

Tree locations are subject to confirmation of engineering and foundation details. Foundations shall comply with guidelines set by structural engineering consultants, and shall accord with the current NHBC Standards 'Building near Trees' and shall accommodate immediate and future impact of tree or shrubs on buildings and their foundations.

Any proposed substitutions, whether species, cultivar, pot size or other specification, must be approved by landscape architect prior to planting;

Any significant layout changes necessitating revised details (such as new retaining walls casting shade on planting beds) should be reported to the landscape architect;

All Nursery Stock to comply with BS3936 Part 1:1992 and all subsequent amendments;

All Landscape operations to comply with BS4428:1989 and all subsequent amendments;

The landscape contractor to make him/herself aware of any underground services prior to planting.

Any poor site or soil preparation or conditions to be reported to site manager for remediation prior to planting.

No substitutions are to be made without prior approval of the Local Authority;

In relation to the adopted SAB features, the works will be supervised by the approved SAB representative.

WATERING
During tree, hedge, shrub, perennial and grass establishment and for duration of maintenance period ensure that sufficient water is applied using a hose to maintain healthy growth. During very dry summer spells, trees to be watered at rate of 25L and shrubs at 5L per plant per week during establishment. Draw back mulch and water with hose. Do not use sprays or sprinklers (except for grass and wildflowers) as these just wet the top of the mulch and do not penetrate the root zone.

Maintenance operations shall include:
• Litter clearance;
• Watering;
• Control of insects, fungus and other diseases;
• Control of weeds;
• Pruning and trimming;
• Refirming and other operations necessary for proper growth;
• Regular checking and repair / removal of tree guys/stakes and ties as necessary.

Maintenance must be carried out at the appropriate time in order to achieve the standards described. Additional management will be required during drought or after strong winds or other disturbances.

Health & safety legislation
All operations must comply with relevant sections of the following legislation:
• Health and Safety at Work Act 1974;
• Control of Pesticides Regulations 1986;
• Food and Environment Protection Act 1985;
• The Wildlife and Countryside Act 1981; Schedule 9 Section 14 makes it an offence for anyone to knowingly introduce Japanese Knotweed into the wild.
The Control of Pesticides Regulations 1986; these regulations require all those who handle or use pesticides (including herbicides) to hold approved Certificates of Competence. Only approved pesticides as covered under this Act may be used.
The Environmental Protection (Duty of Care) Regulations 1991; these regulations require all producers, carriers and disposers of waste to follow a Code of Practice and keep records. Any material contaminated with Japanese Knotweed is a 'waste' unless treated for re-use.
The Health and Safety (First Aid) Regulations 1981; and
Guidance notes produced by the Health and Safety Executive with respect to safe working practices.

REINSTATEMENT
Reinstate disturbance to soil structure, mulch or planting to original condition

CONTROL OF PESTS
Combat any attack by mammals/fungus/insect/other pests. Submit proposals for control method to CA for approval

WATERING
Supply: Potable mains water.
Quantity: Draw back mulch and wet full depth of topsoil. Application: Thin, trim and shape each specimen appropriately to species, location, season, and stage of growth, leaving a well balanced natural appearance.
Tools: Use clean sharp secateurs, hand saws or other approved tools. Trim off ragged edges of bark or wood with a sharp knife.
Compostable material to be removed to compost heap on site

DISPOSAL OF ARISING
Remove arisings to on-site compost heap/habitat piles sited in discreet locations in the POS

LITTER/TIPPED MATERIALS
Collect and remove from site.

INVASIVE SCRUB
Cut down to ground level and dig out roots.

KNOTWEED
Appearance of knotweed should be reported to CA for instruction.

PROTECTION OF PAVED AREAS
Protect areas affected by maintenance operations using boards/tarpaulins. Do not place excavated or imported materials directly on paving.

CLEANLINESS
Soil and arisings: Remove from hard surfaces. Leave the works in a clean, tidy condition at completion and after any maintenance operations.

