and trees are to be free of pest and diseases prior to being delivered to site. All delivered stock is to be inspected by the landscape architect prior to any planting being carried out.

The Landscape architect reserves the right to reject trees and nursery stock that do not meet specifications as set out in the requirements and guidelines in BS 3936:1992 or in accordance with the landscape architects drawings. If a particular defect or substandard element can be corrected easily, appropriate remedies shall be applied and agreed with the landscape architect. If destructive inspection of a root ball is to be carried out, agreement should be in place prior as to the time and place of inspection. Inspection of shrub roots in containers or rootball can be carried out on site if required.

Tree Handling

It is recommended that companies that do not have experience with handling large trees or the required equipment to do so seek advice from the landscape architect or tree supplier. Furthermore, specialist hauliers are to be used who will have the correct lifting equipment to deal with unloading large trees.

The landscape contractor is to follow standards set out in BS 8545:2014 'Trees: from nursery to independence in the landscape – Recommendations'

The landscape contractor must follow the industry guidance method for handling trees. Below are recommended industry standards.

Dormant trees sizes of 12-16cmg

These can be lifted and unloaded using a root hook and hoist. Even when the tree is dormant it is recommended to wrap the stem in hessian for additional protection when unloading maintaining the lifting weight on the root hooks.

Dormant trees sizes of 18-20cmg - 25-30cmg

These can be lifted and unloaded using a 3 tonne sling in combination with a chain and root hooks. Even when the tree is dormant it is recommended to wrap the stem in hessian for additional protection when unloading.

Tree Planting

The tree supplier is to be approved by landscape architect prior to any ordering of stock. All trees are to be planted in the first available planting season after construction as root balled stock unless otherwise specified and agreed with the client. All tree pits are to be excavated 24 hours prior to delivery to reduce the time the rootball is out of the ground. All tree pits are to be excavated under favourable weather conditions to avoid deterioration of the soil structure and glazing. All excavations are to be carried out using a toothed bucket ensuring tree pit walls are not glazed, the walls of the tree pit can also be loosened with hand held tools.

Tree pit dimensions are subject to soil conditions, soil report provided by agronomist and rootball size. Tree pits can never be excavated too wide in an unrestricted space (open ground), however they can be too deep.

All trees are to be planted at the correct height which is the same depth as the tree was growing on the nursery. The root collar must remain visible. Tree pit sizes are to be agreed with landscape architect prior to excavations. All tree pits are to be inspected by the landscape architect prior to planting. All tree pits are to have suitable irrigation pipe and end cap and aeration tubes if required (aeration tubes tend to be required for trees planted in a hard landscape environment). They are only required for the first two years after which they are superfluous. All irrigation pipes are to be placed as high as possible not at the base of the rootball. The tree would also benefit from an earth reservoir around the rootball on the surface to aid watering. The reservoir is best backfilled with bark mulch to avoid soil glazing on the surface.

All trees and planting are to be selected and tagged by the landscape architect prior to any stock being delivered to site. All planting should comply with the requirements specified in BS 3936:1992 'Nursery Stock' (Part One). All nursery stock and trees are to be free of pest and diseases prior to being delivered to site. All delivered stock is to be inspected by the landscape architect prior to any planting being carried out.

- The Landscape architect reserves the right to reject trees and nursery stock that do not meet specifications as set out in the requirements and guidelines in BS 3936:1992 or in accordance with the landscape architects drawings. If a particular defect or substandard element can be corrected easily, appropriate remedies shall be applied and agreed with the landscape architect. If destructive inspection of a root ball is to be carried out, agreement should be in place prior as to the time and place of inspection. Inspection of shrub roots in containers or rootball can be carried out on site if required.

Note: Trees may sink after planting due to soil settlement. With sandy soils generally there will be a settlement of 10% and clay soils 20%, this will need to be considered by the landscape contractor when planting and therefore the tree may need to be planted slightly higher to accommodate soil settlement.

Note: Never excavate deeper than the highest water table to ensure organic matter does not come in contact with groundwater resulting in anaerobic digestion within the soil.

All hessian and wire supports around the rootball are to remain in place when planting (in some case it may be required to loosen the hessian and wire). The hessian will quickly decompose. The wire will oxidize and also disappear in the soil eventually.

Trees planted within hard landscape areas are to have tree grilles and guards where specified. Subterranean cellular product is to be used to ensure the tree has a minimum of 9m3 growing area. Type and manufacture is to be agreed with the client and landscape architect prior to installation. The landscape architect is to inspect all tree pits prior to planting.

Trees are to be supported either by high anchoring, low anchoring or underground anchoring systems. The type of anchoring system is to be agreed with the landscape architect and detailed within the specification of works. For trees that are <10-12cmg use 1no untreated softwood stake at min 10cm diameter driven into the ground at least 1m depth (30cm of which must be in undisturbed ground), the stake is to be placed on the side of the prevailing wind. Trees >10-12cmg use 2no untreated softwood stakes at min 10cm diameter driven into the ground at least 1m depth with horizontal bracing bar. Trees >25-30cmg use 3no stakes in a triangle around the tree (1.4m above ground level) with horizontal bracing bars, tree bands are to be secured to the posts with galvanised nails.

Underground anchoring systems are to be used for large compact rootballs or trees within hard landscape with tree grilles to BS 4043: 1989/ Recommendations for Transplanting Root-Balled Trees'. The type of anchoring system is to be agreed with the landscape architect. Biodegradable anchoring straps are to be used to ensure the straps do not grow into the trunk.

