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Landscape Management Plan

Llanwern 4E & 4G

St Modwen Homes

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LANDSCAPE MANAGEMENT PLAN TO BE READ IN CONJUNCTION WITH:

APPENDIX A: DRAWINGS (see drawings list in table below and any revisions thereafter)

APPENDIX B: SCHEDULE OF IMPLEMENTATION

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1 INTRODUCTION

1.1 Background and Context

1.1.1 This report presents a Management Plan for the communal areas associated with the Llanwern 4E & 4G development. The communal areas of open space are to be managed for the purpose of low-key recreational use, to provide an attractive setting to the new properties.

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

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

1.2 Works Programme

1.2.1 The provisions within the establishment maintenance specification should be adopted by the landscape contractor for all planting areas from time of planting until the agreed handover to ensure successful establishment.

1.2.2 Planting areas within private ownership are to be handed over to the proprietors in accordance with the contractual agreements for the completion of any rectification period. Depending on the time frame for the handover of the front garden planting, there may be a need to adopt the ongoing maintenance regime set out in this plan.

- 1.2.3 It may be likely that the completion and handover of the landscape works by the contractor will be phased. This management plan covers both pre and post-handover periods for continuity.
- 1.2.4 All public areas, including hard landscape, furniture and features are to be maintained in accordance with this management plan for a minimum five-year period.
- 1.2.5 It should be noted that the proposed annual timing of operations in the following Works Programme are flexible and it is anticipated that the exact programme of works will be influenced by seasonal weather conditions and factors such as variability in growth rates.

1.3 Legal Constraints

- 1.3.1 Any inhabitation by statutorily protected species will need to be given due consideration with respect to management operations in the affected areas.
- 1.3.2 In the management schedules set out below, the timing of operations (by season or month) is given, either in terms of achieving optimum results or minimising potential disturbance to wildlife. In general terms, pruning or other works to established hedgerows, shrubs and trees, which may contain breeding birds, should avoid the bird breeding season. In most years this is typically but not exclusively from the end of February to August as the nesting period may start before and extend beyond these dates.
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2 MANAGEMENT AIMS AND OBJECTIVES

2.1 General Aims and Objectives

2.1.1 The provision of a well-structured landscape, within a formal yet diverse vegetative framework, will ensure that the visual appeal, the biodiversity potential and functional purpose of the linked areas of open space are fulfilled in the foreseeable future.

2.1.2 The primary landscape objective for the site is to create and maintain a landscape framework to help emphasise the site's characteristics, whilst integrating the development within the wider community.

2.1.3 The main aim of the management plan is to set mechanisms in place which ensure that the open spaces are well managed in perpetuity both for the benefit of the new residents and the existing surrounding residents so that they do not become degraded. This report aims to:

- define the management aims, objectives and maintenance practises for the different areas of public open space and public realm landscape, in the short and longer term
- ensure that these practises can be efficiently carried out and that they are environmentally sustainable
- provide a readily understandable manual for those involved in the management of the site
- set out an integrated yet flexible approach to the management of the site and to provide written documentation of the project, with scope for updating and adapting operations if necessary.

2.1.4 The principle aims for managing the landscaped areas are as follows:

- to introduce strong management policies which will enhance the visual appeal of the site and the landscape setting of the development

- to maximise the ecological potential of the existing and new habitats associated with the development
 - to ensure that the long-term health and vigour of the new planting is optimised in the future.
 - to encourage appropriate recreational use of the site by local residents, whilst strongly discouraging inappropriate and indiscriminate use of the site by, for example, fly tipping.
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3 MANAGEMENT PLAN FOR NEW PLANTING

3.1 Operation 1: New Trees

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

Establishment Maintenance of New Trees

- 3.1.2 Establishment maintenance of newly planted trees will be required for the first three years after planting to ensure rapid early growth. Visits shall be undertaken at least monthly between April and September in the first year, with two visits during the dormant season. In the second and third years the frequency of visits can be reduced to bi-monthly. Maintenance visits are required to ensure that the following maintenance requirements are satisfactorily undertaken:
- Watering as required to ensure healthy growth, particularly in the trees first two years after planting. All trees to be visited weekly in periods of dry weather and sufficient water to be applied to eliminate drought related stress.
 - All trees to be treated with an annual application of an approved slow-release fertiliser used as a top dressing at the manufacturer's recommended rates in April of Years 1 and 3. Slow release fertiliser to be applied no further from the tree than the first metre and to be placed under mulch and covered to ensure a hazard is not presented on the ground surface. Chemicals are not to be used within 3 metres of, or within areas that drain directly into, attenuation basins, swales and watercourses to avoid nutrient pollution.
 - Trees that have become loosened, are leaning or have lifted out of the ground to be set upright and re-firmed by treading. Tree supports (including underground guys) to be regularly checked, adjusted, repaired and replaced as necessary and irrigation tubes to be kept free of blockages.

- Tree stake ties to be adjusted (loosened or tightened) regularly to avoid asphyxiation of the tree trunk and to ensure rubbing does not occur owing to wind rock.
- Weed control is required to keep all planting areas free of grass and weed growth. This weed control must be by hand in Year 1, with chemical control as appropriate and in line with current regulations, permitted only in 1.0m squares around clear-stemmed trees in Years 2 and 3. Chemical weed controls are not to be used within 3 metres of, or within areas that drain directly into, attenuation basins, swales and watercourses to avoid nutrient pollution.
- Trees to be kept free of pests and diseases; regular monitoring to be undertaken.
- General pruning to be carried out to remove straggling stems, over-vigorous shoots, suckers and dead, misshapen, broken or otherwise unhealthy branches. The overall form of the tree is to remain balanced following pruning work.
- Planting areas to be kept free of litter and leaf fall and grass edges to be kept regularly trimmed and tidy.
- Where mulch is used as a top dressing, this to be regularly topped up to 100mm, to ensure a minimum depth of 75mm. Mulch to be kept clear off adjacent grass, paved areas etc. Mulch used shall be a coarse composted bark. Application shall be even across the extent of the planting area and there should be no mounding of bark mulch around the base of the tree (known as volcano mulching).
- General autumn tidy.
- All arisings to be removed from site and the site to be left clean and tidy at all times.

3.1.3

An inspection is to be made in August each year. Any losses of planted trees, whether by natural means or vandalism and any other plants that have failed to thrive are to be replaced in the planting season following the loss. Replacement trees are to be of the same specification and size as the original plants and of the best quality obtainable.

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

Longer Term Management of New Trees

- 3.1.5 Regular maintenance visits should be made at quarterly intervals each year. It will be necessary to undertake general inspection for pests and disease, 'tidying' e.g. pruning of any poor or damaged branches, removal and replacement of dead trees, litter and leaf fall clearance, topping up, raking and sweeping of mulch to provide a tidy appearance etc., as described above for the Establishment Period. All arisings to be removed from site and the site to be left clean and tidy at all times.
- 3.1.6 An inspection to be made in August up to and including Year 5. Any losses of planted trees, whether by natural means, wear and tear or vandalism and any other trees that have failed to thrive, to be noted and the trees replaced in the planting season following the loss. Replacement trees to be of the same specification, location and size as the original trees, unless the LPA gives its written consent to any variation.
- 3.1.7 Tree guards, grilles and any other supports to be checked and when necessary adjusted, repaired, removed or replaced, to ensure healthy unrestricted growth. If a tree support is no longer required as the tree is supporting itself, remove the tree support entirely. The tree support is generally removed around year 3, however this judgement shall depend on how well the tree has established before tree support removal is considered. Tree guards / grilles of street trees are likely to require removal in the long term as the tree base / trunk expands.
- 3.1.8 Following completion of the Establishment Period, the need for both watering and weed control is likely to be reduced but must still be undertaken as necessary to ensure healthy growth and maintain the mulched tree beds in a weed free condition. At this stage it will be possible to use an approved residual soil acting herbicide, to minimise the need for physical removal of weeds. Tree surroundings to be maintained in a weed free state, with trimmed edges and mulch material to be kept topped up to a depth of 75mm. In dry summers trees will require watering using the irrigation system to ensure healthy growth. Chemical weed controls are not to be

used within 3 metres of, or within areas that drain directly into, attenuation basins, swales and watercourses to avoid nutrient pollution.

- 3.1.9 Regular monitoring for pests and diseases will also be needed on an on-going basis and any necessary control measures undertaken as soon as possible.
- 3.1.10 General, corrective pruning to trees to remove die back, straggling stems, over-vigorous shoots, suckers, epicormic growth and dead, misshapen, discoloured, thin, weak, over-crowded, old, broken or dangerous branches from trees by pruning back with a clean cut to the main stem, or to a sound and healthy outward growing lateral. Any removal of dead, diseased or ill formed trees is also to be undertaken at this time and any required replacements undertaken.
- 3.1.11 Trees to be subject to formative pruning, crown thinning and crown raising / reduction, on an annual basis in the autumn, and at other additional times as necessary, to improve the shape of the crowns and to remove any die back and weak or dangerous branches. The trees that are planted in single species rows and formal groups should be pruned as necessary to form a uniform and balanced arboricultural feature.

3.2 Operation 2: New Native Hedgerow

Objectives: Promote early growth of new hedge plants to create well-structured and healthy, dense hedges of value to local wildlife.

Initial Establishment Maintenance of New Native Hedgerow

- 3.2.1 Establishment Maintenance of new hedgerow planting will be required for the first three years after adoption to ensure rapid early growth. Monthly visits to be undertaken between April and September, with two visits during the dormant season, to ensure that the following maintenance requirements are satisfactorily undertaken:
- Watering as required to ensure healthy growth, particularly in Years 1, 2 and 3. All planting to be visited weekly in periods of dry weather and sufficient water to be applied to eliminate drought related stress.

- Hedge plants to be treated with an annual application of an approved slow-release fertiliser, at the manufacturer's recommended rates in April of Years 1, 2 and 3. Chemical weed controls are not to be used within 3 metres of, or within areas that drain directly into, attenuation basins, swales and watercourses to avoid nutrient pollution.
- Plants, which have become loosened, lifted up or out of the ground to be set upright and re-firmed by treading.
- The need for weed control will be minimised through the use of mulch in planting areas. The mulch is to be regularly topped up to 75mm, ensuring that the lower branches and foliage of plants are not smothered. Mulch to be kept clear of adjacent grass, paved areas etc. This will generally suppress weeds but there may be some localised ingress of weeds. Any additional weed control required to keep the hedge trench free of grass and weed growth must be by hand.
- Plants to be kept free of pests and diseases, regular monitoring to be undertaken.
- General pruning to be carried out to trim laterals, remove straggling stems, over-vigorous shoots, suckers and dead, misshapen, broken or otherwise unhealthy branches. Leading shoots to be left untrimmed during the Establishment Period.
- Planting areas to be kept free of litter and leaf fall.
- General autumn tidy.
- All arisings to be removed from site and the site to be left clean and tidy at all times.

3.2.2 An inspection to be made in August each year. Any losses of hedge plants, whether by natural means or vandalism and any other plants that have failed to thrive, to be replaced in the planting season following the loss. Replacement plants to be of the same specification and size as the original plants.

3.2.3 It may be necessary to reinforce the integrity of the new hedgerows by installing a framework of posts and wire, to be kept intact and in good repair during the Establishment Period.

Longer term Management of New Native Hedgerow

- 3.2.4 Following completion of the Establishment Period, the need for both watering and weed control is likely to be reduced.
- 3.2.5 As a minimum, maintenance visits should be made in spring and late autumn between (April and October) with a visit during the dormant season each year.
- 3.2.6 Planting, laying and cutting will be carried out between October and March. Hard pruning may be required if the planting is likely to cause an impediment in the following growing season to adjacent to paths, roads or other features if left. Where possible to ensure that birds are not nesting and ideally in January and February to ensure that the fruiting berries are not lost. If a hedge must be trimmed during the fruiting season it is essential to only cut one side so that plenty of food remains. A healthy hedge can normally recover well from severe cutting, but repeated cutting at the same height can gradually cause whole hedges to die off. One major problem associated with mechanised hedge cutting is the decline in the number of saplings left in hedges to grow into mature trees.
- 3.2.7 Mature hedgerows will need cutting to prevent the native hedge becoming 'leggy' and to encourage dense growth. Cutting on a three-year cycle (one side, top, other side) will allow time for flowering and fruiting shrubs to develop throughout the length of the hedge and is the most beneficial for wildlife.
- 3.2.8 Gaps will either be planted with new plants, which are an opportunity to increase the botanical diversity of the hedge, add trees to the hedge line or be left to regenerate naturally if possible. Any new planting will need to be protected from stock, rabbits and deer for approximately 3-4 years. Initially the surrounding hedge may need cutting back to ensure the new plants receive sufficient light. Regular trimming in the early years of a hedgerow's life will help make it dense
- 3.2.9 An inspection to be made in August each year. Any losses of planted plants, whether by natural means, wear and tear or vandalism and any other plants that have failed to thrive, will be replaced in the planting season following the loss. This to include any plants that are relatively short lived, and which will require routine replacement

during the period of the management plan. Replacement plants to be of the same specification and size as the original plants.

