

LEGEND

	Planning application boundary		Indicative Key Levels Existing Proposed
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HARD LANDSCAPE

SURFACE TREATMENT

Paving Type 1: Vehicular Tarmac
To Engineer's specification
Note: To main driveway and accessible parking spaces

Paving Type 2A: Pedestrian Tarmac
To Engineer's specification
Note: To Southern Approach footway

Paving Type 2B: Permeable Tarmac
To Engineer's specification
Note: To MUGA

Paving Type 3A: Existing Paving Retained and Reused

Paving Type 3B: Concrete Flag Paving
To match existing adjacent paving

Paving Type 4: Paving Cell System with Grass
Unit size: 640 x 330mm
Note: To parking spaces and staff car park

Paving Type 5: Self Binding Gravel
Colour: Buff
Note: To allotment

Paving Type 6: Playground Safety Grass Mat
Colour: Green
Note: To play space

Paving Type 7: Precast Concrete Steps and Risers

Paving Type 8: Hazard Warning Paving
Colour: Buff
Note: To top and bottom of steps in accordance with Part M

EDGING
ET01
Edge Type 1 - Road Kerb with 125mm upstand
Colour: Silver
Size: 125 x 255 x 915mm

ET02
Edge Type 2 - Road kerb Laid Flush
Colour: Silver
Size: 125 x 255 x 915mm

ET03
Edge Type 3 - Edging
Colour: Silver
Size: 75 x 150 x 900mm

ET04
Edge Type 4 - Metal Edge
Material: Galvanised steel
Size: 100mm high

BOUNDARY TYPES
BT01
Boundary Type 1: Existing Boundary to Over Town Lane
Description: Existing retained and made good

BT02
Boundary Type 2: Secure Perimeter Fencing
Description: 2400mm high twin wire weldmesh fencing
Colour: Black

BT03
Boundary Type 3: Palisade Rounded Pales Fence
Description: 1200mm high
Finish: Pressure treated, natural planed finish

BT04
Boundary Type 4: Palisade Rounded Pales Fence as Fall Protection
Description: 1500mm high (min 1100mm between top of lower horizontal brace and top of upper horizontal brace)
Finish: Pressure treated, natural planed finish

BT05
Boundary Type 5: Fall Protection
Description: 1100mm high flat bar steel railings
Colour: To match architectural metalwork

BT06
Boundary Type 6: Brick Retaining Wall with BT05 Over
Description: Variable height over 500mm
Colour: To match architectural brickwork

BT07
Boundary Type 7: Low Brick Retaining Wall
Description: Variable height below 500mm
Colour: To match architectural brickwork

FURNITURE
FT01
Furniture Type 1 - Cycle Shelter

FT02
Furniture Type 2 - Sheffield Cycle Stands with Tapping Bar

FT03
Furniture Type 3 - Vehicle Restraint Bollards

FT04
Furniture Type 4 - Picnic Table and Benches

FT05
Furniture Type 5 - Timber Seat

FT06
Furniture Type 6 - Handrail

PLAY EQUIPMENT

PE01
Play Equipment Type 1 - MUGA

PE02
Play Equipment Type 2 - Net Ladder

PE03
Play Equipment Type 3 - Stepping Logs

PE04
Play Equipment Type 4 - Traverse Wall

PROPOSED PLANTING

Proposed Standard Tree Planting
Size/Spec: Refer to plant schedule for details
Note: Final location of trees to be determined with services alignment.

Proposed Multi-stem Tree Planting
Size/Spec: Refer to plant schedule for details
Note: Final location of trees to be determined with services alignment.

Proposed Hedge Planting
Product: Container grown plant stock
Size/Spec: Refer to plant schedule for details

Proposed General Shrub and Herbaceous Planting
Product: Container grown plant stock
Size/Spec: Refer to plant schedule for details

Existing Vegetation Retained

Grass Type 01 - Wildflower Meadow
Product: MeadowSow Shade Tolerant Seed Mix MS-ST
Supplier: Wildflower Turf or similar approved

Grass Type 02 - Species Rich Lawn
Product: Turf-WFT-Species-Rich-26 Species Rich Lawn Turf
Supplier: Wildflower Turf or similar approved

SOFT LANDSCAPE

Existing Trees to be Retained
To be protected in accordance with BS 5837:2012 'Trees in relation to Design, Demolition and Construction'

Root Protection Area of Existing Trees to be Retained
To be protected in accordance with BS 5837:2012 'Trees in relation to Design, Demolition and Construction'

Existing Trees to be Removed

No-dig Build Up within Tree RPA

Note: Refer to arboricultural survey & report for details

ECOLOGICAL ENHANCEMENTS

Ecological Enhancement 1: Log Pile
To Ecologist's details

Ecological Enhancement 2: Compost Heap
To Ecologist's details

Ecological Enhancement 3: Bird Box
To Ecologist's details

Ecological Enhancement 4: Bat Box
To Ecologist's details

Notes on drawings

- Refer to engineers and specialist drawings and details for lighting, drainage, underground services.
- Final tree location to be fully coordinated with lighting layout, underground service runs and site drainage.