Note: There are benefits to using low level anchoring as field trials have demonstrated that the tree becomes independent in the ground quicker as a result of the wind rocking the tree that encourages root ground. However, this method is not recommended in exposed conditions or coastal locations due to a greater risk of the trunk breaking.

Ties and stakes are to be checked and adjusted every six months or after periods of strong wind and rain.

All topsoil is to conform to BS 3882:2007 'Multipurpose' or similar approved by an agronomist. The tree pit shall be backfilled with previously prepared topsoil excavated from the pit and additional topsoil as required. All backfilled material is to include an organic slow release fertilizer to ensure there is no adverse affect on soil organisms (Vltax Q4HN) or similar approved at a ratio of 10 -7.5 -10.2 + TE. The second application to be made 10-16 weeks after planting depending on soil type and weather conditions.

Tree pit root barriers are to be installed to all trees within 3m of any underground service routes or within 2.0m of kerb lines & hard surfaces & building foundations. Type of root barrier material is to be agreed with the landscape architect. The landscape contractor is to confirm locations of all services prior to implementation of trees. Prior to installation NJUG specification and requirements are to be referred too.

Guidance for Tree Pit Sizes within Soft Landscape Areas

Final tree pit size will vary dependent on size of rootball, tree stock and soil type.

Below are general guidance sizes only. The landscape contractor is to speak to the grower to obtain exact sizes prior to delivery. Landscape Architect to inspect tree pits prior to planting.

Tree pit size guidelines:

Tree size	Rootball Size	Tree pit size (length, width, depth)
14-16 cmg	50x50cm	80x80x65cm
18-20 cmg	60x60cm	80x80x75cm
20-25 cmg	70x60cm	90x90x75cm

Tree aftercare and pruning

When a tree is lifted/harvested it will lose a percentage of it's root system. As a result the roots are unable to supply the crown with the water demand being placed on the root system which can cause stress to the tree. As a result the tree will respond by reducing the amount of foliage, in some cases when the water storage is great the tree will shed wood from the crown. Watering the tree is important in the first two years after transplanting. In very hot conditions the canopy can dry out even when the rootball is moist simply because there is not enough root development yet. Therefore, the only solution is to reduce the canopy volume to reduce the stress.

All pruning is to be done by removing first and second wood only, all pruning works are to be carried out by appropriately trained landscape contractors.

It is recommended that hessian is placed around the tree stems after planting to prevent the overheating of the trunks.

The flow of water within the bark will normally prevent this, however, after planting less water is transplanted and as a result the trunk is at risk of sunburn. The setting sun will cause the most potential damage. Most of the damage will be visible on the western side of the tree. Trees with smooth bark are more vulnerable to sunburn than trees with rough bark.

Note: This is to only be done as a temporary measure as the tree is establishing, after which the hessian is to be removed.

Monitoring of the trees is to be carried out during the rectification period and as part of the long term management. The following points are to be considered and monitored;

- Watering, trees will require watering for the first two years after planting, after which they will generally look after themselves. The number of times will depend on location, weather conditions and growing season. Therefore, as the tree is a growing organism the required experience and knowledge will determine the number of times the tree is watered to ensure establishment. It is better to give the tree a lot of water once a week rather than water every day as this will encourage root development and prevent the tree becoming 'lazy'. Over watering will push oxygen away from the root system preventing root development.
- Soil condition, these can be carried out by a specialist to monitor the oxygen levels (that should ideally be 18-21%, 16-18% will be sufficient levels, 12-16% will be poor levels <5% shows acute root mortality). Soil moisture levels both within the rootball and surrounding ground to also be monitored
- Soil compaction, traffic over planted areas or areas to be planted are to be limited or ideally avoided completely. When soil compaction is higher than 2.5MPa root development will not be possible.
- Canopy, monitor leaf development, size, colour and the amount of foliage that is within the crown. Length of new growth and bud development and size of buds.

Proposed Ornamental Shrub / Perennial Planting

- To be planted in a minimum of 300mm depth approved topsoil to BS 3882: 2015 'Multipurpose' in the first available planting season after construction.
- All shrubs are to be planted as container stock unless otherwise specified (5 or 10 litre), all stock is to be well rooted into the container but not pot bound.
- All shrubs are to be planted with a slow release organic fertilizer (vltax or similar approved) and backfilled with a mixture of excavated top soil and compost (not peat based). A minimum of 50 mm approved ornamental grade bark mulch is to be applied to planting areas unless stated otherwise.

Proposed Hedge Planting

- To be planted in a minimum of 300mm depth approved topsoil to BS 3882: 2015 'Multipurpose' in the first available planting season after construction.
- All shrubs are to be planted as container stock unless otherwise specified (5litre), all stock is to be well rooted into the container. All hedge are to be planted in double staggered rows.
- All shrubs are to be planted with a slow release organic fertilizer (vltax or similar approved) and backfilled with a mixture of excavated top soil and compost (not peat based). A minimum of 50 mm approved ornamental grade bark mulch is to be applied to planting areas unless stated otherwise.