- 3.2.10 Recommended cutting machinery for hedging operations will be by use of a handheld mechanical hedge trimmer or a tractor-mounted flail/cutting bar/circular saw attachment for bigger material. All cut faces should be left neat and clean with no jagged ends or tears.
- 3.2.11 Intermittent laying will be used as a renovation and wildlife-friendly management technique. As hedges grow and they gradually become more tree-like; gaps tend to appear lower down and the stems cease to provide an effective barrier. At this point, the hedge should be allowed to grow sufficiently tall (3-5m high) so that it can be laid, both to fill in the gaps and to ensure the long-term viability of the hedge by promoting vigorous regrowth from the base. Laying involves partially cutting stems, so that they will bend without breaking, at ground level and laying them at an angle of between 35 degrees to the ground and horizontal. These cut stems, known as pleachers, will be laid parallel to each other and tucked tightly together, protecting the new growth from livestock grazing. Vertical stakes and binders will be used to strengthen and thicken the hedge, depending on regional variation. The aim should be to manage the hedgerow through cutting so that it is not necessary to lay more often than at least every 20 years.
- 3.2.12 Hedge margins are an important habitat for all wildlife and a buffer zone of at least 1m will be maintained on both sides being cut no more frequently than every three years.
- 3.2.13 Regular monitoring for pests and diseases will be undertaken on an ongoing basis and any necessary control measures will be undertaken as soon as possible. It will be necessary to undertake general 'tidying' e.g. removal of litter, as described above for the Establishment Period. All arisings to be removed from site.

3.3 Operation 3: New Formal Hedges

Objectives: Promote early growth of new formal hedge plants to create well-structured and healthy, dense hedges.

Initial Establishment Maintenance of New Formal Hedges

3.3.1

Establishment maintenance of new formal hedge planting will be required for the first three years after planting to ensure rapid early growth. Visits shall be undertaken at least monthly between April and September in the first year, with two visits during the dormant season. In the second and third years the frequency of visits can be reduced to bi-monthly. Maintenance visits are required to ensure that the following maintenance requirements are satisfactorily undertaken:

- Watering as required to ensure healthy growth, particularly in Year 1 and 2. All planting areas to be visited weekly in periods of dry weather and sufficient water to be applied to eliminate drought related stress.
- Formal hedges in front gardens shall be maintained in accordance with the preceding clauses, with special care to keep hedges clear of invasive ruderal species. Pruning, clipping, and training of hedges shall be carried out in September each year, to avoid disturbance to birds in the breeding season. The aim is to produce a dense hedge of maximum height of 1.2m with a width of 0.8m. To this end leading stems and other top growth to be allowed to grow for 3 - 4 years, laterals should be trimmed back annually to rectangular shape, to encourage dense bushy growth. For low hedging species, e.g. Buxus, the aim is to produce a hedge of a maximum height approximately 0.8m. Once new sections of hedge have reached the desired dimensions, they shall be managed according to the longer-term management prescriptions as set out below.
- Hedge plants to be treated with an annual application of an approved slow-release fertiliser used as a top dressing at the manufacturer's recommended rates in April of Years 1 and 3.
- Plants which have become loosened, lifted up or out of the ground to be set upright and re-firmed by treading.
- The need for weed control will be minimised through the use of mulch in planting areas. The mulch is to be regularly topped up to 75mm, ensuring that the lower branches and foliage of plants are not smothered. Mulch to be kept clear of adjacent grass, paved areas etc. This will generally suppress weeds but there may

be some localised ingress of weeds. Any additional weed control required to keep the hedge trench free of grass and weed growth must be by hand.

- Plants to be kept free of pests and diseases, regular monitoring to be undertaken.
- General pruning to be carried out to trim laterals, remove straggling stems, over-vigorous shoots, suckers and dead, misshapen, broken or otherwise unhealthy branches. Leading shoots to be left untrimmed during the Establishment Period.
- Planting areas to be kept free of litter.
- All arisings to be removed from site and the site to be left clean and tidy at all times.

3.3.2 An inspection to be made in August each year. Any losses of hedge plants, whether by natural means or vandalism and any other plants that have failed to thrive, to be replaced in the planting season following the loss. Replacement plants to be of the same specification and size as the original plants.

3.3.3 It may be necessary to reinforce the integrity of the new formal hedges by installing a framework of posts and wire, to be kept intact and in good repair during the Establishment Period.

Longer term Management of New Formal Hedges

3.3.4 Regular maintenance visits should be made at a minimum of monthly intervals between April and September with two visits during the dormant season each year. It will be necessary to undertake general 'tidying' e.g. removal of litter, as described above for the Establishment Period. All arisings to be removed from site.

3.3.5 Formal hedges will need cutting to prevent the vegetation becoming 'leggy' and to encourage growth. Cutting on a three-year cycle (one side, top, other side) will allow time for flowering and fruiting shrubs to develop throughout the length of the hedge and is the most beneficial for wildlife.

3.3.6 Formal hedges in front gardens are to receive formative pruning to remove straggling stems, over-vigorous shoots, suckers and dead, misshapen, discoloured, thin, weak, over-crowded, old or broken branches from shrubs by pruning back with a clean cut to the main stem, or to a sound and healthy outward growing lateral. The aim is to

produce a dense hedge of maximum height of 1.2m with a width of 0.8m by cutting back annual growth once each year during the winter months (November – March). Low hedging species, e.g. Buxus, are to reach approximately 0.8m total height. Laterals should be trimmed back annually to rectangular shape, to encourage dense bushy growth and create a symmetrical hedge.

- 3.3.7 Planting and cutting will be carried out between November and March where possible to ensure that birds are not nesting and ideally in January and February to ensure that the fruiting berries are not lost. If a hedge must be trimmed during the fruiting season it is essential to only cut one side so that plenty of food remains. A healthy hedge can normally recover well from severe cutting, but repeated cutting at the same height can gradually cause whole hedges to die off.
- 3.3.8 Gaps shall be planted with new plants. Any new planting will need to be protected from stock, rabbits and deer for approximately 3-4 years. Initially the surrounding hedge may need cutting back to ensure the new plants receive sufficient light. Regular trimming in the early years of a hedge's life will help make it dense.
- 3.3.9 An inspection to be made in August each year. Any losses of planted plants, whether by natural means, wear and tear or vandalism and any other plants that have failed to thrive, will be replaced in the planting season following the loss. This to include any plants that are relatively short lived, and which will require routine replacement during the period of the Management Plan. Replacement plants to be of the same specification and size as the original plants.
- 3.3.10 Following completion of the Establishment Period, the need for both watering and weed control is likely to be reduced.
- 3.3.11 Recommended cutting machinery for hedging operations will be by use of a handheld mechanical hedge trimmer. All cut faces should be left neat and clean with no jagged ends or tears.
- 3.3.12 Regular monitoring for pests and diseases will be undertaken on an ongoing basis and any necessary control measures will be undertaken as soon as possible.
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3.4 Operation 4: Ornamental Shrubs and Herbaceous Planting

- 3.4.1 **Objective:** to create a high-quality ornamental planting scheme to complement the development and its setting. Longer-term management will aim to perpetuate the original design aims and sustain shrubs, and herbaceous planting in a healthy, vigorous condition and to maximise the visual amenity of the planting.

Establishment Maintenance of Ornamental Shrubs and Herbaceous Planting

- 3.4.2 Establishment maintenance of new planting will be required for the first three years after planting to ensure rapid early growth. Visits shall be undertaken at least monthly between April and September in the first year, with two visits during the dormant season. In the second and third years the frequency of visits can be reduced to bi-monthly. Maintenance visits are required to ensure that the following maintenance requirements are satisfactorily undertaken:

- Watering as required to ensure healthy growth, particularly in Years 1 and 2. All planting areas to be visited as often as required to ensure that plants are kept healthy to eliminate drought related stress. In periods of dry weather, a more frequent watering schedule will be required.
- All shrubs to be treated with an annual application of an approved slow-release fertiliser used as a top dressing at the manufacturer's recommended rates in April of Years 1 and 3.
- Plants that have become loosened, lifted up or out of the ground to be set upright and re-firmed by treading.
- The need for weed control will be minimised through the use of mulch in planting areas. The mulch is to be regularly topped up to a depth of 75mm, ensuring that the lower branches and foliage of plants are not smothered. Mulch to be kept cleared off adjacent grass, paved areas etc. This will generally suppress weeds but there may be some localised ingress of weeds. Any additional weed control required must be by hand in Year 1, with chemical control, in line with current regulations, permitted only in Years 2 and 3 in those areas without herbaceous plants. Where herbaceous species are present hand weeding will be required.

- Plants to be kept free of pests and diseases, regular monitoring to be undertaken.
- General pruning to be carried out to remove straggling stems, over-vigorous shoots, suckers and dead, misshapen, broken or otherwise unhealthy branches.
- Planting areas to be kept free of litter and leaf fall.
- General autumn tidy.
- All arisings to be removed from site and the site to be left clean and tidy at all times.

3.4.3 An inspection to be made in August each year. Any losses of shrubs or herbaceous plants, whether by natural means or vandalism and any other plants that have failed to thrive, to be noted and replaced in the planting season following the loss. Replacement plants to be of the same specification and size as the original plants.

Longer Term Management of Ornamental Shrubs and Herbaceous Planting

3.4.4 Regular maintenance visits should be made at monthly intervals between April and September with at least two visits during the dormant season each year. It will be necessary to undertake general 'tidying' e.g. removal and replacement of dead plants, litter and leaf fall clearance, topping up, raking and sweeping of mulch to provide a tidy appearance etc., as described above for the Establishment Maintenance. All arisings to be removed from site and the site to be left clean and tidy at all times.

3.4.5 Following completion of the Establishment Maintenance, the need for both watering and weed control is likely to be reduced but topping up of mulch must still be undertaken as necessary to maintain the beds in a weed free condition. At this stage it may be possible, in those areas without herbaceous planting, to use a residual soil acting herbicide to minimise the need for physical removal of weeds. Planting beds to be maintained in a weed free state and mulch material to be kept topped up to a depth of 75mm, as appropriate. In dry summers some ornamental beds may require watering to ensure healthy growth.

3.4.6 Regular monitoring for pests and diseases will also be needed on an ongoing basis and any necessary control measures undertaken as soon as possible.

- 3.4.7 General and formative pruning to shrubs to remove straggling stems, over-vigorous shoots, suckers and dead, misshapen, discoloured, thin, weak, over-crowded, old or broken branches from shrubs by pruning back with a clean cut to the main stem, or to a sound and healthy outward growing lateral. Ground cover plants to be trimmed to shape and to prevent encroachment onto adjoining hard surfaces, shrub species or grass edges in April to June each year.
- 3.4.8 Vigorous species to be pruned as necessary to restrict lateral and top growth, to prevent infringement on adjoining plants, paths, grass, edges etc. It may be necessary in 5 + years after planting, to undertake rejuvenative pruning of these and other species, if they outgrow their location or become over-mature. In these cases, shrubs to be cut to 100mm above ground level in March. Plant re-growth is to be monitored and any shrubs which do not regenerate successfully to be removed and replaced, with plants of the same size and specification as the original plants.
- 3.4.9 Ground cover and under storey mixes to be monitored and pruned in single species groups to ensure that swamping of less vigorous species does not occur.
- 3.4.10 Herbaceous planting to be dead headed after flowering with flower stems cut to ground level, with the exception being of plants which display decorative seed heads which are to be kept tidy and seed heads removed in the following spring. The other exception is biennial species, which should be allowed to set seed in the vicinity of the parent plant, to progenerate. Seedlings to be retained and re-distributed as necessary.
- 3.4.11 Where necessary to maintain a tidy appearance and in accordance with good horticultural practice, herbaceous plants to have dead leaves cut back to ground level in the autumn. Those species, which retain attractive winter, leaves to be retained unpruned but tatty leaves to be cut out on a regular basis. Vigorous herbaceous species to be divided and splits used to extend/gap up the original planting in October, as necessary to ensure longevity and free flowering of the parent plants. Following this treatment, the areas affected should be re-mulched.
- 3.4.12 Due to the relatively short-lived nature of some shrubs, provision should be made for plant replacement after 5-10 years. Similarly, it may be necessary to replace some of

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

- 3.4.13 Ornamental grasses to be kept in a tidy condition and grass heads to be cut down after flowering. Leaves to be cut down as necessary to retain a tidy appearance.

3.5 **Operation 5: Short Amenity Grass**

- 3.5.1 **Objective:** Areas of short mown grass are to be maintained as a high-quality sward, for informal recreational use.

Establishment Maintenance of New Areas of Short Grass

- 3.5.2 Areas of newly seeded/turfed grass to be subject to establishment maintenance during the first year after seeding.
- 3.5.3 Once the grass has established sufficiently to be stable and well rooted, the first cut is to be made when the grass has reached 50mm in height and the grass shall not be cut lower than 25mm. All subsequent cutting; the frequency and number of cuts within a growing season will be undertaken as required to keep grass below 50mm. Operations to be carried out in suitable dry weather conditions. Cuttings to be removed or distributed lightly and evenly over the sward.
- 3.5.4 Mowing method is to be determined by the contractor in terms of hand mowing or ride on mowers etc. The selected method must be suitable for any gradients, undulations, access, context and required finish of the grass areas. The mowing method should not undermine soil structure or damage any surface areas.
- 3.5.5 Any failed areas of grass are to be seeded at the correct season. Any ingress of pernicious perennial weeds to be hand pulled. Any stones or litter on the surface to be removed.

Longer Term Short Grass Management

- 3.5.6 Areas of short grass once established for twelve months are to be cut to keep grass below 50mm. The frequency and number of cuts within the growing season, likely between March and October to maintain the grass between 25 - 50mm. However, it will be weather permitting and should be reviewed to suit extreme weather i.e.

extremely dry arid conditions it may be necessary to reduce the cut leaving the grass slightly longer. The height of grass shall not exceed 50mm before cutting, topped to a height of 25mm. Any short grass that abuts a vertical obstacle to be trimmed at the same time as each grass cut to achieve a neat edge. Swathes of arisings to be collected up and removed from site.