PEDESTRIAN ACCESS
Wherever works impede pedestrian or vehicular access the Contractor shall provide and maintain safe alternative routes alongside the affected work area

SOILS
• Topsoil and subsoil to be stored in separate, non-overlapping mounds and topsoil should be stripped from any areas used for subsoil storage. The minimum amount of compaction should be applied when forming soil storage mounds, they should not be driven across. Topsoil mounds should be no greater than 2m in height and subsoil mounds should be no higher than 3m;

• All imported or amended site soils for tree and shrub planting will comprise sandy loams as per BS 3882:2015 and BS 8601:2013, of slightly acid pH on placement and with excellent drainage and aeration properties. Details of the soils to be imported (certification in accordance with BS 3882:2015 and BS 8601:2013) and the soil scientist's interpretive report evidencing fitness for purpose, will be made available to the LPA. Soil scientist to advise if ripping is required underneath tree pit.

• Soil for rain gardens, in addition to the above specification, to be of minimum porosity 40%, and minimum conductivity 30m/hr. Refer to Engineer details for SUDS construction details;

• The protection of topsoil and subsoil for planting areas should accord with the Construction Code for the Sustainable Use of Soils on Construction Sites (DEFRA, 2009), BS 3882:2015 and BS 8545:2014;

• Great care must be taken to preserve soil quality and integrity;

• All ground modelling to be to smooth and flowing contours new soil edge to be feathered to marry into adjacent levels;

• All planting and grass areas to be cultivated, with prior ripping where necessary to relieve compaction caused by tracking;

• Soils allowed to settle prior to planting or seeding;

• Settled soil profiles to be 300mm topsoil over 600mm subsoil for all areas of tree planting/mixed tree and shrub planting, including provision for a minimum 10 cubic metres of root available soil (11m2) for each new tree. Shrubs only and mixed shrub and to receive 300mm topsoil over 150mm subsoil; grass or wildflower turf to be 150mm topsoil over 150mm subsoil; direct seeding of wildflower mixes to be compost over subsoil, as per specification below

REFIRMING OF TREES, SHRUBS AND PERENNIALS
Timing: After strong winds, frost heave and other disturbances
Reforming: Tread around the base until firmly bedded.
Collars in soil at base of tree stems, created by tree movement; Break up by fork, avoiding damage to roots. Backfill with topsoil and firm.

Ensure trees are vertical and adjust tree guys, stakes or ties as necessary.

Ensure that stakes are self supporting and reduce in height by one third each year to complete removal at end of third year. Adjust tie and spacer to top of stake. Ensure stakes do not come into contact with tree directly. If sufficient anchorage has not been established at the end of the third year then tree is to be replaced.

Loosen off tree ties regularly to accommodate new growth.

WATERING
During establishment and for duration of maintenance period ensure that sufficient water is applied using a hose to maintain healthy growth. During very dry summer spells, trees to be watered at rate of 10L per plant per week during establishment. Where watering tube is not fitted, draw back mulch and water with hose. Do not use sprays or sprinklers as these just wet the top of the mulch and do not penetrate the root zone.

PRUNING
In accordance with good horticultural and arboricultural practice and at appropriate season for the type of plant. Prune to remove dead, dying or diseased wood and to promote healthy growth. Removing branches: Do not damage or tear the stem.

Wounds: Keep as small as possible and cut cleanly back to sound wood.
Cutting: Make cuts above and sloping away from an outward facing healthy bud, angled so that water will not collect on cut area.
Larger branches: Prune neither flush nor leaving a stub, but using the branch bark ridge or branch collar as a pruning guide.

Appearance: Thin, trim and shape each specimen appropriately to species, location, season, and stage of growth, leaving a well balanced natural appearance.
Tools: Use clean sharp secateurs, hand saws or other approved tools. Trim off ragged edges of bark or wood with a sharp knife.
Compostable material to be removed to compost heap on site

FORMATIVE PRUNING OF YOUNG TREES
Formative pruning of young trees will be to BS 3882:2015 and mulch circles to trees will be maintained for a minimum 3 years.