Planting Guidelines

- All planting and landscape operations should comply with the requirements specified in BS 3936-4:2007 'Nursery Stock' (Part One) and BS4428:1989 'Code of Practice for General Landscape Operations' (excluding hard surfaces).
- All topsoil and testing to conform to BS 3882: 2015 'Specification for Topsoil and Requirements for Use'.
- All topsoil used for planting to be tested by an approved Topsoil Analyst and any required amelioration or soil improvements to be carried out in line with Analyst's report.
- All fertilizers are to be applied or supervised by qualified staff to avoid the action of phytomeliosis.
- Nurseries to provide protocols for ensuring that plant stock is free of invasive species.
- No planting is to be carried out when the site is covered by frost.
- Irrigation of plant material to be carried out during periods of drought will be required to ensure successful establishment of all plant stock.
- All new planting to be protected from mammal grazing by individual guards or stock proof fencing.
- If planting is to be carried out outside the growing season, all bareroot / rootballed plant stock is to be substituted with containerised stock. Specification to be agreed with Landscape Architect prior to ordering and implementation.

Proposed amenity grass (GT1) All amenity grass areas to be Medallion turf as supplied by 'Rotawn' or similar and approved.

All turf to be laid on 150mm depth approved topsoil to BS 3882:2007 'Multipurpose'.

Nursery Stock and Selection

General Purpose Meadow Mixture (GT3)

EM1 is a simple meadow mixture suitable for a wide range of soil types. The wild flowers are robust and showy, and the grasses are fine and slow growing.

Maintenance Notes - Overview

- Detailed landscape maintenance and management plans for each development phase to be submitted to the LA for approval.
- Planting to be protected from mammal and human damage by stock proof fencing.
- All planted areas to be kept clear of weeds at all times throughout maintenance period.
- Planted areas to be forked through regularly to keep soil loose and aerated.
- All litter and debris to be removed from landscaped areas and carted off site.
- Plants pruned as instructed by the Landscape Architect to promote healthy growth and to remove dead and diseased wood.
- Watering as required to maintain healthy growth. Allow for 24 visits a year during defects period.

Additional Notes

- Final location and tree species selection will be subject to service report and foundation depths to be provided by engineers.
- Levels information for the areas of open space

Appendix C

Landscape Maintenance Areas of Public Open Space

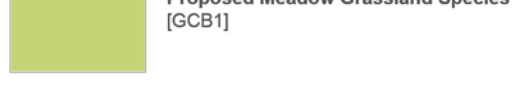
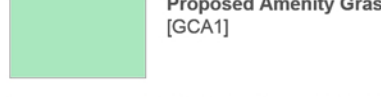
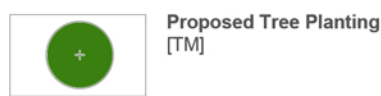


LEGEND

General Legend for all drawings



Soft Landscape



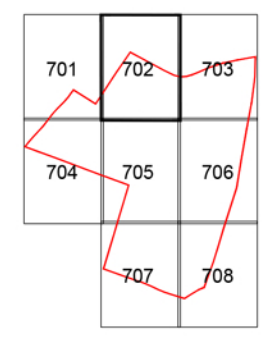
Refer to D2831 L.701

Refer to D2831 L.703

Refer to D2831 L.705

Revision	Date	Reason	Drawn	Checked
PL02	18.06.2021	Updated in line with latest layout. Issued for Design Information	af	sg
PL01	12.03.2021	Issued for Design Information	af	sg

- External References:
- D2831 Ford Lane, Yapton, West Sussex\Drawings\02_Architect\210603_Revise Layout\A656_01_PLANNING LAYOUT - Standard\A656_01_PLANNING LAYOUT - FAB Copy
 - D2831 Ford Lane, Yapton, West Sussex\Drawings\07_Landscape\Working\AutoCAD\Design\210603_01_plf legend
 - D2831 Ford Lane, Yapton, West Sussex\Drawings\07_Landscape\Working\AutoCAD\Design\210603_01_plf site
 - D2831 Ford Lane, Yapton, West Sussex\Drawings\07_Landscape\Working\AutoCAD\Design\210603_01_plf boundary treatment
 - D2831 Ford Lane, Yapton, West Sussex\Drawings\01_Client\210603_10_Revise Layout\Ford Lane Layout\B-04 Cellular Tanks



fabik
landscape architects

Project
Ford Lane, Yapton, West Sussex

Drawing Title
Maintenance and Management plan - Sheet 2 of 8

Proposed of Issue
DESIGN INFORMATION ONLY

Project Number
D2831

Origin
FAB

Zone
00

Level
GL

File Type
DR

Role
L

Number
0702

Revision
PL02

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Client
Redrow Homes Limited

Drawn By
af

Checked By
sg

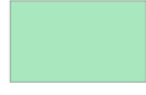
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Date of First Issue
March | 2021

Soft Landscape



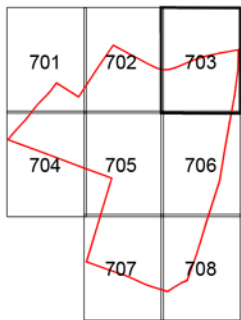
Existing Tree
[EXT]



Proposed Amenity Grass
[GCA1]



Proposed Meadow Grassland Species
[GCB1]



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Ford Lane, Yonten, West Sussex	Redr...