- 3.5.7 Mowing method is to be determined by the contractor in terms of hand mowing or ride on mowers etc. The selected method must be suitable for the gradients, undulations, access, context and required finish of the grass areas. The mowing method should not undermine soil structure or damage any surface areas.
- 3.5.8 All grass edges against paved areas, kerbs or other hard surfaces to be edged regularly to maintain a 10-20mm clear gap between the two surfaces.
- 3.5.9 In March and September of each year, all grass edges to be trimmed in accordance with the above paragraph, to be re-cut to a straight line or smooth curve as appropriate using a half moon edging tool or similar.
- 3.5.10 The sward is to be treated with an approved selective herbicide, at the recommended rate of application on an annual basis in May of each year, to control broad-leaved weeds.
- 3.5.11 Any damage to the sward caused by pests (moles, rabbits etc.) or by vehicles or general wear and tear is to be reinstated by top dressing, re-cultivation, re-seeding and watering at the correct season as necessary. Any reinstated areas to be protected and subject to establishment maintenance as itemised above. If grass growth is poor it may be necessary to apply a spring and / or autumn fertiliser to the sward, to encourage vigour. Similarly, turf aeration and scarification may also be necessary, to alleviate compaction and control the development of thatch. Fertilising and aeration maintenance tasks are not to be undertaken during the establishment period of the lawn and this would be detrimental to the health of the lawn.
- 3.5.12 Any leaf material, broken branches, litter, stones or other debris which occur on the grass, to be removed as necessary, to maintain a clear grass surface.

3.6 Operation 6: Native Wildflower Meadows and Grassland

- 3.6.1 Most meadow wildflower and grass species are perennial and are slow to germinate, often not flowering in the first growing season. There will likely be significant weed growth in the first growing seasons which can obscure the meadow seedlings beneath. This annual weed growth is to be controlled by topping or mowing.
- 3.6.2 Strim / mow to height of 40-60mm, once in late August, once again in mid-October and in once again in mid-March. Rake off all cut material at once, except for the August cut which shall be left for 3-5 days after cutting to allow to dry, for re-dispersal of seeds. NB. It will be necessary for the company maintaining the wildflowers to have an understanding of the principles of wildflower management, which is different from normal amenity grass management. This should ideally be demonstrated before the contract for the ground's maintenance is let. Rake off cut material to set the seed and then remove from site, to an approved composting facility or to approved site facility to be set up with residents associated.
- 3.6.3 Use of any chemical herbicides is to be minimised, and no chemicals are to be used around the balancing pond.

Longer Term Native Wildflower Meadows and Grassland Management

- 3.6.4 Areas of meadow/grass mixtures to be cut back to approximately 50mm after flowering/seeding (July / August), as a 'hay cut'. 'Hay' to be left to dry and shed seed for 1-7 days and then be removed from site. Growth during later autumn/winter to be mowed to approximately 50mm once in November and once in February if required. Additional mowing in late autumn and winter to be conducted if meadow grass grows too long. Areas of meadow mixture growth may vary within balancing pond based on waterlogged conditions; maintenance should be adapted to reflect this as appropriate.
-

4 SITE SPECIFIC AREAS

4.1 Operation 7: Swales and Attenuation Basins

4.1.1 **Objective:** To manage the balancing ponds (all the responsibility of the developer unless adopted) to optimise their surface water balancing and filtration function to comply with EA (Environment Agency) flood requirements, whilst also perpetuating their value as habitat, to provide safe, well balanced areas of open water and diverse marginal fringes of vegetation / marshy habitat, suited to amphibians and other aquatic fauna.

- The balancing pond is designed to take all runoff from the site and swales via culvert. A petrol interceptor is installed within development before the balancing pond outfall. The developer is responsible for the issue of certification to confirm that the petrol interceptor is fully functional. For further information on site wide SUDs and drainage scheme refer to consultant engineers information.
- Public access is not encouraged however the swales and balancing pond feature compliant slopes should anyone have to enter for whatever reason, other than maintenance. The balancing ponds have an implied boundary of a post and rail fence, this should be inspected to ensure it is complete and fit for purpose with any breaks reported to the Management Company if they occur outside of annual inspection time. The purpose of the post and rail fence is to prevent toddlers and children running straight into the pond but providing suitable surveillance and access should it be seen that someone is encountering difficulties if they do enter the water.

4.1.2 **Specification:** the balancing pond should be subject to an initial restorative regime of de-silting after the first full year of use as part of its annual inspection. This is to include removal of common reed and great willow herb and other marginal vegetation at the headwall between the swale and the basin and also at the outfall. The inspection is to be carried out by a civil engineer to access the bank structure and headfall/out flow provision.

4.1.3 Thereafter, the need for major pond maintenance e.g. de-silting / dredging, removal of large amounts of vegetation is likely to become necessary after a further 5-10 years although still subject to annual inspection.

4.1.4 The works are to be undertaken under the supervision / watching brief of an appropriately licensed ecologist and are to be undertaken only when reptiles and amphibians are likely to be hibernating and out of the pond (e.g. January). In the unlikely event that any newts are discovered within the pond a European Protected Species (EPS) license is to be obtained from Natural England prior to undertaking the works.

- There must be absolutely no works affecting the balancing pond or swale during the March to June (inclusive) period when newts are likely to be concentrated in the pond and all works should be restricted to the November to February period, during suitably cold weather.
- To prevent impacts on breeding birds, vegetation removal / weed control, in reeds, other aquatic vegetation, scrub and other woody vegetation associated with the wetland habitat, shall be undertaken outside the bird breeding season. This is generally March to July (inclusive) but may extend beyond this period if seasonal conditions vary from the norm.
- If for any reason emergency works are required that could potentially affect breeding birds and/or great crested newts, an appropriately licensed ecologist shall be consulted prior to works and if considered necessary, Natural England to be contacted.
- Regular visual site inspections of the balancing ponds and swale and surrounding area should be undertaken in April, July, September and December as part of routine maintenance schedule to check the following:
- Water level, colour and general quality of the water if present. Any indication of aquatic pollution impeded or excessive drainage, or other malfunction of the petrol interceptor, balancing pond and associated swale, to be reported immediately to the developer/ those responsible for maintenance.

- The raised retaining embankment should be inspected for any signs of erosion, wear and tear or other degradation on a yearly basis and any disrepair to be made good, as part of the maintenance regime, to ensure that it is fit for purpose.
 - It is also necessary to monitor and inspect the petrol interceptor / outfall for any signs of impediment or blockage. Specialist servicing of the petrol interceptor will also be required, in accordance with manufacturer's instructions. This work to be undertaken by developer or their agents at least twice per year and a certificate of compliance to be issued by a competent organisation within 14 days of such inspection.
 - Routine monitoring of the balancing pond to include inspection for signs of excessive silting or vegetation growth, indications of inappropriate recreational pressure / misuse of the pond and its environs and any litter or other debris to be noted and appropriate action undertaken.
 - The results of the site inspection shall be passed on to the Management Company and any recommendations made relating to significant, developing, or repeating management issues undertaken.
 - Any colonisation of the ponds by algal blooms may need to be addressed. This is likely to be a result of nutrient enrichment and should, where possible be addressed at source or an approved proprietary product e.g. Viresco. The use of barley bales or mats may help reduce any problem in this respect. Monitor the ponds for any sign of pollutants or other contamination, debris, unexpectedly high or low levels of water or other abnormalities and report any such concerns to the ER. A scheme of remedial works to be agreed and implemented. This situation where water is standing for prolonged periods should be questioned/investigated and monitored as required.
-

4.2 Operation 8: Wetland Meadow – to swales and attenuation basins

4.2.1 Objective: To enhance the naturalisation to the periphery of the drain pond.

Establishment Maintenance of Wetland Seeded Areas

4.2.2 Care to be taken when working on sloped ground and near water. Using appropriate machinery or handheld methods as recommended in the contractor risk assessment.

4.2.3 Areas for seeding must be cleared of debris and existing vegetation before seeding. Prepare the seed bed using repeated cultivation or herbicide. Add nothing that will improve fertility of the soil or promote weed growth. Uncontaminated site sourced, low fertility soil may be used as the topsoil. A fine even seed bed to be prepared and seed sown and rolled afterwards.

4.2.4 When seed is sown the ground conditions should be suitable (not waterlogged or in drought). Plants growth will need to establish before there are chances of flooding. Water in seed if weather is dry.

4.2.5 Surface sow seed by machine or hand. Sow the area twice in opposing directions to ensure cover at a rate proposed by the manufacturer and firm by rolling. Areas of newly seeded grass to be subject to establishment maintenance during the first year after seeding to control rogue and dominant species.

4.2.6 To control annual weeds and promote balance between fast growing grasses and slower growing flowers mow newly sown meadows regularly throughout the first year. Cut to a height of 40 – 60 mm, removing dense cuttings. Avoid cutting between spring and summer so flowering is achieved. Cutting from late august may remain to encourage re-dispersal of seeds.

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

4.2.8 Spot treat any perennial weeds regularly.

Long Term Maintenance of Meadow Grass wetland

- 4.2.9 Inspection of the drainage pond should be conducted regularly for erosion, bare ground, silt deposits, litter, excessive waterlogging and poor growth. Conditions are likely to vary between highs and lows in ridge and furrow grassland. Localised differences may require a specific approach, e.g. boggy areas which remain waterlogged for a significant portion of the year may need the addition of a revised plant or seed selection accommodate natural changes and conditions.
- 4.2.10 In the second and subsequent years, sowings are from mid-summer (July) to autumn (end of august) and in spring to maintain balance of grass to flowers. Cut to 100 – 150mm. Cutting from late august may remain to encourage re-dispersal of seeds.
- 4.2.11 Continue to spot treat perennial weeds.

4.3 Operation 9: Site Housekeeping, Hard Landscape, Play and Open Spaces

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

Play areas

- 4.3.1 Play space equipment, furniture and surfacing to be subject to formal safety checks such as (IPI or ROSPA) as required by the party with whom liability is with (annual inspections anticipated). Play area to be checked as part of the required routine, undertaken management company. Any loose, damaged or missing elements of play equipment to be reported. Any repairs or replacements are to using manufacturers materials as directed. Play equipment to be kept clean and suitable for use without compromise of health and safety of any user. Grass mats to be secure, level, with no movement or raised edges and free of stones and debris. Bonded rubber mulch safety surfacing to be checked for damage, shrinkage and trip hazards. Gate self-closing mechanisms to be checked to ensure they are in working order. Railings to be checked to ensure stability, damaged to be repaired.
- 4.3.2 The play area should be closed to public access during works.

Routine Site Monitoring

- 4.3.3 All furniture including benches, bins, signage, railings, fencing and light fittings etc are to be regularly checked and cleaned and if necessary repaired. Timber treated with an appropriate preservative or replaced as appropriate, and in accordance with manufacturer's instructions. Dangerous items may need to be removed from site and area made good.
- 4.3.4 Regular checks of the site will be required and any litter, other debris and / or fly tipping to be removed on a one/two weekly basis. Any litter bins to be regularly inspected and emptied, as necessary to avoid over-filling. Vigorous attention will be required with respect to control of dog fouling.
- 4.3.5 All areas of paving, flush and raised edging to paths and planting areas, kerbs, macadam and other hard surface areas throughout the management areas of the site, to be kept free of leaves and silt deposits, swept or alternative method of debris removed e.g. suction or blowing, on a monthly basis. Method to be suitable for each specific material. All to be maintained free of grass, weed, moss or algal growth, using appropriate translocated herbicides and moss-killers. Particular attention is required to areas that may be prone to slipperiness. It may be necessary to use a pressure washer on occasion to remove any silt or algal build up. Areas of permeable block paving is to be maintained to the manufacturer's specification to ensure required permeability is retained. Due to the nature of the paving it may require more frequent weed control. No suction methods should be used. Any granular fill displaced by cleaning should be replaced.
- 4.3.6 Any walls or structures such as bins or cycle storage should be regularly checked to ensure safety, function and aesthetics. This may include the removal of graffiti.
- 4.3.7 Longer term management of paths, steps, roads and other hard surfaces etc. will include twice annual monitoring in April and September of each year and repair/replacement to be undertaken as necessary, to prevent further deterioration.
- 4.3.8 Site drainage issues also to be addressed on a routine basis to ensure that there are no problems relating to blockages or disrepair of main drains or laterals, dispersal of surface water etc. This will include regular checking and clearance of any drainage

gulleys and grated drainage channels and rodding of underground drainage pipes as necessary.

4.3.9 Gritting and snow clearance to be undertaken on an 'as required' basis to all paths and other hard surfaced areas.

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

LLANWERN 4E & 4G

LANDSCAPE MANAGEMENT PLAN

DRAWINGS

February 2025

APPENDIX A DRAWINGS	
DRAWING NUMBER	DRAWING TITLE
1562A10-LLA-ZZ-00-DR-L-0201	Detailed Planting Proposals 1 of 6
1562A10-LLA-ZZ-00-DR-L-0202	Detailed Planting Proposals 2 of 6
1562A10-LLA-ZZ-00-DR-L-0203	Detailed Planting Proposals 3 of 6
1562A10-LLA-ZZ-00-DR-L-0204	Detailed Planting Proposals 4 of 6
1562A10-LLA-ZZ-00-DR-L-0205	Detailed Planting Proposals 5 of 6
1562A10-LLA-ZZ-00-DR-L-0206	Detailed Planting Proposals 6 of 6
1562A10-LLA-XX-XX-DR-L-0301	Landscape Specification and Details
1562A10-LLA-ZZ-00-DR-L-0401	Detailed Play Proposals

REFER TO DRAWING
1562A10-LLA-ZZ-00-DR-L-0401 FOR
DETAILED PLAY PROPOSALS

- LEGEND
- Soft Landscape
- Proposed trees
 - Proposed hedgerow
 - Proposed planting bed
 - Proposed amenity grass
 - Proposed wildflower meadow mix; Emorsgate EMS or similar approved
 - Proposed wildflower meadow mix; Emorsgate EM3 or similar approved
- Hard Landscape
- Proposed Jungle Mulch safety surfacing by PlaySmart UK; or similar approved
 - Proposed resin bound gravel surfacing; or similar approved
 - Proposed ROSPA compliant self-closing gate (to match railing); with contrasting colour; or similar approved
 - Proposed bow topped railing; 1100mm height; colour - black; or similar approved
 - Proposed Portman Litter Bin by Furnitubes; or similar approved
 - Proposed Neo Seat by Furnitubes; 3 person; 1800x710x800mm; or similar approved
 - Proposed ArborSystem by GreenBlue Urban; structural load bearing tree cells; exact dimension to manufacturer detail; or similar
 - Site application boundary

Drawing for planning purposes only, do not construct from this drawing

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

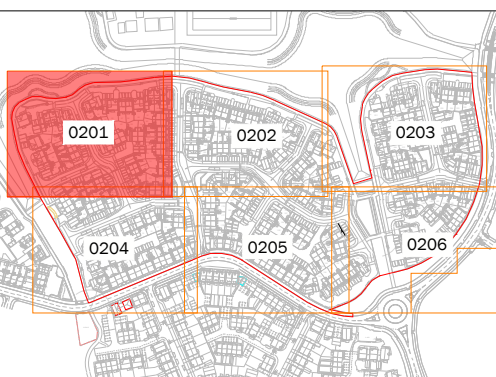
Root barriers to be used in association with tree planting adjacent to kerbs, services, highways etc.