Time of year: Do not prune during the late winter/early spring sap flow period.
Young trees up to 4 m high:
• Crown prune 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.
Whips or feathered trees: Do not prune except to remove damaged wood.

FAILURES OF PLANTING: Plants which have failed to thrive, which are apparent during the maintenance period, may be made good by replanting at discretion of the CA. Review the reason for failure to inform consideration of selecting alternative species, location or replacement soil as directed by CA.

TREE PITS
• Tree pits to be excavated to minimum 1m x 1m x depth of rootball. In sloping ground, maintain horizontal bases and vertical sides with no less than minimum depth throughout. If compacted, break up bottoms of pits to a depth with a fork and scarify sides;

All tree pits to be back filled with 600mm subsoil followed by 300mm topsoil;

Rootballed trees to be anchored underground with Greenleaf Rootball Fixing System and planted with Greenleaf 'Root Rain Urban' watering pipes, fitted according to manufacturer's instructions;

Tree supply, planting and aftercare must accord with BS 8545:2014.

No tree will be planted until it has been found to be compliant with Table 1, p.21, BS 8545:2014 – this will be established via inspections on delivery

All non-biodegradable wrappings, cages etc. to be completely removed on planting. Biodegradable wrappings also to be removed, but may, where root-ball collapse is a concern, be cut and peeled back to no less than one-third root-ball height, and pelled back wrapping removed not folded in;

All trees in grass to be planted in mulched edged bed. Tree mulch circles to be a minimum 1.5m radius and 50mm depth tapered to 25mm over the root-ball surface; underplanted with bulbs as specified below;

All planting beds adjacent grass areas and tree pits in grass to be edged with half moon edging tool to separate mulch from grass by forming neat and vertical edges;

All planting beds but not tree pits to receive peat-free compost during cultivations at a rate of 1m3 to 20m2 and slow release fertiliser (e.g. Ficolite 140) at rate of 25g/plant; beds to be thoroughly watered following planting and before mulching

existing shrub planting pruned and allowance for supplementation where necessary; where shrubs are removed, both soil and planting to be replaced. Select from the following list:
29-CWD
29-BOR
57-AJR

WEED CONTROL GENERALLY
First 3 years: keep planting areas clear of pernicious weeds by hand weeding
Weed tolerance: weed cover 5% and not to reach more than 100mm high. Do not damage adjacent plants, trees.

HAND WEEDING
Remove entire weed, including roots.
Remove the minimum quantity of soil, and disturb plants, bulbs and mulched surfaces as little as possible.
Completion: Rake area to a neat, clean condition.

HORTICULTURAL CHEMICALS
Seek approval for use from CA. Not to be used near water.

MAINTENANCE OF MULCH
Top up mulch annually to maintain 50mm settled depth of bark mulch to specification given below.
Weeding: Remove weeds growing on or in mulch by hand.

PARTICULAR REQUIREMENT FOR SPECIFIC SPECIES:

TOPIARY
Maintain spiral shape by close clipping 3no. times per year

HELLEBORES
Cut back lower dead leaves in spring

HEMEROCALLIS
Leave hollow stems on for winter and then cut back

FORMATIVE PRUNING OF NEW HEDGE, AND TRIMMING OF EXISTING HEDGE
Initially, new hedge will only require a light trim to sides to encourage a good shape and thicken up growth, and encourage upward growth, but should not be significantly cut back until attaining a height of 1.2m.

Existing hawthorn hedge to be maintained at current height of 1.4m

Hedges ideally should be cut in late winter/early spring to allow birds to eat berries/seeds, but at other times as required to maintain neat profile.

All equipment used for Hedge Cutting shall be appropriate for the task, and must be kept properly maintained and in a well sharpened condition.

Hedges to be regularly watered and weeded as above in order to promote fast growth.

HAND WEEDING
Remove entire weed, including roots.
Remove the minimum quantity of soil, and disturb plants, bulbs and mulched surfaces as little as possible.
Completion: Rake area to a neat, clean condition.