Drawing Title

Maintenance and Management plan - Sheet 3 of 8

ISSUED FOR PLANNING APPROVAL af

Project Number	Origin	Zone	Level	File Type
D20024	FAB	00	01	DB

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Home Limited

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Date of First Issue

@ A1 March | 2021

Revision
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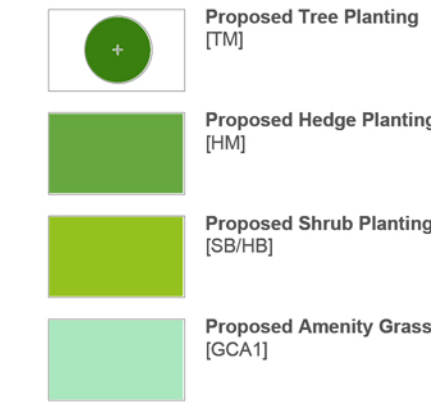


LEGEND

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Soft Landscape



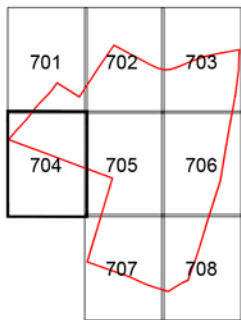
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PL02	18.06.2021	Updated in line with latest layout. Issued for Design Information	af	sg
PL01	12.03.2021	Issued for Design Information	af	sg

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• D2831 Ford Lane, Yapton, West Sussex\Drawings\01_Client\02-08-19 Revised Layout\Ford Lane Layout\B-04 Cellular Tanks

Location Plan



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Drawing Title: Maintenance and Management plan - Sheet 4 of 8

Purpose of Issue: DESIGN INFORMATION ONLY Drawn By: af Checked By: sg Date of First Issue: March | 2021

Project Number	Origin	Zone	Level	File Type	Role	Number	Revision
D2831	FAB	00	GL	DR	L	0704	PL02



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	Project Ford Lane, Yapton, West Sussex	Client Redrow Homes Limited	
Drawing Title Maintenance and Management plan - Sheet 5 of 8			
Purpose of Issue DESIGN INFORMATION ONLY	Drawn By af	Checked By sg	Drawn Scale 1:200 @ A1
Project Number D2831	Client GL	File Type DR	Date of First Issue Revision 0705 PL04

Refer to D2831 L.708

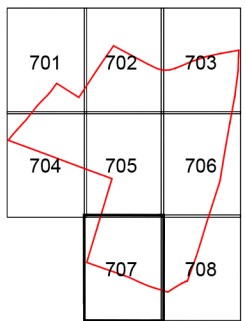
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03	12.07.2017	Updated in line with latest layout. LEAP and Alternation Basin relocated following client instruction. Issued for Design Information	mf	kls
	18.06.2017	Updated in line with latest layout. Issued for Design Information		
	12.03.2017	Issued for Design Information		
	Date	Reason	Drawn	Checked

External References:

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- D2351 Ford Lane, Yapton, West Sussex\Drawings\07 fabric\Working\AutoCAD Design\02591_urf boundary treatment
- D2351 Ford Lane, Yapton, West Sussex\Drawings\01 Client\20-08-10 Revised Layout\Ford Lane Layout\18-344 Cellular Tanks



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Project Ford Lane, Yapton, West Sussex			Client Redrow Homes Limited		
Drawing Title Maintenance and Management plan - Sheet 7 of 8					
DESIGN INFORMATION ONLY					
Prepared by daf		Checked By sg		Drawn Scale 1:200 @ A1	
Date of First Issue March 2021					
Project Number D2831	Origin FAB	Zone 00	Level GL	File Type DR	Role L
				Number 0707	Revision PL04

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 Site Boundary

Soft Landscape



Proposed Tree Planting
[TM]



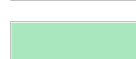
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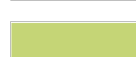
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Proposed Shrub Planting
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Proposed Amenity Grass
[GCA1]



Proposed Meadow Grassland Species
[GCR1]



Proposed Seasonal Bulb Planting

Refer to D2831 L.707

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PL03	12.07.2021	Updated in line with latest layout. LEAP and Attenuation Basin relocated follow client instruction. Issued for Design information	mf	kk
PL02	18.06.2021	Updated in line with latest layout. Issued for Design information	mf	sg
PL01	12.03.2021	Issued for Design information	mf	sg
Revision	Date	Reason	Drawn	Checked

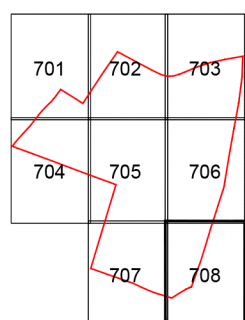
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- D2931 Ford Lane, Yapton, West Sussex\Drawings\01 Client\20-08-10 Revised Layout\Ford Lane Layout18-344 Cellular Tanks

Location Plan



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Maintenance and Managment plan - Sheet 8 of 8

Purpose of Issue

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of		1:200 @ A1	March 1999

Project Number	Origin	Zone	Level	File Type	Role	Number	Revision
D2831	FAB	00	GL	DR	L	0708	PL04

Appendix D

RoSPA Information Sheet Number 24

Information Sheet Number 24

Routine Inspection of Play Areas

Introduction

The regular check of the children's playground is intended to be quick and simple. Its primary function is to identify faults or dangers arising from vandalism or breakage.

Such inspections can be carried out by staff other than specialists whose duties may take them to the playground from time to time. It may be economic to tie it to a contract cleansing company, for example. Training is available from RoSPA.

Training can be linked to the annual inspections. Annual inspections should be carried out by an independent, suitably qualified specialist.

Site and ancillary items

- ☐ Are signs present and legible?
- ☐ Are road barriers present and in good condition?
- ☐ Are fences complete and secure?
- ☐ Are the gates in working order?
- ☐ Are pathways undamaged and unobstructed?
- ☐ Is the site free of litter or any dangerous object?

- ☐ Are the seats secure and undamaged?
- ☐ Are the litter bins secure and undamaged?
- ☐ Have they been emptied?
- ☐ Has the planting been damaged?