FOR OTHER LANDSCAPE DRAWINGS REFER TO THE FOLLOWING:

Planting Schedule:
1562A10-LLA-ZZ-00-DR-L-0206

Landscape Specification and Details:
1562A10-LLA-XX-SPL-L-0301

Detailed LAP Proposals:
1562A10-LLA-ZZ-00-DR-L-0401



Location Plan - Not to Scale

0 1 2 5 10m

Scale in metres

P03	26.02.25	Update to revised red line	RF	SV
P02	24.02.25	Update to client comments	RF	SV
P01	21.02.25	First issue	KYZ	RF
Rev	Date	Description	Dm	Chk

Title: Detailed Planting Proposals
Sheet 1 of 6

Project: Llanwrn 4E & 4G
Client: St Modwen Homes
Date: February 2025
Scale: 1:200 @ A1

Drawing No: 1562A10-LLA-ZZ-00-DR-L-0201
Revision: P03
Suitability: S2

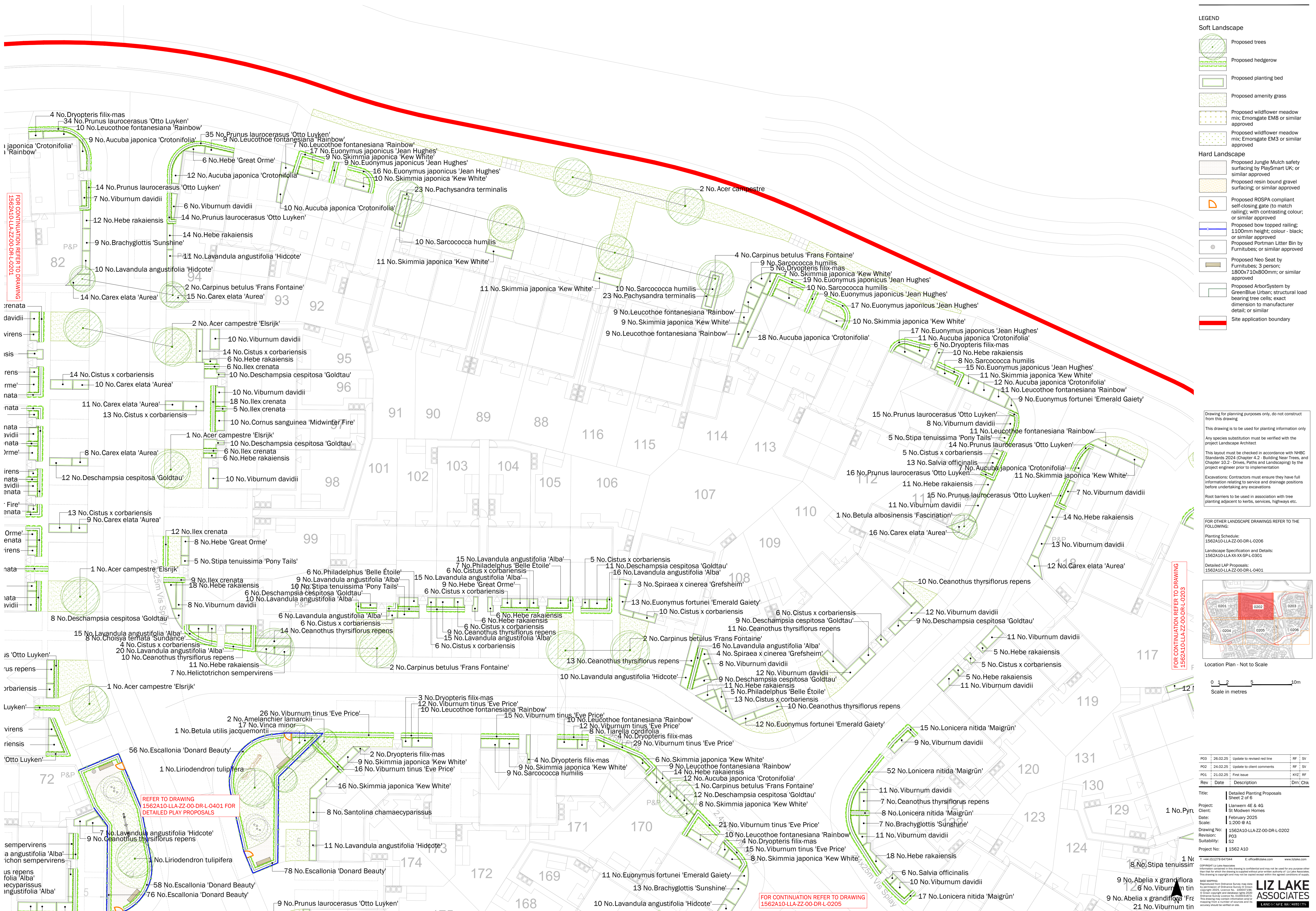
Project No: 1562 A10

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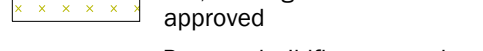
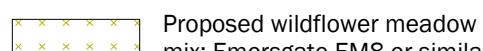
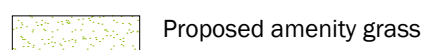
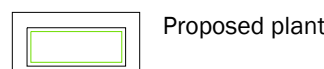
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LIZ LAKE ASSOCIATES
LANDSCAPE ARCHITECTS

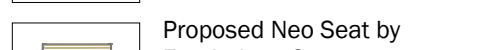
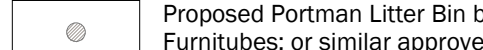
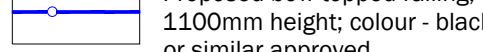
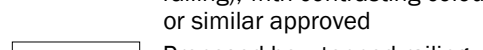
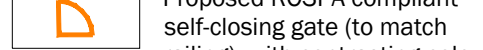
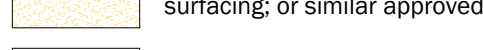
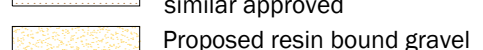
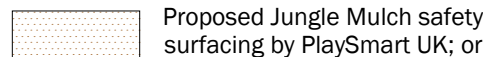


LEGEND

Soft Landscape



Hard Landscape



Drawing for planning
from this drawing

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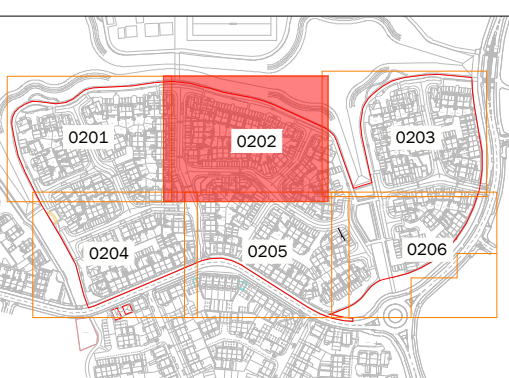
Root barriers to be used in association with tree planting adjacent to kerbs, services, highways etc.

FOR OTHER LANDSCAPE DRAWINGS REFER TO THE FOLLOWING:

Planting Schedule:

Landscape Specification and Details:

1562A10-LLA-XX-XX-SP-L-0301



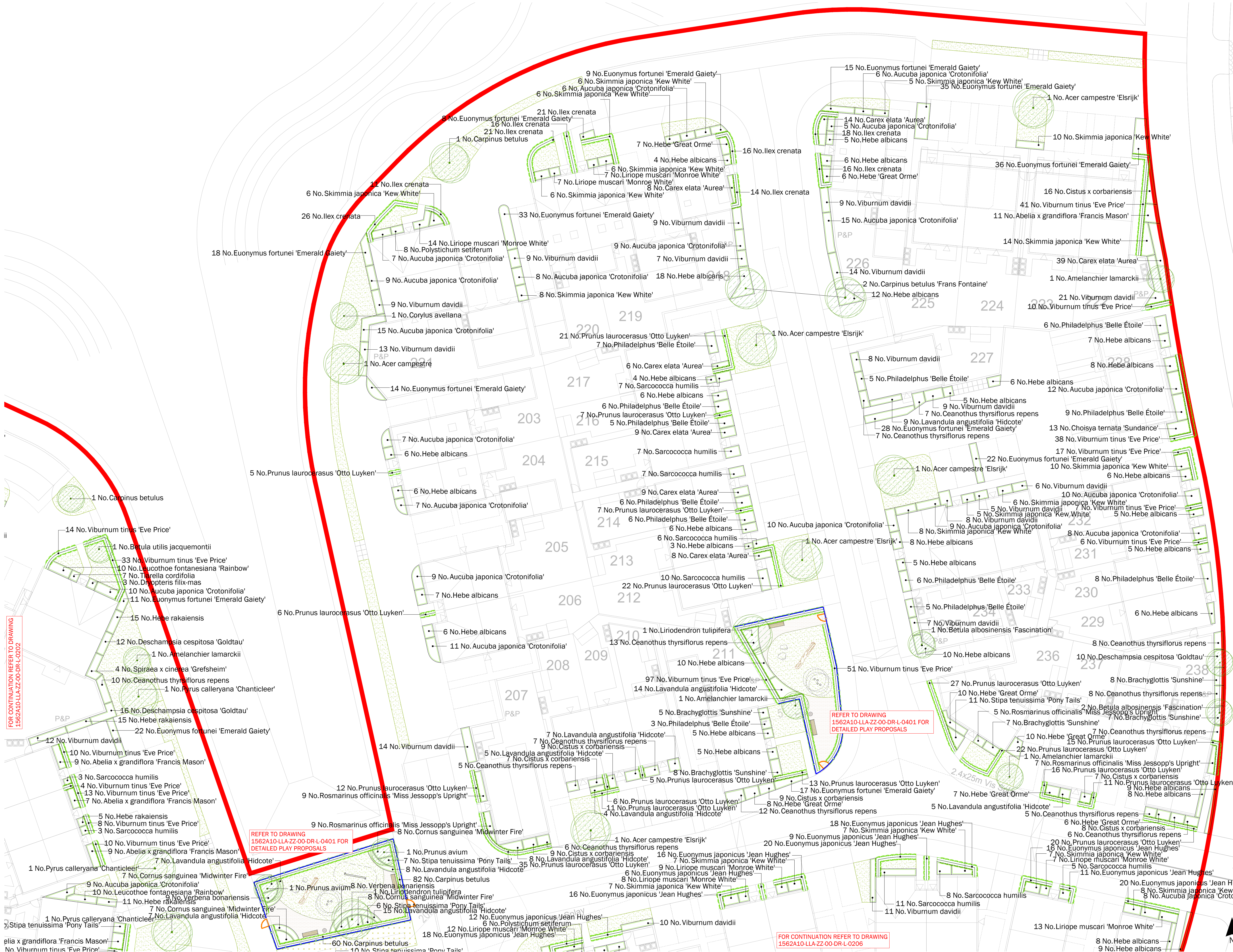
Location Plan - Not to Scale

0 1 2 5 10m

P03	26.02.25	Update to revised red line	RF	SV
P02	24.02.25	Update to client comments	RF	SV
P01	21.02.25	First issue	KYZ	RF
Rev	Date	Description	Drn	Chk

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LEGEND

Soft Landscape

- Proposed trees
- Proposed hedgerow
- Proposed planting bed
- Proposed amenity grass
- Proposed wildflower meadow mix; Emorsgate EM8 or similar approved
- Proposed wildflower meadow mix; Emorsgate EM3 or similar approved

Hard Landscape

- Proposed Jungle Mulch safety surfacing by PlaySmart UK; or similar approved
- Proposed resin bound gravel surfacing; or similar approved
- Proposed ROSPA compliant self-closing gate (to match railing); with contrasting colour; or similar approved
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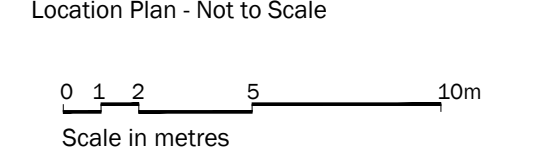
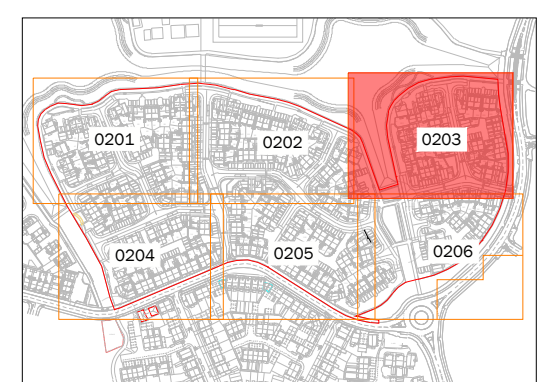
Root barriers to be used in association with tree planting adjacent to kerbs, services, highways etc.