GENERAL PLANTING SPECIFICATION NOTES

Proposed Tree Planting: Nursery Stock and Selection

All planting shall comply with the requirements specified in BS 3936:1992 'Nursery Stock' (Part One). All nursery stock and trees are to be free of pest and diseases prior to being delivered to site. The Landscape architect reserves the right to reject trees and nursery stock that do not meet specifications as set out in the requirements and guidelines in BS 3936:1992 or in accordance with the landscape architects drawings. If a particular effect or can be applied easily, appropriate remedies shall be applied and agreed with the landscape architect. If destructive inspection of a root ball is to be carried out, agreement should be in place prior as to the time and place of inspection. Inspection of shrub roots in containers or rootball can be carried out on site if required.

BS 8545:2014 'Trees: from nursery to independence in the landscape', is a new British Standard to assist people involved in resourcing, producing, planting and managing new trees in the landscape. A process for planting young trees that will result in them achieving 'independence in the landscape'. This means that they are healthy and have every chance of survival

Tree Handling

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

Dormant trees sizes of 12-16cm:

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

Dormant trees sizes of 18-20cm - 25-30cm:

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

Tree Planting

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

Tree pit dimensions are subject to soil conditions and rootball size. Tree pits can never be excavated too wide in an unrestricted space (open ground), however they can be too deep. All trees are to be planted at the correct height which is the same depth as the tree was growing on the nursery. The root collar must remain visible. Tree pit sizes are to be agreed with the landscape architect prior to excavations. All tree pits are to have suitable irrigation pipe and end cap and aeration tubes if required (aeration tubes tend to be required for trees planted in a hard landscape environment). They are only required for the first two years after which they are superfluous. All irrigation pipes are to be placed as high as possible not at the base of the rootball. The tree would also benefit from an earth reservoir around the rootball on the surface to aid watering. The reservoir is best backfilled with bark mulch to avoid soil glazing on the surface.

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

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

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

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

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

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

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

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

All topsoil is to conform to BS 3882:2015 'Multipurpose' or similar approved by an agronomist. The tree pit shall be backfilled with previously prepared topsoil excavated from the pit and additional topsoil as required. All backfilled material is to include an organic slow release fertilizer to ensure there is no adverse affect on soil organisms (Vitax Q4HN) or similar approved at a ratio of 10 -7.5 -10.2 + TE. The second application to be made 10-16 weeks after planting depending on soil type and weather conditions.

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

Guidance for Tree Pit Sizes within Soft Landscape Areas

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

Below are general guidance sizes only. The landscape contractor is to speak to the grower to obtain exact sizes prior to delivery.

Tree pit size guidelines:

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

Tree aftercare and pruning

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

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

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

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

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

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

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

Proposed Ornamental Shrub / Perennial Planting

- To be planted in a minimum of 300mm depth approved topsoil to BS 3882: 2015 'Multipurpose' in the first available planting season after construction.

- All shrubs are to be planted as container stock unless otherwise specified (5 or 10 litre), all stock is to be well rooted into the container but not pot bound.
- All shrubs are to be planted with a slow release organic fertilizer (vitax or similar approved) and backfilled with a mixture of excavated top soil and compost (not peat based). A minimum of 50 mm approved ornamental grade bark mulch is to be applied to planting areas unless stated otherwise.

Proposed Hedge Planting

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

Proposed Climbing Plants

- To be planted in a minimum of 300mm depth approved topsoil to BS 3882:2015 'Multipurpose' in the first available planting season after construction.
- All climbing plants are to be planted as container stock unless otherwise specified, all stock is to be well rooted into the container.
- All climbing plants are to be planted with a slow release organic fertilizer to a N.P.K ratio of 4.5-2.0-7.5+0.8%mg (Vitax or similar approved) and backfilled with a mixture of excavated top soil and compost (not peat based). A minimum of 50mm approved ornamental grade bark mulch is to be applied to planting areas unless stated otherwise.
- All climbers that are not self-supporting are to be supported using vine eyes and plastic coated steel wire, climbers are to be secured using plastic coated clips.