Surfacing

- ☐ Is all safety surfacing undamaged?
- ☐ Are loose-fill surfaces at the right level?

Equipment

All items

- ☐ Are all supports present?
- ☐ Is all timber work undamaged?
- ☐ Are all safety barriers present?

Swings

- ☐ Are the swing chains unbroken?
- ☐ Are the seats fixed on securely and undamaged?

Appendix E

Ecology Mitigation Strategy – Prepared by RPS

ECOLOGY MITIGATION AND ENHANCEMENT STRATEGY

Ford Lane, Yapton, West Sussex

ECO00395_872
Ford Lane, Yapton
2
04 December 2020

rpsgroup.com

REPORT

Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
1	Planning	Georgia Kelly/ Rosie Nicoll	Nicholas Betson		
2	Planning	Georgia Kelly/ Rosie Nicoll	Nicholas Betson	Nicholas Betson	04/12/20

Approval for issue

N. Betson

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1 INTRODUCTION

1.1 Purpose and scope of this report

- 1.1.1 RPS was commissioned by Redrow Homes to prepare an Ecology Mitigation and Enhancement Strategy (EMES) for the residential development at Ford Lane, Yapton, West Sussex.
- 1.1.2 The report has been prepared in relation to Condition 17 of outline planning permission granted at appeal (APP/C3810/W/17/3170059), which states that:

The development hereby permitted shall be carried out in accordance with the recommendations set out in the Extended Phase 1 Habitat Survey prepared by Corylus Ecology and submitted with the planning application. This shall include updates to the existing Phase 1 Habitat Survey and any necessary protected species surveys undertaken no less than 12 months prior to the commencement of development and measures to avoid or mitigate ecological impacts and provide ecological enhancements. Details shall be submitted to the LPA and approved in writing prior to the commencement of development.

- 1.1.3 The report specifically sets out updated survey work undertaken during 2020 and the mitigation measures that will be employed to avoid construction-phase impacts on retained habitats and species and safeguard the biodiversity interests.
- 1.1.4 The report also details the ecological enhancements that will be provided as part of the development.

1.2 Site Description

- 1.2.1 The development is approximately 6.71 ha in size situated immediately east of Ford Lane, to the north-east of the village of Yapton, West Sussex.
- 1.2.2 The site comprises a semi-improved field in the majority, along with ruderal vegetation field margins, scattered trees and species-poor hedgerows. The immediate surrounds to the north, east and west are rural, comprising further expanses of arable fields, whilst the main town of Yapton lies to the south.

1.3 Background

- 1.3.1 The site was subject to a Preliminary Ecological Appraisal (PEA) by Corylus Ecology in 2013 to inform the outline planning permission (Corylus Ecology 2013). This included a Phase 1 Habitat Survey and protected species scoping survey. No habitat that could support protected species was identified on site and, as such, no further work was undertaken.
- 1.3.2 RPS was commissioned by Redrow Homes to update the PEA in October 2020.

2 ECOLOGY RECEPTORS

- 2.1.1 The Ecological Appraisal was undertaken on the 18th October 2020, by a suitably qualified ecologist, Jay Allen ACIEEM, to ensure that the work undertaken to inform the outline permission (Corylus Ecology 2013) was still relevant with respect to the recommendations made in the report, as required by Condition 17.
- 2.1.2 The key features within the site were broadly similar to those found in 2013 and comprised:
- Arable land across much of the site;
 - Areas of semi-improved grassland around the boundaries; and
 - Hedgerows and scattered mature trees.
- 2.1.3 The arable land had been left fallow across the site since the previous crop had been harvested. A range of various grass and herb species had started to colonise.

2.2 Nesting Birds

- 2.2.1 The scattered trees and species-poor hedgerows on site offer suitable nesting opportunities for a range of common bird species.

2.3 Reptiles

- 2.3.1 The small areas of semi-improved grassland offered some suitable habitat for common species of reptiles but were considered too small and disconnected from surrounding habitat to be of significant benefit. The arable land was not currently suitable for reptiles, being too short/patchy in its development. However, given time, it may become suitable.

2.4 Bats

- 2.4.1 All of the trees on site were assessed for their suitability to support roosting bats, with several along the eastern boundary found to be of low roosting suitability. However, these are to be retained within the development of the site, and so no further work is considered necessary.

3 PROTECTION AND MITIGATION MEASURES

3.1 Habitat Protection

- 3.1.1 Best practice general environmental protection measures will be employed throughout construction to minimise potential risks and to react to any incidents that could result in environmental damage.
- 3.1.2 Retained habitat at the boundaries of the site will also be subject to protection through the installation and maintenance of fencing to prevent indirect damage or disturbance.
- 3.1.3 The layout has been designed to protect retained individual trees and their root systems. All site materials will be stored outside of the Root Protection Areas of all retained trees/ hedgerows. No construction activities related to the development will be carried out within Root Protection Areas (RPAs).

3.2 Lighting

- 3.2.1 In order to protect the context of the boundary hedgerows and trees, the lighting scheme for the final development will adopt the following parameters set out in the guidelines published by the Institute of Lighting Engineers (ILP, 2018).
- 3.2.2 Lighting will be installed where it is strictly needed for safety, and as low as guidelines permit.
- 3.2.3 The design will avoid the backlighting of boundary habitats and upward light spill through appropriate lighting specifications, the positioning of columns and angling of lighting units. Where possible LED lamps in the warm white spectrum (2700K to 3000K) will be used.
- 3.2.4 If essential lighting is needed near trees for safety, the lighting units will be positioned to avoid light spill on the tree and ensure that the trunks remain completely unlit.
- 3.2.5 The establishment of dark corridors on the boundaries of the completed residential development will maintain their ecological integrity as wildlife corridors and avoid any decline in their value for faunal species including foraging bats and nesting birds.

