

Introduction

This short form report and the appended supplemented documents therein have been prepared as part of an application to discharge condition 9 of planning consent 125018/FO/2019, granted on the 23rd of January 2020.

With reference to the aforementioned planning consent, condition 9 requires that details of the provision of biodiversity enhancements are submitted. These details shall be implemented in full and made available for use prior to first occupation of the development.

Biodiversity Enhancements

The Biodiversity enhancements that will be introduced are summarised below, supported by the following documents which can be found in Appendix 1:

- BA-BDP-01-XX-DR-L-(9-)L201 (Tree and Hedge Planting Plan)
- BA-BDP-01-XX-DR-L-(9-)L202 (Planting Plan)
- BA-BDP-01-XX-SP-L-000 (Externals Materials Matrix)

Planting Strategy

48 new trees will be planted on the site. These trees consist of a mix of multi-stem and single stem native trees, with a large proportion consisting of flowering and fruiting trees to support wildlife - refer to the Tree and Hedge Planting Plan for specific species information, as well as the Externals Materials Matrix from page 16.

Similarly to the tree planting strategy, the flower and shrub planting targets ecological enhancement including a mix of flowering species providing year round interest including English Bluebells and Daffodils. Wild grasses and flowers will also be introduced and where fencing has been built, creepers will be planted creating additional ecological habitat - refer to the Planting plan for specific species information, as well as the Externals Materials Matrix from page 18.



Fauna Habitat Enhancement Strategy

The quieter side of the site to the south will feature 2 nr Vivara Pro WoodStone starling Nest Boxes and 2 nr Schwegler Underground Bumble Bee Boxes - refer to page 12 of the External Materials Matrix for further information.

BEE AND BIRD BOXES



Prior to demolition of the preexisting building, and with reference to Demolition Prior Approval dated 30th August 2019, reference number 124417/DEM/2019, a Schwegler 1FF box was installed in a location determined by the appointed Ecologist, Tyler Grange. Please refer to the photo below where it has been installed to an existing tree to the east of the site.



Applicant Commitment Statement

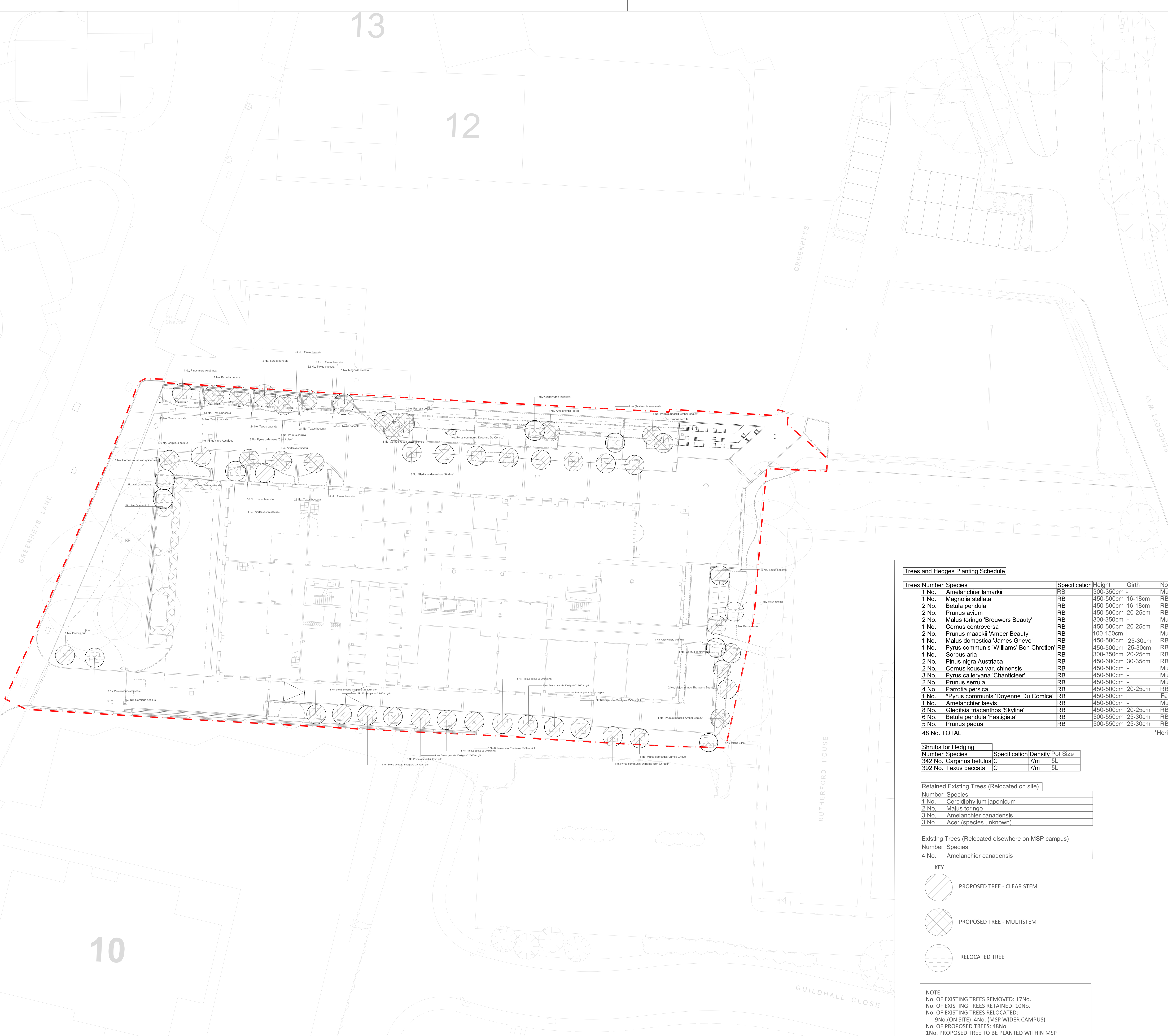
As Project Manager representing the applicant for the development, Bruntwood Scitech, I confirm that the details stated within this report are accurate and will be introduced in full, and made available for use prior to the first occupation of the development.