FOR OTHER LANDSCAPE DRAWINGS REFER TO THE FOLLOWING:

Planting Schedule: 1562A10-LLA-ZZ-00-DR-L-0206

Landscape Specification and Details: 1562A10-LLA-XX-XX-SPL-0301

Detailed LAP Proposals: 1562A10-LLA-ZZ-00-DR-L-0401



Rev	Date	Description	Dwn	Chk
P03	26.02.25	Update to revised red line	RF	SV
P02	24.02.25	Update to client comments	RF	SV
P01	21.02.25	First issue	KYZ	RF

Title: Detailed Planting Proposals

Project: L1562A10-LLA-ZZ-00-DR-L-0203

Client: St Modwen Homes

Date: February 2025

Scale: 1:200 @ A1

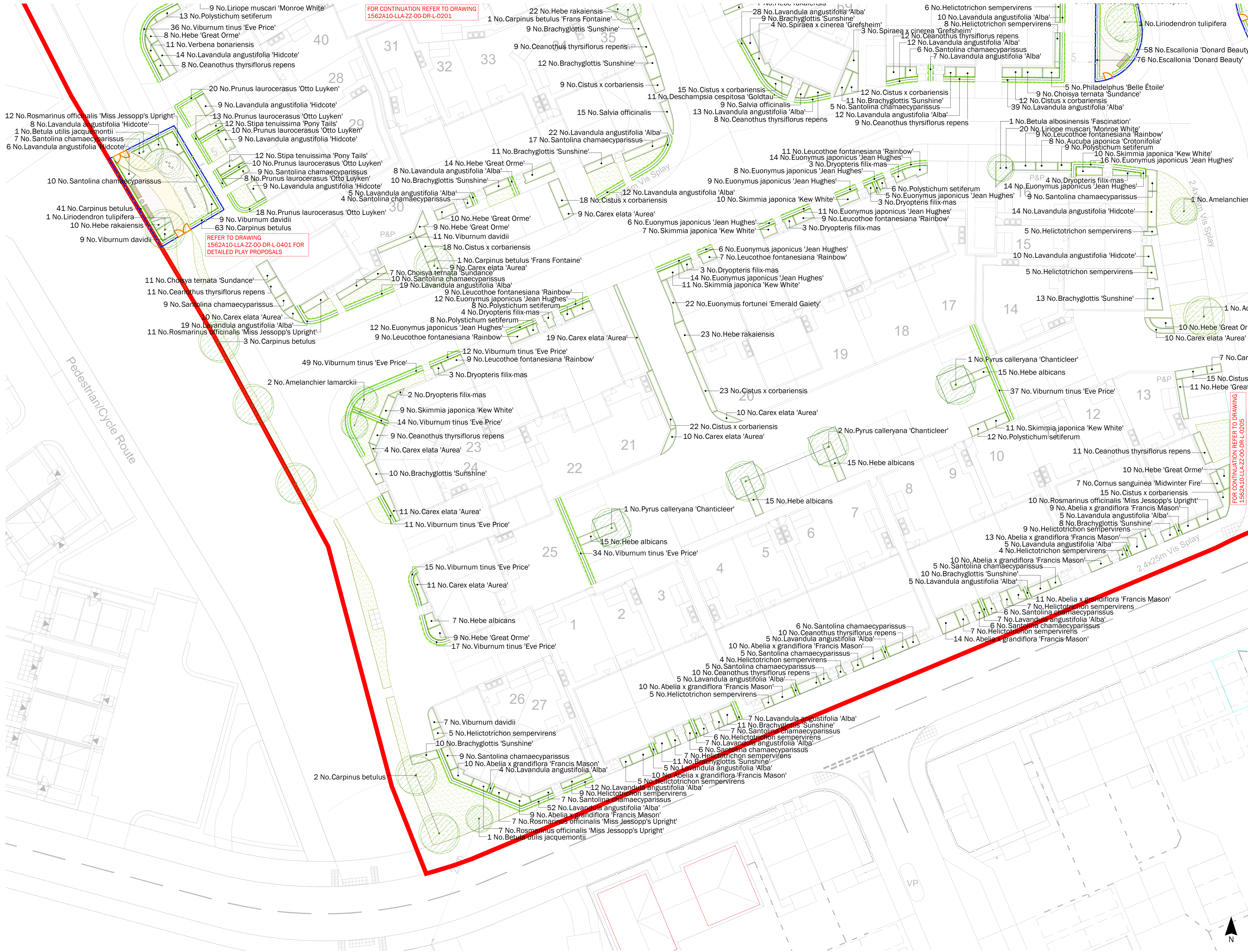
Drawing No: 1562A10-LLA-ZZ-00-DR-L-0203

Revision: P03

Submitted: 1562A10-LLA-ZZ-00-DR-L-0401

Project No: 1562 A10

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- LEGEND**
- Soft Landscape**
- Proposed trees
 - Proposed hedgerow
 - Proposed planting bed
 - Proposed amenity grass
 - Proposed wildflower meadow mix: Emorsgate EM8 or similar approved
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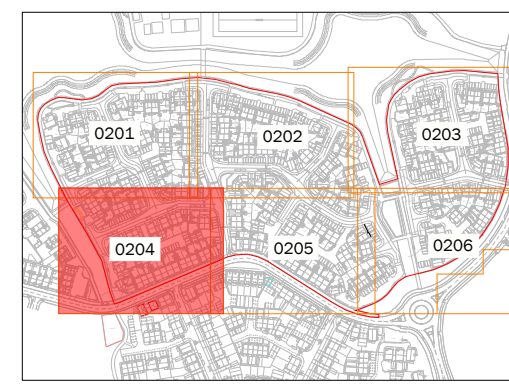
Root barriers to be used in association with tree planting adjacent to kerbs, services, highways etc.

FOR OTHER LANDSCAPE DRAWINGS REFER TO THE FOLLOWING:

Planting Schedule: 1562A10-LLA-ZZ-00-DR-L-0206

Landscape Specification and Details: 1562A10-LLA-XX-XX-SP-L-0301

Detailed LAP Proposals: 1562A10-LLA-ZZ-00-DR-L-0401

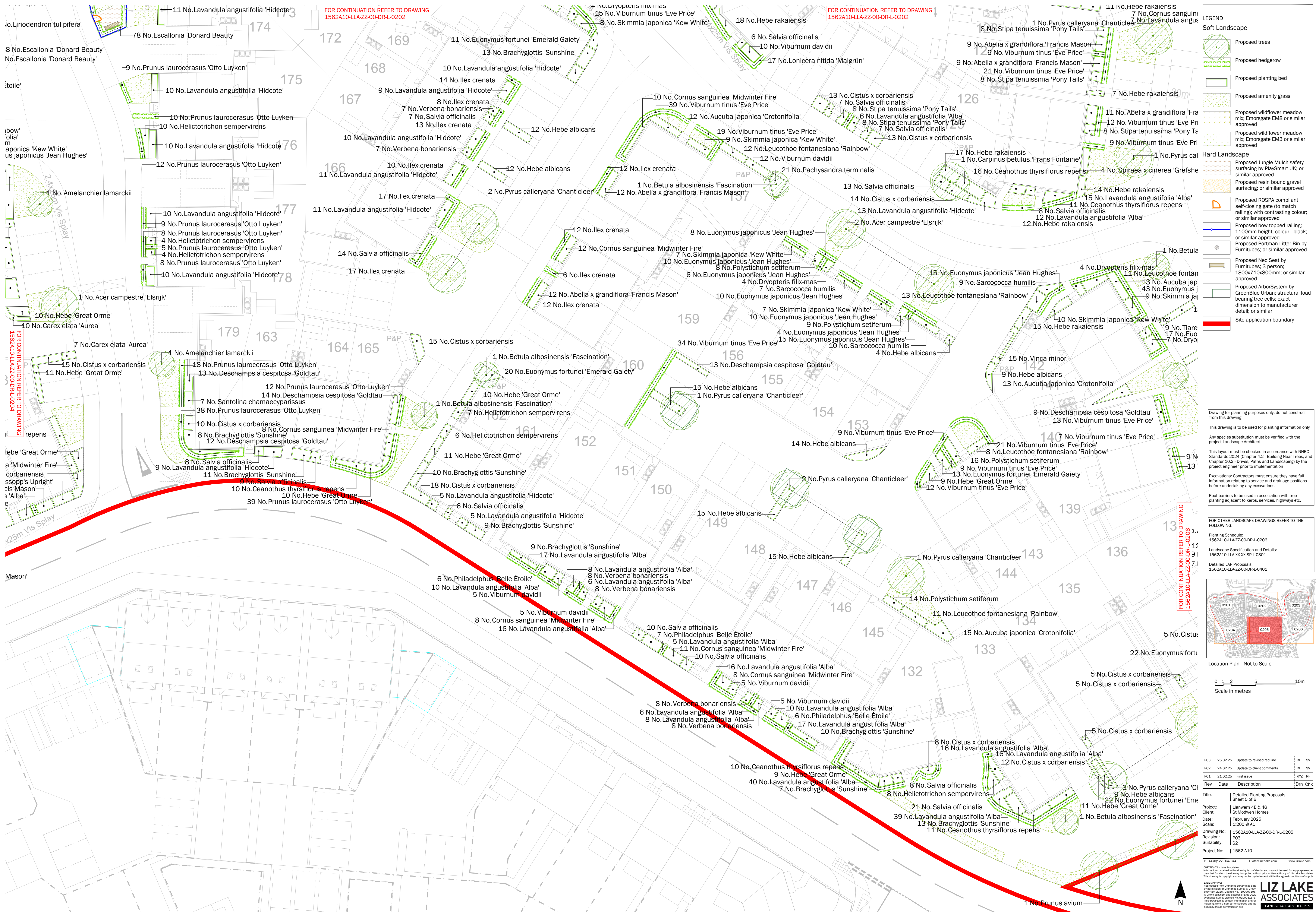


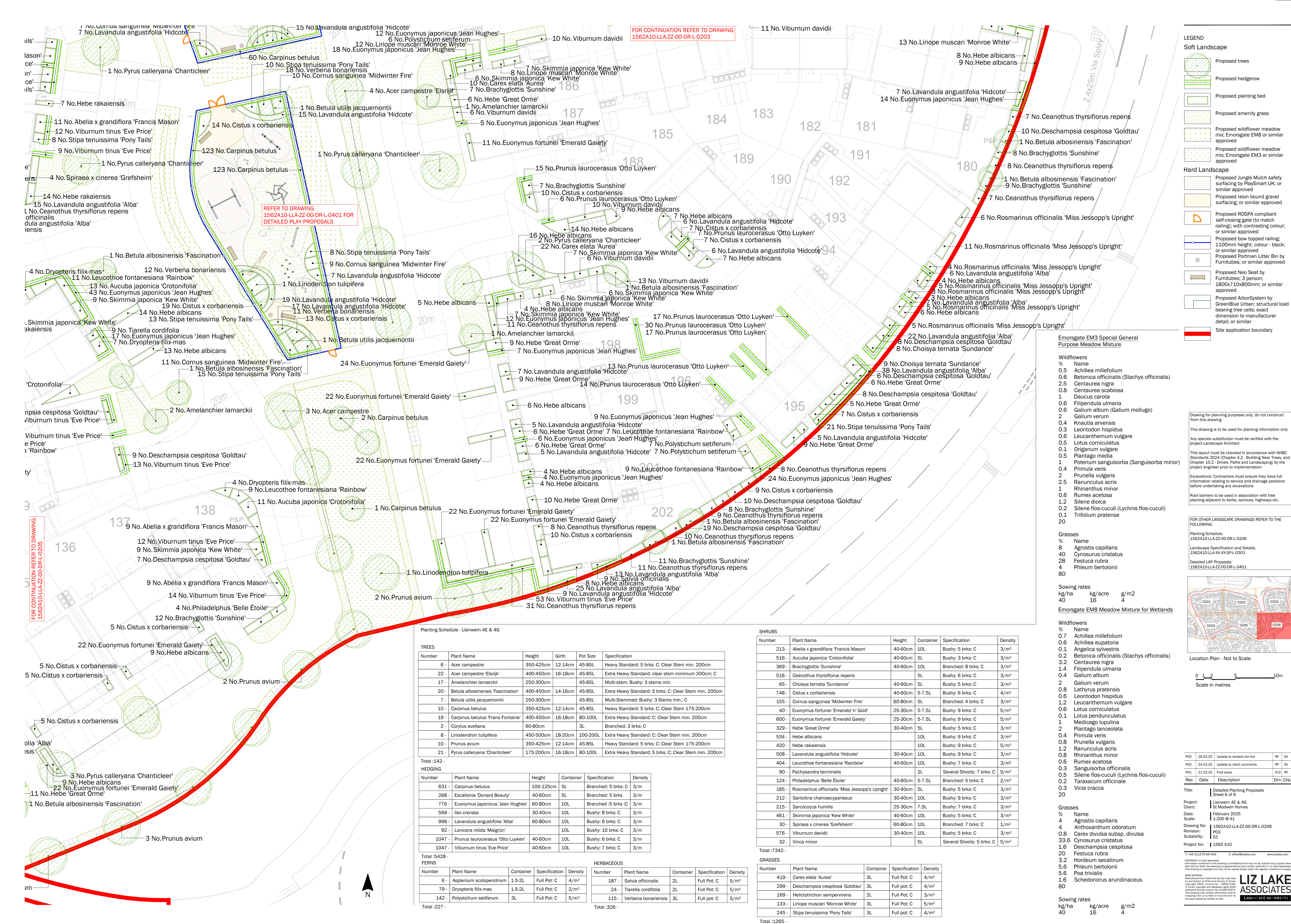
Location Plan - Not to Scale

0 1 2 5 10m

Scale in metres

P03	26.02.25	Update to revised red line	RF	SV
P02	24.02.25	Update to client comments	RF	SV
P01	21.02.25	First issue	KYZ	RF
Rev	Date	Description	Dm	Chk
Title:	Detailed Planting Proposals			
Sheet	4 of 6			
Project:	Llanwrn 4E & 4G			
Client:	St Modwen Homes			
Date:	February 2025			
Scale:	1:200 @ A1			
Drawing No:	1562A10-LLA-ZZ-00-DR-L-0204			
Revision:	P03			
Suitability:	S2			
Project No:	1562 A10			





LANDSCAPE SPECIFICATION

All landscape works to be in accordance with BS4428:1989 and BS3936:1992. All landscape sub-contractors are to take all safety precautions to prevent any injury to any persons and shall comply with the 1974 Health and Safety at Work Act and current Construction, Design and Management Regulations.