3.3 Nesting Birds

- 3.3.1 All active bird nests will be protected during site clearance and construction activities. Protective fencing will be installed between the boundary hedgerows and the construction areas to protect any nests from damage.
- 3.3.2 During the main bird nesting season (March 1st to August 31st inclusive) clearance of any boundary vegetation with the potential to support nesting birds (including long grass and tall herb) will be subject to pre-clearance nesting bird checks by an ECoW no more than 48hrs prior to removal.
- 3.3.3 Nests and the activity of adults indicating the presence of a nest would be searched for in the area of clearance. Where the vegetation is too dense to confirm the absence of a nest, the ECoW will direct the site staff to carefully cut back the vegetation in stages to enable a comprehensive inspection.
- 3.3.4 Where checks by the ECoW have confirmed the absence of nests, the vegetation would be cut down to ground level within 24 hours. Should an active nest be encountered, the nest must be left undisturbed. The ECoW will define an exclusion zone around active nests, using line marker paint and / or barrier tape. No works will be permitted within the exclusion zone until the ECoW confirms the nest is no longer in use.

3.4 Reptiles

3.4.1 Vegetation clearance would be undertaken at a time of the year when amphibians are active (i.e. between March to October, depending on local weather conditions) and during suitable weather conditions for them to be mobile (i.e. reasonably warm with no rain). It should follow the following methodology:

1. Vegetation would be hand trimmed under the supervision of an ecological clerk of works (ECoW) to an initial height of approximately 15 cm. It would be trimmed directionally, towards retained habitat (i.e. site boundaries hedgerows, and the retained area to the east) to encourage any reptiles present to move out of the way of the cut, towards retained habitat. A second cut to ground-level would be taken at least 24 hours later to provide time for animals to move away from the works area.
2. Following trimming, a destructive search of all suitable reptile habitat would take place. This would comprise the careful excavation of features using a wide-toothed digger bucket that would gently lift the features under the guidance of an appropriately experienced ECoW, who would be present to capture any reptiles disturbed by the process and relocate them to suitable retained habitat around the boundaries of the site.
3. Two hibernacula would be built within retained areas of grassland associated with hedgerows and open space area on site, to provide hibernation opportunities for reptiles (and amphibians). The hibernacula would comprise a stacked pile of variable-diameter woody material, approximately 4 m in length, with loose topsoil and turf on top.

4 ECOLOGICAL ENHANCEMENT

4.1 Habitats

- 4.1.1 The development will include a range of habitats of wildlife value, including boundary hedgerows, gardens, trees and landscaped grassland.
- 4.1.2 The landscaping scheme will use native tree and hedgerow species. Night-scented flowering plants will be included to encourage foraging bats to use the site, post-development.
- 4.1.3 Although outside the control of Redrow Homes, once the properties are occupied, the residents will develop a range of garden types. Flowering plants will benefit invertebrate diversity and abundance and provide enhancement compared to the existing site. The popularity of wildlife friendly gardening should increase the proportion of new residents that incorporate features of value for wildlife.

Management

- 4.1.4 Hedgerows will be subject to cutting back annually or bi-annually in October to maintain a dense structure to the base. The hedgerows will be cut with a bladed tractor mounted cutter (or equivalent) and will not be flailed.
- 4.1.5 Any tree, scrub and hedgerow management carried out during the bird breeding season (March to August inclusive) will be subject to pre-works inspections by a suitably qualified ecologist and any active nests protected.
- 4.1.6 The retained mature trees have high biodiversity value in the context of the site, typically supporting a diverse assemblage of species. The trees will be allowed to continue to mature. Deadwood features will be retained where there are no significant for the health and safety issues. Crown reduction or thinning would be a last resort measure where there are no other options to avoid unnecessarily impacts on species and biodiversity. The status and health of the mature trees will be subject to periodic review. Should surgery become unavoidable due to tree health or stability; the tree would be subject to pre-works bat/nesting bird survey by a suitably qualified ecologist. Appropriate actions would be taken to ensure compliance of the proposed with wildlife legislation and all surgery would be completed in accordance with BS:3998.

4.2 Bat and Bird Boxes

Bats

- 4.2.1 In total, ten bat boxes suitable for use as nursery or summer roosts by small crevice dwelling bat species will be incorporated into selected residential properties. The indicative positions of the bat boxes on new buildings are shown on Figure 2. The tubes will be installed where there are short flight line connections to suitable habitat.
- 4.2.2 Schwegler 1FR bat boxes, or an equivalent alternative design, providing the same internal conditions would be used. Each bat box will be installed flush with the wall or beneath a rendered surface at over 3m above ground level and in a location that will be unlit from artificial lighting.

Birds

- 4.2.3 Four bird boxes will be installed on residential properties throughout the development. The boxes will be a combination of Schwegler 1A, 1SP, 9a or equivalent suitable for small garden birds such as sparrows, swifts or house martins.

-
- 4.2.4 The indicative positions are shown on Figure 2. The boxes will be installed onto the wall or built into the brickwork directly underneath the roofline or eaves on the north or west facing elevations with good connectivity to surrounding habitat.
 - 4.2.5 In addition, two Schwegler 1B bird boxes will be installed on trees close to the development boundaries. The boxes will be placed on at least 3m above ground level on the eastern or western side of the trunk.
 - 4.2.6 In addition to the above, the landscape scheme has been designed in such a manner that there will be significantly more 'natural' bird nesting opportunities post development. This includes scrub planting along the southern boundary and hedgerow infilling and strengthening around the site.