Proposed Specs-Rich Turf and Wildflower Meadow Seeding

- Before commencing with tuffing and seeding, clean all areas of all general and pernicious weeds with selective contact herbicide.
- Remove rubbish, and stones of dimensions exceeding 50mm and dig or rotavate to a depth of 150mm. Grade to smooth flowing levels cultivating to ensure roots can penetrate substrate and leave with a fine tilth.
- Immediately after laying and seeding water thoroughly.
- Continue to water for the first two weeks to prevent turf and seed from drying out, and then continue watering regularly to ensure establishment.

Planting Guidelines

- All planting and landscape operations should comply with the requirements specified in BS 3936:4:2007 'Nursery Stock' (Part One) and BS4428:1969 'Code of Practice for General Landscape Operations' (excluding hard surfaces).
- All trees are to be planted in accordance with BS: 8545:2014 'Trees: from nursery to independence in the landscape'
- All topsoil and testing to conform to BS 3882: 2015 'Specification for Topsoil and Requirements for Use'
- All fertilizers are to be applied or supervised by qualified staff to avoid the action of plasmolysis.
- Nurseries to provide protocols for ensuring that plant stock is free of invasive species.
- No planting is to be carried out when the site is covered by frost.
- Irrigation of plant material to be carried out during periods of drought will be required to ensure successful establishment of all plant stock.
- All new planting to be protected from mammal grazing by individual guards or stock proof fencing.
- If planting is to be carried out outside the growing season, all bareroot / rootballed plant stock is to be substituted with containerised stock. Specification to be agreed with Landscape Architect prior to ordering and implementation.

Maintenance Notes - Overview

- All landscaped areas are to be maintained for 24 months following practical completion (or 36 months as instructed) or until the plants have established, all tree planting to be maintained for 36 months (or other period as instructed).
- All planted areas to be kept clear of weeds at all times throughout maintenance period.
- Planted areas to be forked through regularly to keep soil loose and aerated.
- All litter and debris to be removed from landscaped areas and carted off site.
- Plants pruned as instructed by the Landscape Contractor to promote healthy growth and to remove dead and diseased wood.
- Watering as required to maintain healthy growth.
- Any species that dies or fails to establish in the first five years should be replaced by an identical species, or alternative species as agreed with LPA

Additional Notes

- Final location and tree species selection will be subject to service report and foundation depths to be provided by engineers.
- Existing levels to be preserved around existing trees and vegetation to be retained.
- Existing trees and vegetation to be retained are to be protected during construction to BS 5837:2012 'Trees in Relation to Design, Demolition and Conservation Recommendations'.
- Any necessary tree works to be carried out by an approved tree surgeon to BS 3998:2010 'Recommendations for Tree Works'
- Contractors to ensure they are working to the latest British Standards as required.

GRASS SEED MIXES

Proposed Wildflower Seed Mix Meadowsow Shade Tolerant MS-ST [G01]

Mix Specific Sowling Specification

Sowing Rate	3 g/m2
Sowing Time	September - October
Sowing	Install on a minimum of 100mm topsoil growing medium

An 80:20 mix of grasses & native wildflowers.

Flora Species	Common Name	Type
Autumn Hawkbit	Scorzoneroides autumnalis	P
Belony	Stachys officinalis	P
Birdfoot Trefoil	Lotus corniculatus	P
Cat's Ear	Hypochaeris radicata	P
Common Knapweed	Rumex acetosa	P
Common Sorrel	Centaurea nigra	P
Common Toadflax	Linaria vulgaris	P
Common Vetch	Vicia sativa	P
Cowslip	Primula veris	P
Field Scabious	Knautia anvensis	P
Hemp Agrimony	Eupatorium cannabinum	P
Kidney Vetch	Anthyllus vulneraria	P
Lady's Bedstraw	Galium verum	P
Meadow Buttercup	Ranunculus acris	P
Meadow Cranesbill	Geranium pratense	P
Meadow Vetchling	Lathyrus pratensis	P
Meadowsweet	Filipendula ulmaria	P
Musk Mallow	Malva moschata	P
Nettle Leaved Bellflower	Campnula trachelium	P
Ox Eye Daisy	Leucanthemum vulgare	P
Perforate St John's Wort	Hypericum perforatum	P
Ragged Robin	Lynchnis flos-cuculi	P
Red Campion	Silene dioica	P
Ribwort Plantain	Plantago lanceolata	P
Rough Hawkbit	Leontodon hispidus	P
Sainfoin	Onobrychis viciifolia	P
Salad Burnet	Sanguisorba minor	P
Self Heal	Prunella vulgaris	P
Water Aven	Geum rivale	P
White Campion	Silene latifolia	P
Wild Carrot	Daucus carota	BI
Wild Clay	Salvia verbenacea	P
Wild Marjoram	Origanum vulgare	P
Wild Red Clover	Trifolium pratense	P
Wood Sage	Teucrium scorodonia	P
Wood Violet	Viola odorata	P
Yarrow	Achillea millefolium	P
Yellow Rattle	Rhinanthus minor	A
Grass Species		