SITE PREPARATION

Topsoil
Existing topsoil shall be stripped before building works begin. If suitable, existing topsoil will be stored on site in heaps not exceeding 2m in height and shall be kept weed free. Imported topsoil shall be to BS 3882: 2015 Specification for Topsoil. Topsoil shall be multi-purpose grade, of medium texture, with a high proportion of fertile loamy material. It shall be of a neutral pH value and be free from subsoil, rubbish, rubble, contamination, roots of perennial weeds and other materials injurious to plant growth. The maximum stone content of the soil shall be 20%, with the maximum size of stone 25mm in any one dimension. During storage, topsoil heaps shall be kept free from compaction, contamination and weeds to BS 3882: 2015. Stripped and stored topsoil for reuse on site to be tested to BS 3882: 2015 certification, soil to be improved to meet standards prior to reuse if required.

Excavation
Excavation shall NOT be undertaken with machinery within the root protection area of any existing trees or shrubs to be retained. Areas requiring excavation under existing trees are to be hand dug with an arboriculturalist present to oversee the work. Unless otherwise indicated areas to be planted / seeded shall be cleared of all surface rubbish and excavated to the dimensions below finished level as follows, when the soil is not waterlogged or frozen. Ensure the location of all services is known before any excavation operations.

Tree pits: Excavated as per specified details
Shrub and hedge pit / trench: 300mm deep
Grass areas: 300mm deep
Wildflower grassland areas: Excavate to finished levels

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

Backfilling with Subsoil
Where excavated areas are lower than the required depths, excavations shall be backfilled with selected subsoil and lightly consolidated to make up levels. Selected subsoil shall be friable, second quality topsoil or similar and be free of rubbish, roots, stones over 75mm in any one dimension, perennial weeds or other materials injurious to plant growth to BS 8601: 2013.

Backfilling with Topsoil
Tree, shrub and hedge pit / trench excavations shall be backfilled, in layers, with clean topsoil (as specified above) thoroughly mixed with planting compost to comply with PAS 100:2018. An approved tree and shrub fertilizer shall be added to topsoil, prior to backfilling tree-pits. Grass areas (excluding wildflower grassland areas) shall be backfilled with topsoil in layers of 150mm depth.

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

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

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

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

PLANTING

Plant Stock and Timing
Plant material and operations shall conform to BS 8545 : 2014, BS 3936 Nursery Stock (Parts 1-10), BS 4428 : 1989, BS 5837 : 2012 and the National Plant Specification. The planting season shall be from the 1st November to the 1st March. Container grown stock may be planted outside this season, supplied at the specified sizes, if accompanied by daily watering, or as necessary to ensure healthy establishment. Planting shall not be carried out during periods of frost, drought, cold drying winds or when the soil is waterlogged or frozen. All plant handling and operations shall be in accordance with HTA 'Handling and establishing Landscape Plants part I - III. All planting shall be maintained and guaranteed for 12 months to include watering, weeding, pest and disease control.

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

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

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

Tree Planting and Support
Trees planted in landscape areas shall be installed as specified.

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

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

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

Mulch shall be an approved product and completely weed and weed seed free. The mulch shall be topped-up to maintain, after settlement, a depth of not less than 50mm. Trees in grass areas shall be planted centrally within a 1m diameter mulch bed, to be mulched to 75mm deep. The surface of mulch to be 10mm below the surface of adjacent lawn / hard surface.

GRASS AREAS

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

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

Grass Seeding
Areas of amenity grass shall be seeded with a general amenity grass mix as specified during the period March to May or September to October,during periods of moist, warm weather conditions without significant wind. Pre-seeding fertiliser shall be applied to manufacturer's recommendations. Seed shall be sown on even, prepared ground (as detailed above), at a rate of 35g/m2 or as specified, in two transverse operations. Lightly roll seed bed after sowing. Water as necessary to avoid shrinkage and achieve satisfactory establishment. Undertake good horticultural practice to ensure establishment of a healthy grass sward.

Wildflower Grassland Seeding
Areas of wildflower grassland shall be seeded with a wildflower grassland mix suitable for the soil type as specified, during the period March to May or September to October, during periods of suitable warm and moist weather conditions. Seed shall be sown on prepared ground (as detailed above), at a rate of 5g/m2 or as specified. Lightly roll seed bed after sowing. Water as necessary to avoid shrinkage and achieve satisfactory establishment. Undertake good horticultural practice to ensure establishment of a healthy wildflower grass sward.

AFTERCARE PERIOD

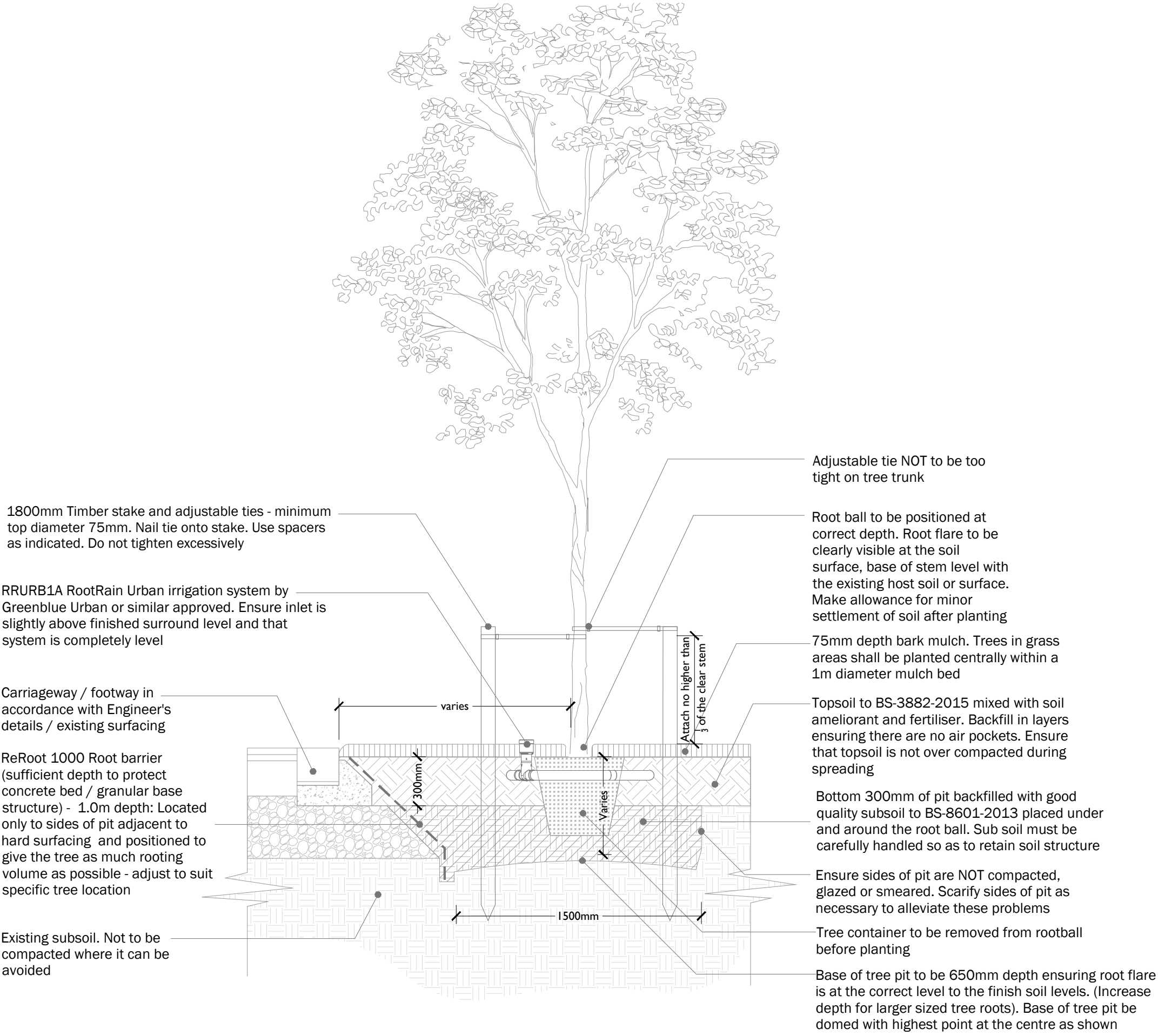
Regular Visits
During the specified Aftercare Period maintenance visits shall be carried out, at least monthly from April to September and twice during the dormant season to carry out the following operations to establish healthy growing plants / grass in weed free areas: watering, firming-up, removal of litter, pest and disease control, general pruning, checking guards, ties and stakes, weed control, grass cutting and autumn tidying. All planting shall be maintained and guaranteed for 12 months to include watering, weeding, pest and disease control. All arisings shall be carted away and the site shall be left clean and tidy at all times.

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

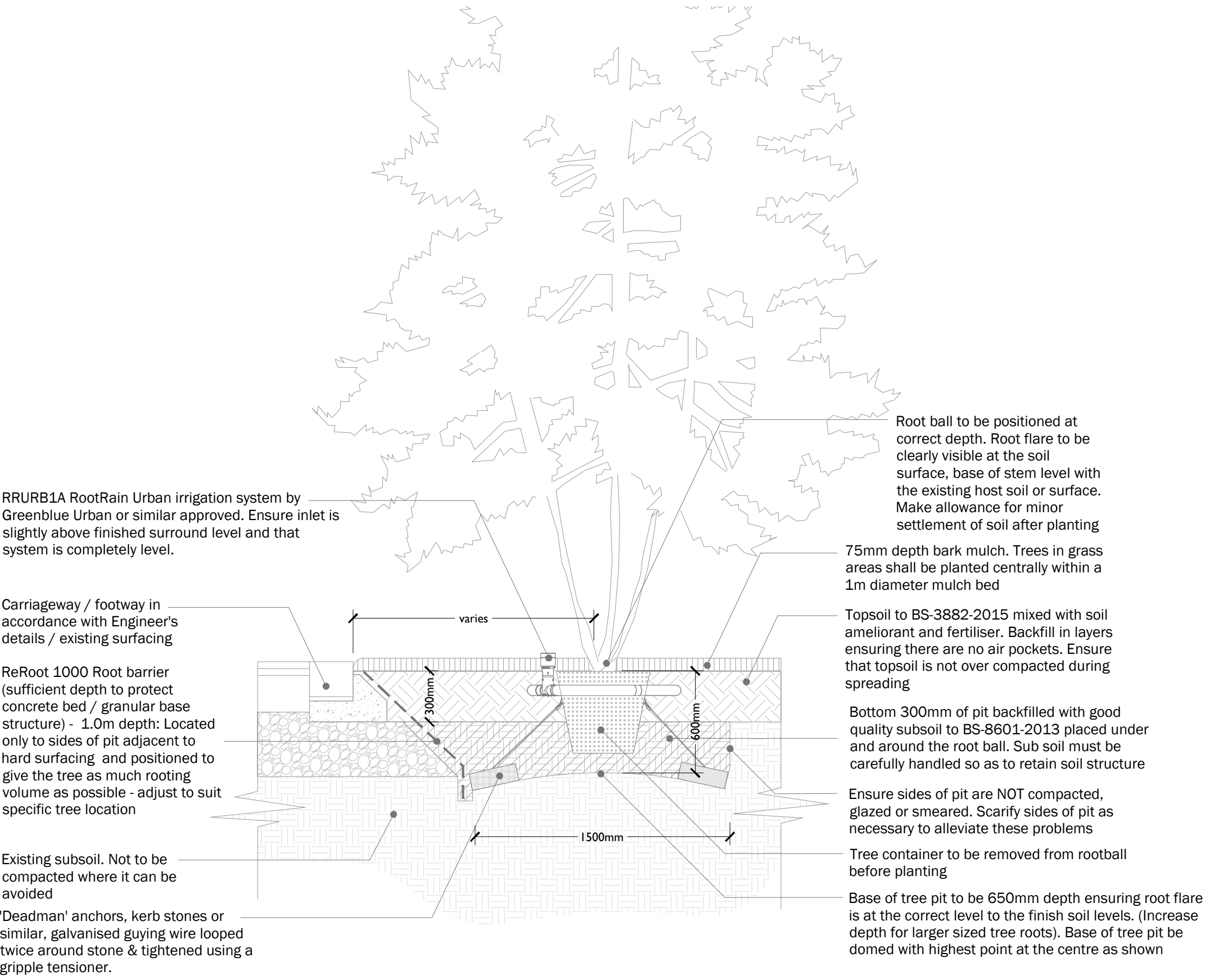
Replacement Planting
During each August within the Aftercare Period an inspection shall be made and all plants that have died, are missing, damaged or have failed to thrive, shall be noted and replaced in the following planting season.