HORTICULTURAL CHEMICALS
Seek approval for use from CA. Are to be used strictly in accordance with the manufacturer's latest written instructions and current government regulations and shall only be used by persons holding the relevant NPIC certificate of competence.

MAINTENANCE OF MULCH
Top up mulch annually to maintain 50mm settled depth of bark mulch until pants close over, to specification given above

SUDS AND OTHER CONTROL STRUCTURES
Refer to Quad Consulting Management Plan and engineer drawings for details of location and type of structures. Visually check the stability and integrity of all structures at each visit, ensuring that structures are sound and fit for use.
Repair or replace with like materials and fixings as necessary. Remove any silt or other debris from slab aprons, remove any blockage; report any malfunction to CA.

FERTILISER Do not use

All planting beds to receive Green-tech mycorrhizal Root Grow (granules for general planting and root dip for bare root planting), applied according to manufacturer recommendations;

Mulch to be dark brown mixed conifer bark of particle size 8-35mm and pH range 5.0-7.0 to BS PAS 100:2005; mulch to be laid to 75mm (settled) depth.

WATERING
During tree, hedge, shrub, perennial and grass establishment and for duration of maintenance period ensure that sufficient water is applied using a hose to maintain healthy growth. During very dry summer spells, trees to be watered at rate of 25L and shrubs at 5L per plant per week during establishment. Draw back mulch and water with hose. Do not use sprays or sprinklers (except for grass and wildflowers) as these just wet the top of the mulch and do not penetrate the root zone.

WILDFLOWER AMENITY TURF from www.wildflowerturf.co.uk laid on topsoil as per supplier recommendation 130m2 SPECIES RICH turf: WFT-Species-Rich-26

WILDFLOWER SUDS TURF from www.wildflowerturf.co.uk laid on topsoil as per supplier recommendation 36m2 SUDS turf: WFT-SUD-37

WILDFLOWER ROOF TURF from www.wildflowerturf.co.uk laid on free draining Wildflower Roof Substrate supplied with turf 23m2: WFT-ROOF-34

NATURALISED BULB PLANTING
• 15m2 bulb mix suitable for shade from www.wildflowerturf.co.uk: 'BulbsST', planted in swathes to supplier recommendation; shade-tolerant bulbs to flower February-May; mowing to be carried out in June once leaves have died back.

existing shrub planting pruned and allowance for supplementation where necessary; where shrubs are removed, both soil and planting to be replaced. Select from the following list:
29-CWD
29-BOR
57-AJR

Mix in swathes:-3
8-Cxp
8-LG
19-BSil
19-Hxh
19-Vb

Mix in swathes:-4
29-CBM
29-RFD
57-RSS

Mix with heuchera at front
23-SKG
23-Ma
30-HFP

Mix in swathes:-2
21-Hxh
8-Ma
8-Av
8-AB
8-Pols
13-HSO
17-BSil

GRASS & WILDFLOWER WATERING (INCLUDING GREEN ROOFS): During establishment and for duration of maintenance period ensure that sufficient water is applied using a fine sprinkler or oscillating spray to maintain healthy growth.
Allow for filling depressions following settlement and reseed.

FAILURES OF GRASS/FLOWERS: Bare areas and areas of dead grass that have failed to thrive, which are apparent during the maintenance period, must be made good by recultivation and reseeded with seed mix specified as per Planting Plan.

EDGES TO GRASS AREAS:
Form edges to planting beds and around newly planted trees with a suitable edging tool, to clean straight lines or smooth curves. Draw back soil from edges to permit use of edging shears and remove all arisings.

At the time of each cut, trim all grass edges round the base of trees, manholes, etc. and remove arisings. Maintain mulch circles around trees as specified above. Sweep all adjoining hard areas clear of cuttings and remove.

LITTER CLEARANCE
Ensure site remains free of litter and tipped materials

CUTTING OF GRASS
The Contractor shall inspect all areas to be mown, and remove litter, stones and earth clods larger than 25 mm in any dimension and other debris immediately prior to cutting or treatment being undertaken. Cut when grass is reasonably dry.