4.3 Hedgehogs

- 4.3.1 The residential gardens will be potential habitat for hedgehogs, a species of principal importance with a rapidly declining UK population.
- 4.3.2 To ensure the majority of new residential gardens are accessible to hedgehogs, small 100x100 mm gaps will be created in the base of solid fence lines dividing gardens.
- 4.3.3 The indicative positions of the hedgehog access gaps are shown in Figure 2 with the lines on the plan defining the gardens that will be connected via these gaps. Gardens bounded by hedgerows would remain accessible to hedgehogs.
- 4.3.4 Adult hedgehogs typically require large home ranges and the proposed access gaps in the fences will ensure that individual hedgehogs can move throughout the site, significantly increasing the availability of food and shelter in the occupied residential development.
- 4.3.5 Two hibernacula would be built within retained areas of grassland associated with hedgerows and open space area on site, to provide hibernation opportunities for hedgehogs.

5 IMPLEMENTATION

- 5.1.1 Redrow Homes will be responsible for the delivery and implementation of the mitigation and enhancement measures specified in this report.
- 5.1.2 Redrow Homes will instruct an ECoW to support with the implementation of measures requiring specialist supervision as defined in the EMES.
- 5.1.3 The site contractor team will document and photograph the implementation of the mitigation and enhancement measures in a simple log maintained during the construction of the site supported by photographs. The ecological clerk of works will provide Redrow Homes with details of all works undertaken under their supervision.

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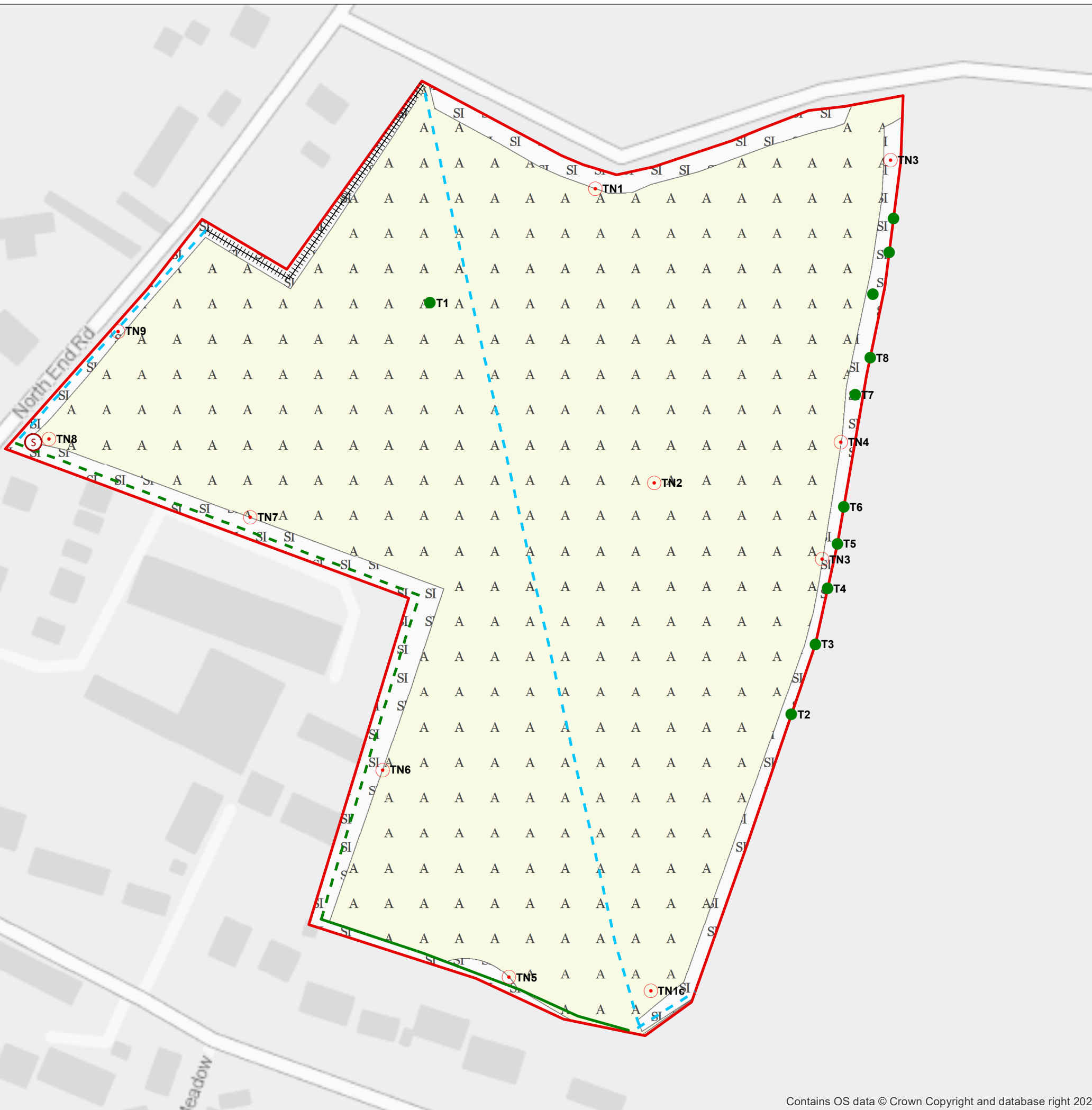
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- Application boundary
- Arable
- Poor semi-improved grassland
- Defunct hedge - species-poor
- Dry ditch
- Fence
- Intact hedge - species-poor
- Spoil heap (1)
- Scattered tree - broadleaved (11)
- Target note (11)