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

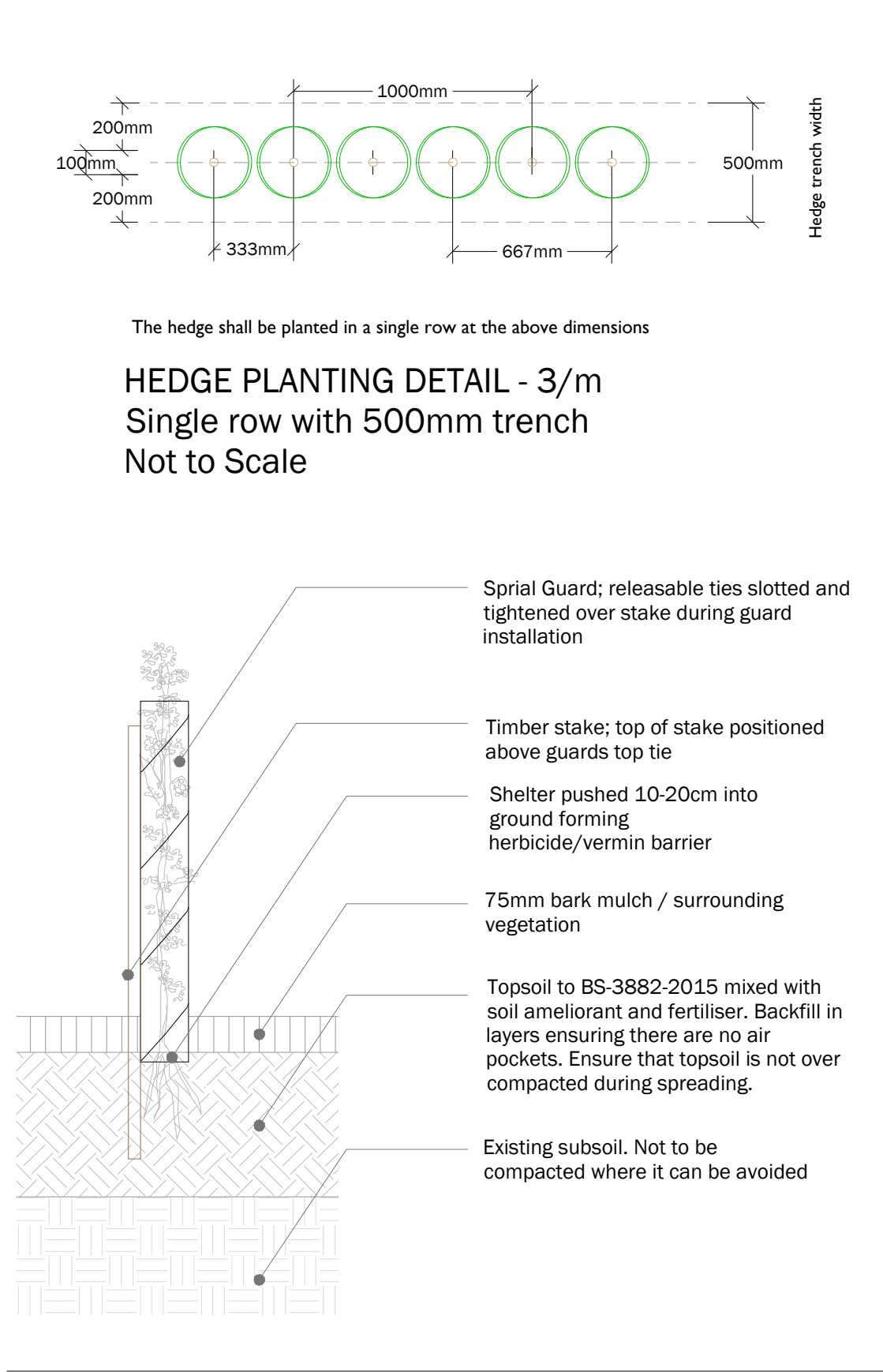
Wildflower Grassland Cutting
During the first growing season cut wildflower grassland every 2 months to a height of 40-60mm and in subsequent growing seasons cut to 40-60mm height during late March and late August / early September or as specified. All arisings shall be collected and removed from the site to avoid smothering the sward and to reduce nutrient levels. Spot treat perennial weeds with Glyphosate at the manufacturer's recommended dose rate / or hand pull.



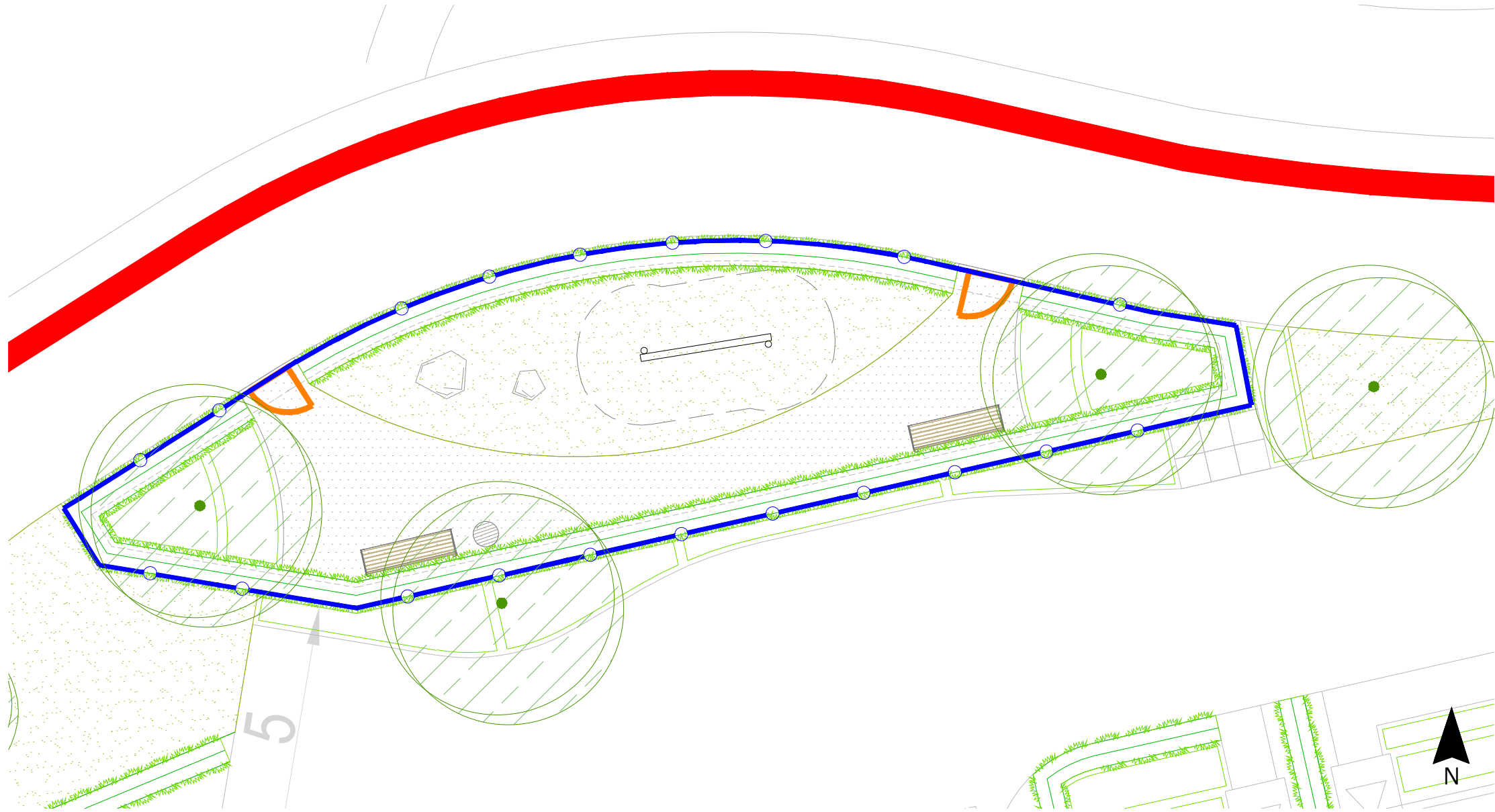
TYPICAL TREE PLANTING DETAIL - Container grown tree. Double stake fixing in soft landscape adjacent to Carriageway / footway - Not to Scale



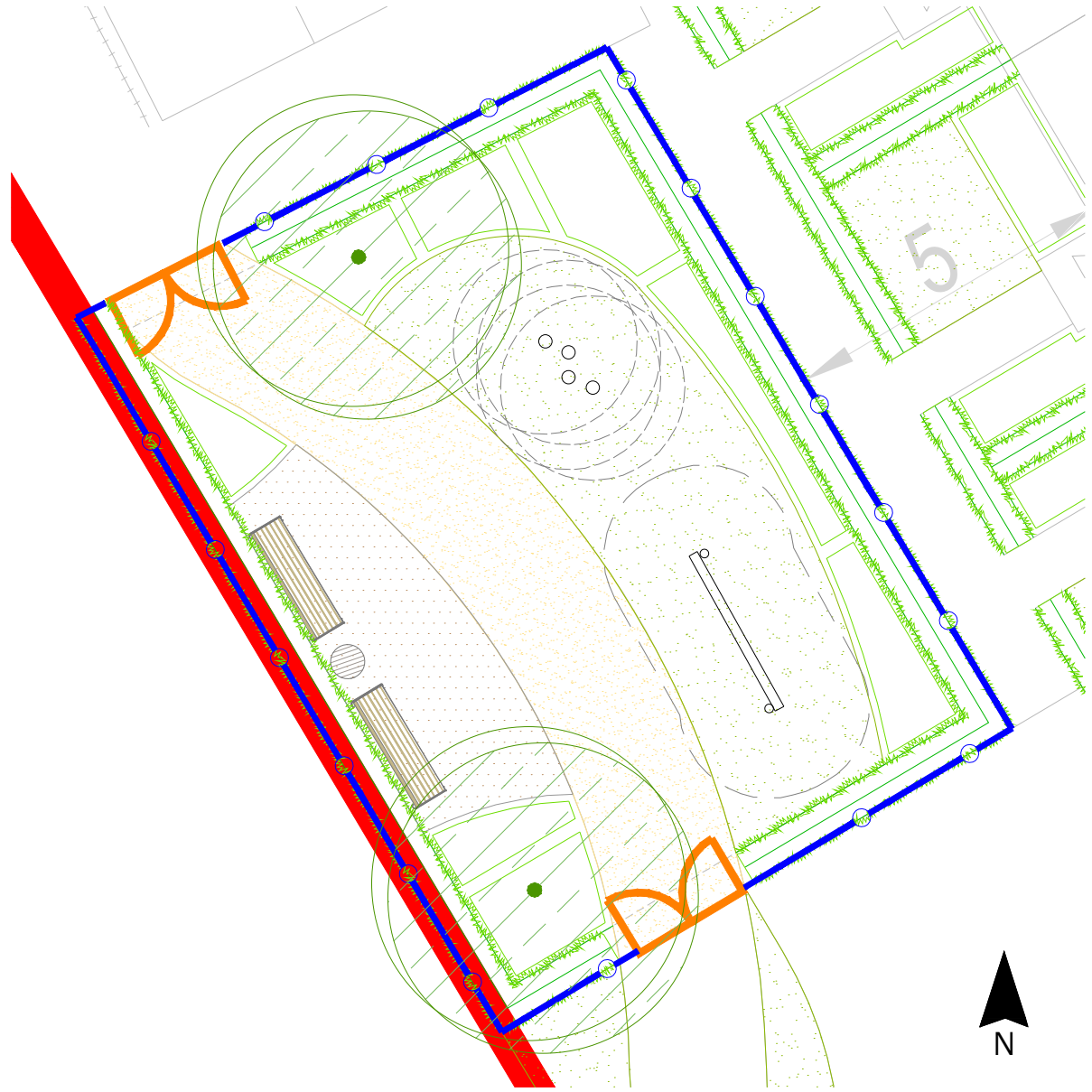
TYPICAL MULTISTEM TREE PLANTING DETAIL - Container grown tree. Underground guy fixing in soft landscape adjacent to Carriageway / footway - Not to Scale