Grass shall not be cut in adverse weather and ground conditions. Cutting shall only recommence when it is safe to do so without danger of damaging the sward, surface levels or contours of the ground.

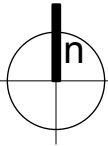
legend

- mulched shrub beds, edged against turf with half moon edging tool
- species-rich lawn turf with swathes of bulbs
- bulbs
- wildflower turf for SUDS and part shade
- existing trees retained
- existing tree removed
- proposed tree
- proposed hedge
- existing planting retained
- green roof wildflower turf as specified above

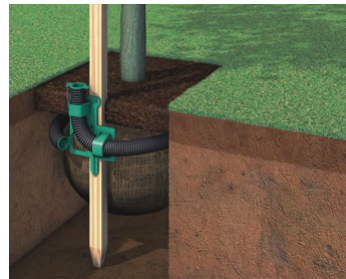
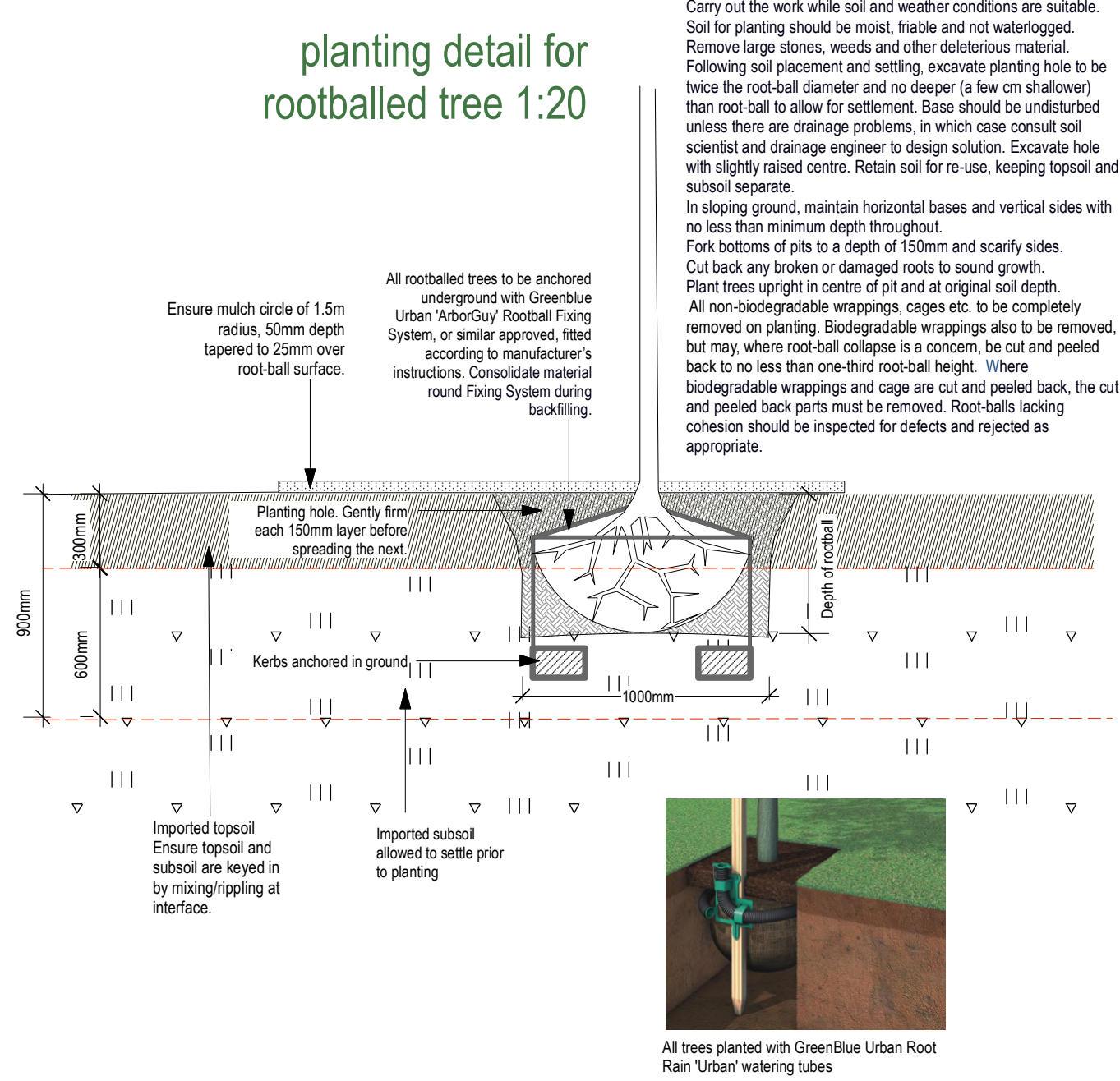