Sheep's Fescue	Festuca Ovina	P
Crested Dog's Tail	Cynosurus cristatus	P
Yellow Catgrass	Trisetum flavescens	P

Phase 1 - Detailed Planting Schedule

PROPOSED TREES

Species	Pot Size	Girth	Height	Specification	Qty.
Acer ginnale	RB	Multi-Stem	3.0-3.5m	Multi Stem Bushy /5/7 brks /3 Stems /Min. 0.75m Clear Stems /4x	2
Acer rubrum 'October Glory'	RB	18-20cm	3.0-4.0m	Semi-Mature Bushy /Clear Stem min. 200cm /5/7 brks /6x	1
Betula nigra	RB	Multi-Stem	3.0-3.5m	Multi Stem Bushy /5/7 brks /3 Stems /Min. 0.75m Clear Stems /4x	1
Cercodiphyllum japonicum	RB	25-30cmg	5.0-6.0m	Semi-Mature Bushy /Clear Stem min. 200cm /5/7 brks /6x	1
Cornus kousa 'Satomi'	RB	Multi-Stem	1.75-2.00m	Multi Stem Bushy /5/7 brks /3 Stems /Min. 0.75m Clear Stems /4x	1
Magnolia stellata	RB	Multi-Stem	1.75-2.00m	Multi Stem Bushy /5/7 brks /3 Stems /Min. 0.75m Clear Stems /4x	1
Prunus avium 'Plena'	RB	16-18cmg	3.0-3.5m	Semi-Mature Bushy /Clear Stem min. 200cm /5/7 brks /6x	1
Prunus cerasifera 'Nigra'	RB	18-20cm	3.0-3.5m	Semi-Mature Bushy /Clear Stem min. 200cm /5/7 brks /6x	2
Prunus serrula	RB	Multi-Stem	3.0-3.5m	Multi Stem Bushy /5/7 brks /3 Stems /Min. 0.75m Clear Stems /4x	2
Salix caprea	RB	16-18cmg	3.0-3.5m	Semi-Mature Bushy /Clear Stem min. 200cm /5/7 brks /6x	1
Total :					13

PROPOSED SPECIMENS

Species	Pot Size	Height	Density	Specification	Qty.
Hamamelis intermedia 'Arnold Promise'	20L	175-200cm	Counted		1
Total :					1

PROPOSED HEDGING

Species	Condition	Height	Density	Specification	Length	Qty.
Acer campestre	3L	80-100cm		Branched /Bushy	10.13m	31
Carpinus betulus	3L	80-100cm		Branched /Bushy	10.13m	31
Choisya ternata	3L	80-100cm		Branched /Bushy	10.13m	31
Phorbia fraseri 'Red Robin'	3L	80-100cm		Branched /Bushy	10.13m	31
Prunus avium	3L	80-100cm		Branched /Bushy	10.13m	31
Total :					50.65m	155

PROPOSED SHRUBS & HERBACIOUS

Species	Pot Size	Height	Density	Specification	Qty.
Phorbia fraseri 'Red Robin'	3L	80-100cm		Branched /Bushy	31
Carpinus betulus	3L	80-100cm		Branched /Bushy	31
Choysa ternata	3L	80-100cm		Branched /Bushy	31
Prunus avium	3L	80-100cm		Branched /Bushy	31
Sarcococca hookeriana var. humilis	3L	25-40cm	7/m²	Bushy /3/5 brks /Containerised	55
Rosmarinus officinalis 'Prostratus'	3L	20-30cm	10/m²	Bushy /3/5 brks /Containerised	41
Deutzia compacta	3L	30-40cm	5/m²		66
Cistus x obtusifolius Sweet 'Thrive'	3L	25-40cm	4/m²	Bushy /3/5 brks /Containerised	36
Rosmarinus 'Miss Jessop's Upright'	15L	80-80cm	3/m²	Bushy /6/9 brks /Containerised	19
Vinca minor 'Alba'	2L	10-15cm	7/m²		54
Sarcococca hookeriana var. humilis	3L	25-40cm	5/m²	Bushy /3/5 brks /Containerised	51
Vinca minor 'Gertrude Jekyll'	2L	10-15cm	7/m²		39
Viburnum farreri	5L	40-60cm	1/m²	Bushy /3/5 brks /Containerised	3
Choysa ternata	3L	40-60cm	5/m²		31
Phorbia fraseri 'Red Robin'	5L	45-60cm	5/m²		64
Forsythia x intermedia 'Goldrausch'	3L	30-40cm	5/m²		15
Elaeagnus x ebbingei 'Compacta'	3L	40-60cm	5/m²		10