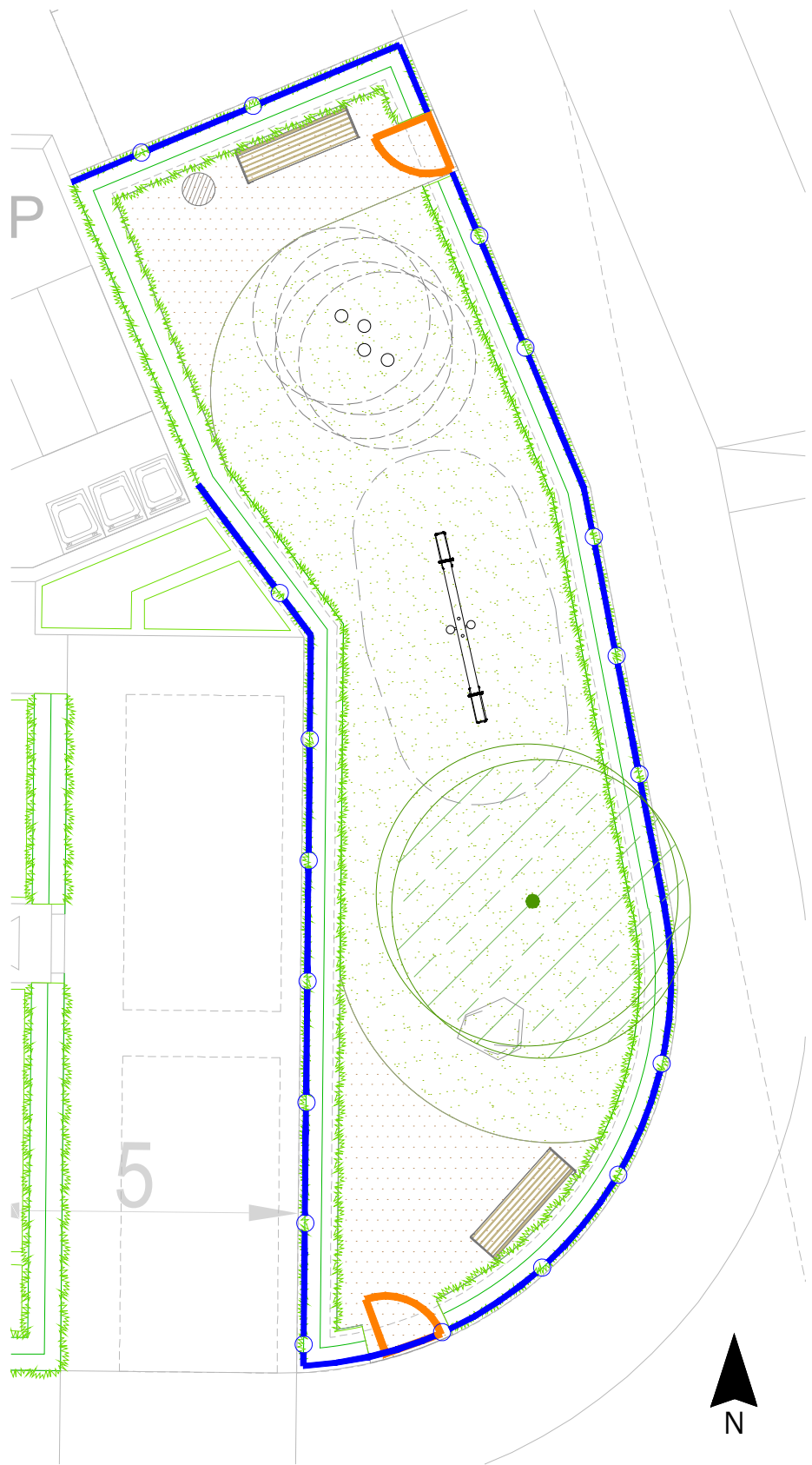
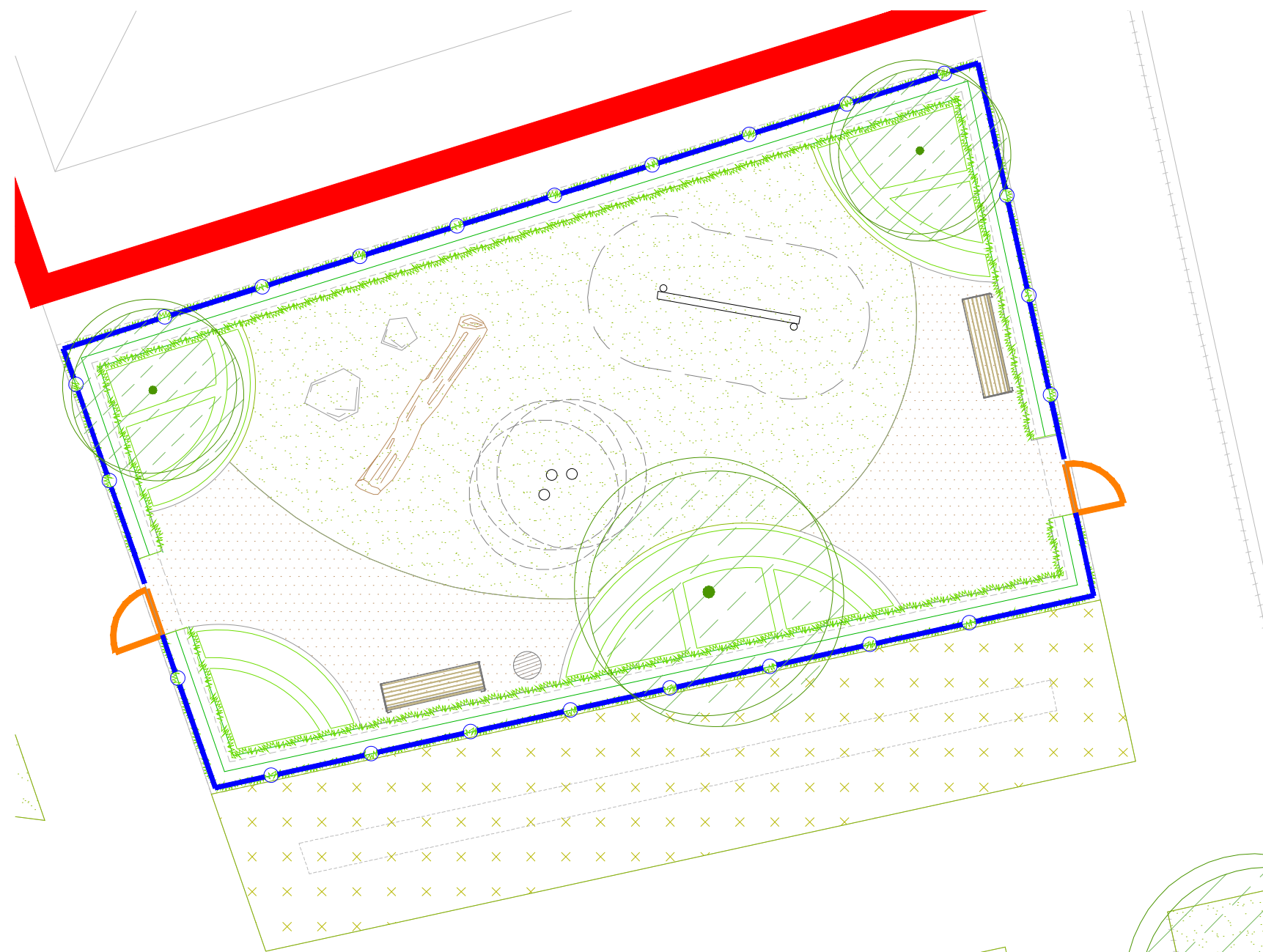
Drawing for planning purposes only, do not construct from this drawing
This drawing is to be used for planting information only
Any species substitution must be verified with the project Landscape Architect
This layout must be checked in accordance with NHBC Standards 2023 (Chapter 4.2 - Building Near Trees, and Chapter 10.2 - Drives, Paths and Landscaping) by the project engineer prior to implementation
Excavations: Contractors must ensure they have full information relating to service and drainage positions before undertaking any excavations
Root barriers to be used in association with tree planting adjacent to kerbs, services, highways etc.
FOR OTHER LANDSCAPE DRAWINGS REFER TO THE FOLLOWING:
Planting Schedule: 1562A10-LLA-ZZ-00-DR-L-0206
Landscape Specification and Details: 1562A10-LLA-XX-XX-SP-L-0301
Detailed LAP Proposals: 1562A10-LLA-ZZ-00-DR-L-0401



PLAY AREA 01 - 1:100 @ A1



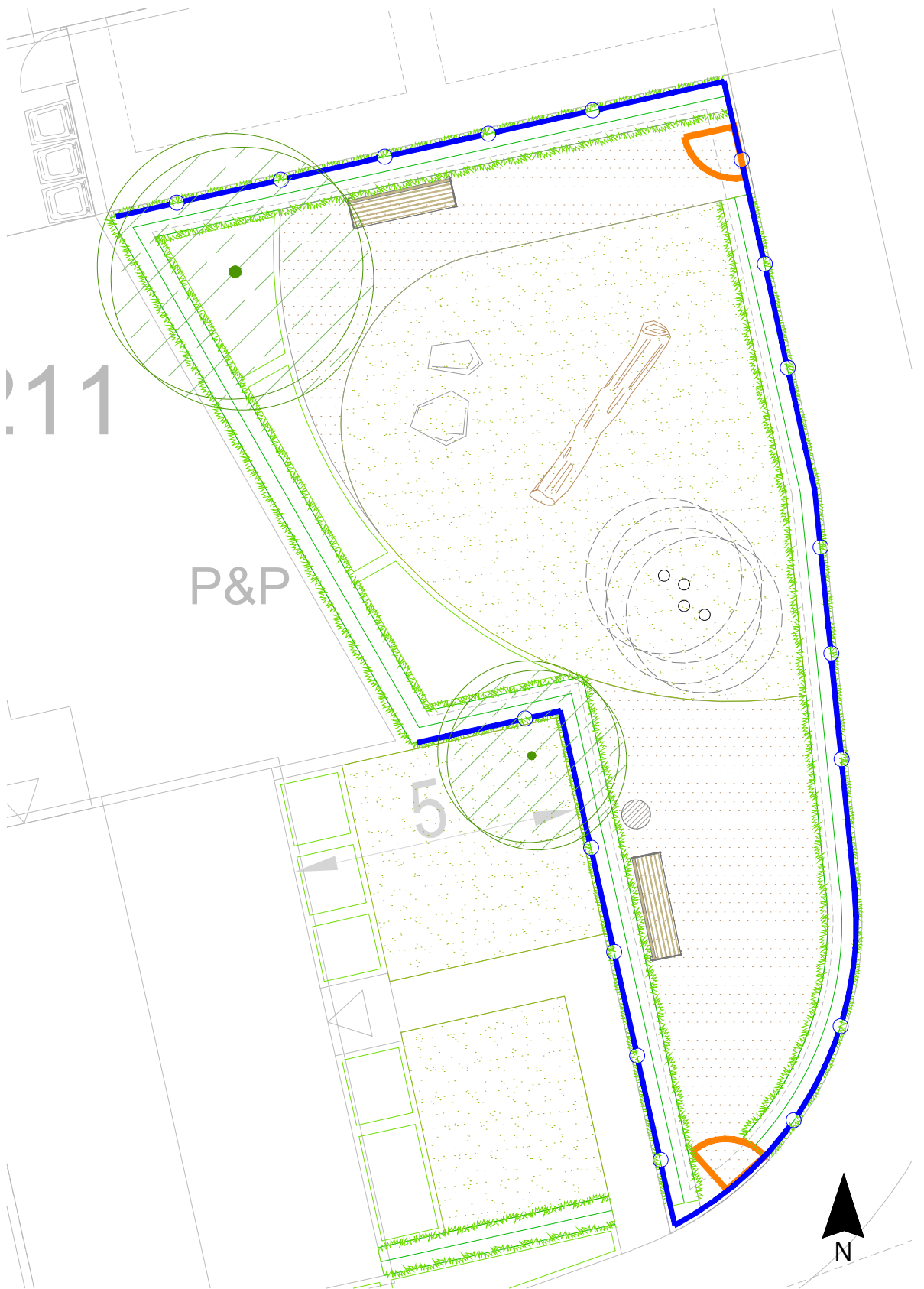
PLAY AREA 02 - 1:100 @ A1



PLAY AREA 03 - 1:100 @ A1



PLAY AREA 04 - 1:100 @ A1



PLAY AREA 05 - 1:100 @ A1



PLAY AREA 06 - 1:100 @ A1

LEGEND

Soft Landscape

- Proposed trees
- Proposed hedgerow
- Proposed planting bed
- Proposed amenity grass
- Proposed wildflower meadow mix; Emorsgate EMS or similar approved
- Proposed wildflower meadow mix; Emorsgate EMS or similar approved

Hard Landscape

- Proposed Jungle Mulch safety surfacing by PlaySmart UK; or similar approved
- Proposed resin bound gravel surfacing; or similar approved
- Proposed ROSPA compliant self-closing gate (to match railing; with contrasting colour; or similar approved)
- Proposed bow topped railing; 1100mm height; colour - black; or similar approved
- Proposed Portman Litter Bin by Furnitubes; or similar approved
- Proposed Neo Seat by Furnitubes; 3 person; 1800x710x800mm; or similar approved
- Proposed ArborSystem by GreenBlue Urban; structural load bearing tree cells; exact dimension to manufacturer detail; or similar

Play Equipment

- Proposed play log by ROSPA compliant specialist manufacturer; or similar
- Proposed play boulder by CED; or similar approved
- Proposed timber stepping log by Playdale; or similar approved
- Proposed Timber Seesaw by Playdale; or similar approved
- Proposed Single Balance Beam by Playdale; or similar approved
- Proposed Jungle Scramble climbing pile by Playdale; or similar approved
- Proposed Clustered Stilts by Playdale; or similar approved
- Proposed Timber Junior Swing by Playdale; or similar approved

FOR OTHER LANDSCAPE DRAWINGS REFER TO THE FOLLOWING:
Detailed Planting Proposals:
1562A10-LLA-ZZ-00-DR-L-0200 SERIES



Location Plan - Not to Scale

0 1 2 5m
Scale in metres

P03	26.02.25	Update to revised red line	RF	SV
P02	24.02.25	Update to client comments	RF	SV
P01	21.02.25	First issue	KYZ	RF
Rev	Date	Description	Dm	Chk

Title: Detailed LAP Proposals
Project: Llanwrn 4E & 4G
Client: St Modwen Homes
Date: February 2025
Scale: 1:100 @ A1
Drawing No: 1562A10-LLA-ZZ-00-DR-L-0401
Revision: P03
Suitability: S2
Project No: 1562 A10

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LIZ LAKE ASSOCIATES
LANDSCAPE ARCHITECTS

LLANWERN 4E & 4G

LANDSCAPE MANAGEMENT PLAN

SCHEDULE OF IMPLEMENTATION

February 2025

Materials: ITEM: PROPRIETARY PRODUCT / TYPE

Translocated herbicide: Glyphosate (if applicable and site conditions/regulations allow) or alternative (adapted to site conditions).

Slow release fertiliser: 'Enmag' or similar approved.

Mulch: 'Coarse chipped tree bark composted for 2-4 weeks, particle size 25-75mm diameter. No fines.

Planting compost: 'Topgrow' peat free tree and shrub planting compost.

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