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Rev	Description	By	CB	Date



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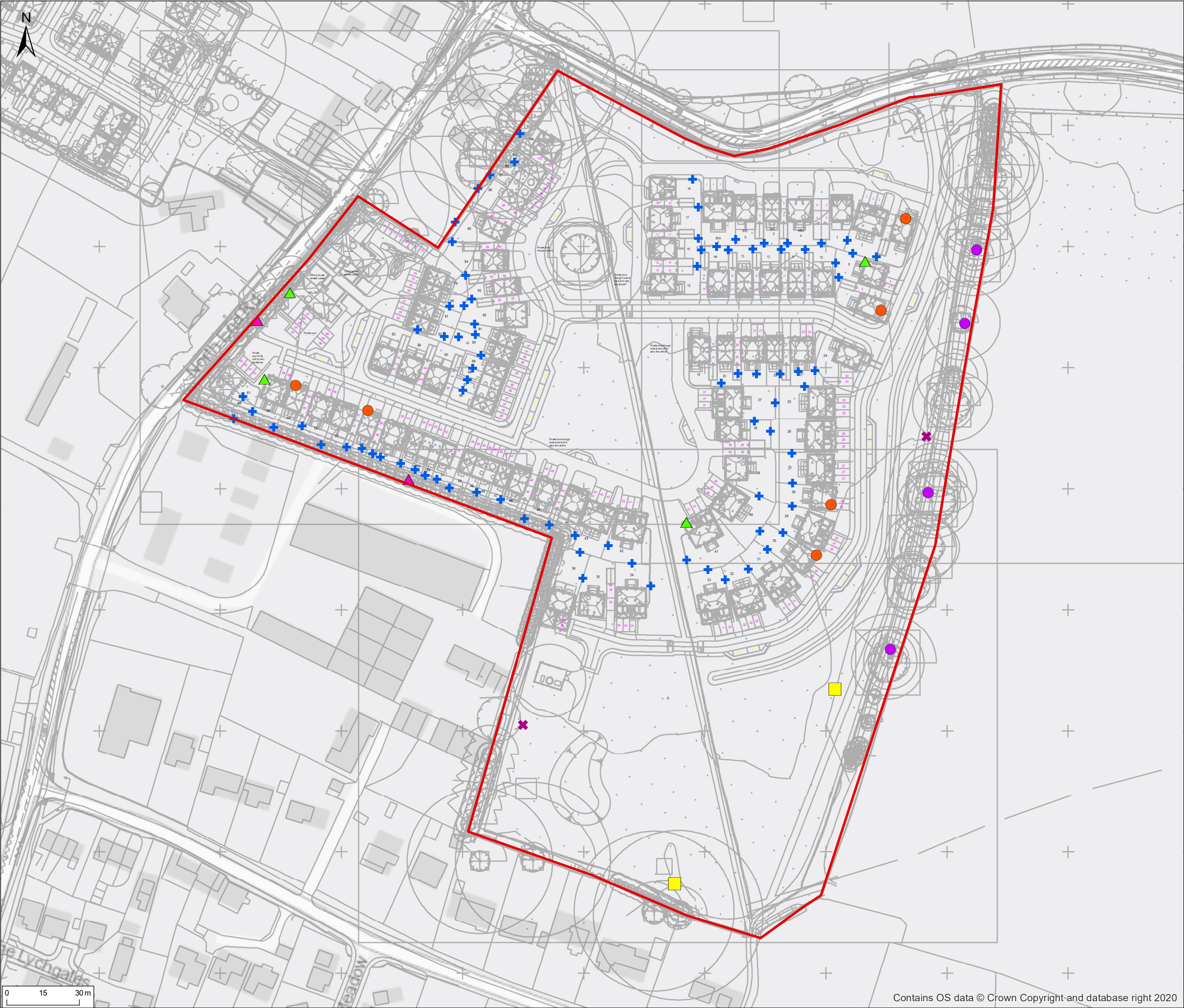
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Client **Redrow**

Project **Ford Lane, Yapton**

Title **Phase 1 habitat map**

Status Draft	Drawn By RN	PM/Checked By NB
Project Number ECO00395	Scale @ A3 1:1,500	Date Created 26/10/20
Figure Number 1	Rev -	
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Notes

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2. If received electronically it is the recipients responsibility to print to correct scale. Only written dimensions should be used.

- Application boundary
- Small tree-mounted bird box (Schwegler 1B-2No.)
- Wall-mounted bird nest box (Schwegler 1A,1SP, 9a or equivalent - 4No.)
- Tree-mounted bat box
- Wall-mounted bat box (4.2.2Schwegler 1FR bat boxes, or an equivalent)
- Approximate location for reptile hibernacula
- Approximate location for hedgehog gravel boards, type/design to be agreed with RPS ecologist
- Approximate location for hedgehog hibernacula

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Client Redrow

Project Ford Lane, Yapton

Title Habitat Enhancement Plan

Status	Drawn By	PM/Checked By
Draft	RN	NB
Project Number	Scale @ A3	Date Created
ECO00395	1:1,500	04/12/20
Figure Number		Rev
2		-

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