planting specification

Spacing	ID	No.	Latin Name	Scheduled Size	
6/m2	AB	23	Astrantia 'Buckland'	30-40, 3L	Full pot
4/m2	AJR	70	Aucuba japonica 'Rozannie'	30-40cm, 3L	3 breaks in lower third, bushy
TREE	Atg	1	Acer tataricum ssp. ginnala	3.5m fthrd	RB
6/m2	Av	23	Aquilegia vulgaris	30-40cm, 3L	Full pot
4/m2	BOR	29	Berberis thunbergii 'Orange Rocket'	30-40, 3L	3 breaks in lower third
8/m2	BSil	67	Bergenia 'Silberlicht'	30-40, 3L	Full pot
5/1mm	Ca-1	127	Corylus avellana	1u1, 100-125cm	3 breaks BR
SPEC	CaFS	3	Cupressus arizonica 'Fastigiata'	35L	1.5m spirai
4/m2	CBM	29	Ceanothus 'Blue Mound'	30-40cm, 3L	Bushy
SPEC	CFP	1	Cercis canadensis 'Forest Pansy'	15L	1.4-1.6m
4/m2	CWD	29	Choisya dewitteana 'White Dazzler'	40-50cm, 3L	
4/m2	Cxp	8	Cistus x pulverulentus 'Sunset'	30-40cm, 3L	3 breaks in lower third, bushy
6/m2	HFP	30	Heuchera 'Forever Purple'	30-40, 3L	5 breaks in lower third
6/m2	HSO	36	Hemerocallis 'Stella d'Oro'	30-40cm, 3L	Full pot
6/m2	Hxh	78	Helleborus x hybridus	20-30cm, 3L	Full pot
6/m2	LG	8	Lavandula 'Grappenhall'	30-40cm, 3L	5 breaks in lower third, bushy
TREE	LsS	3	Liquidambar styraciflua	3.5m, 2m clear stem	20-24cm
4/m2	Ma	46	Mahonia aquifolium 'Apollo'	20-30cm, 3L	main leader, well branched
3/m2	Pols	23	Polystichum setiferum	40-60, 5L	Full pot
4/m2	RFD	29	Rosa 'Fru Dagmar Hastrop'	30-40, 3L	5 breaks in lower third
4/m2	RSS	57	Rosmarinus officinalis 'Severn Sea'	30-40cm, 3L	3 breaks in lower third
4/m2	SKG	23	Skimmia x confusa 'Kew Green'	30-40cm, 3L	5 breaks in lower third
SPEC	SKS	5	Skimmia x confusa 'Kew Green'	40-50cm, 12L	7 breaks in lower third
6/m2	Vb	19	Verbena x bonariensis	30-40, 3L	5 breaks in lower third
3/m2	VxbA	25	Viburnum x burkwoodii 'Anne Russell'	30-40cm, 3L	3 breaks in lower third



planting detail for rootballed tree 1:20



All trees planted with Greenleaf Urban Root Rain 'Urban' watering tubes

Revision A June 2023: Bin & cycle store green roof specification amended to wildflowers only; proposed hedge added to NW side; existing hedge removed from SE side

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job title
Ty Mawr, Pontardawe

client
Pobi

drawing title
Planting & Management Plan

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