Colm Donaghy
Project Manager





Appendix 1 - Supporting Design Information



Trees and Hedges Planting Schedule

Trees	Number	Species	Specification	Height	Girth	Notes
1 No.		Amelanchier lamarkii	RB	300-350cm	-	Multi - Stemmed 3-5 breaks
1 No.		Magnolia stellata	RB	450-500cm	16-18cm	RB: Clear Stem 2m
2 No.		Betula pendula	RB	450-500cm	16-18cm	RB: Clear Stem 2m
2 No.		Prunus avium	RB	450-500cm	20-25cm	RB: Clear Stem 1.75m
2 No.		Malus toringo 'Brouwers Beauty'	RB	300-350cm	-	Multi - Stemmed 3-5 breaks
1 No.		Cornus controversa	RB	450-500cm	20-25cm	RB: Clear Stem 1.5m
2 No.		Prunus maackii 'Amber Beauty'	RB	100-150cm	-	Multi - Stemmed 3-5 breaks
1 No.		Malus domestica 'James Grieve'	RB	450-500cm	25-30cm	RB: Feathered from 1m
1 No.		Pyrus communis 'Williams' Bon Chrétien'	RB	450-500cm	25-30cm	RB: Feathered from 1m
1 No.		Sorbus aria	RB	300-350cm	20-25cm	RB: Clear Stem 2m
2 No.		Pinus nigra Austriaca	RB	450-600cm	30-35cm	RB: Clear Stem 1.75m
2 No.		Cornus kousa var. chinensis	RB	450-500cm	-	Multi - Stemmed 3-5 breaks
3 No.		Pyrus calleryana 'Chanticleer'	RB	450-500cm	-	Multi - Stemmed 3-5 breaks
2 No.		Prunus serrula	RB	450-500cm	-	Multi - Stemmed 3-5 breaks
4 No.		Parrotia persica	RB	450-500cm	20-25cm	RB: Clear Stem min. 2m
1 No.		*Pyrus communis 'Doyenne Du Comice'	RB	450-500cm	-	*Fan trained from ground*
1 No.		Amelanchier laevis	RB	450-500cm	-	Multi - Stemmed 3-5 breaks
8 No.		Gleditsia triacanthos 'Skyline'	RB	450-500cm	20-25cm	RB: Clear Stem min. 2m
6 No.		Betula pendula 'Fastigiata'	RB	500-550cm	25-30cm	RB: Clear Stem min. 1.5m
5 No.		Prunus padus	RB	500-550cm	25-30cm	RB: Clear Stem min. 1.5m
48 No. TOTAL						*Horizontal wires for support

Shrubs for Hedging		Specification	Density	Pot Size
342 No.	Carpinus betulus	C	7/m	5L
392 No.	Taxus baccata	C	7/m	5L

Retained Existing Trees (Relocated on site)	
Number	Species
1 No.	Cercidiphyllum japonicum
2 No.	Malus toringo
3 No.	Amelanchier canadensis
3 No.	Acer (species unknown)

Existing Trees (Relocated elsewhere on MSP campus)	
Number	Species
4 No.	Amelanchier canadensis

- KEY
- PROPOSED TREE - CLEAR STEM
 - PROPOSED TREE - MULTISTEM
 - RELOCATED TREE

NOTE:
No. OF EXISTING TREES REMOVED: 17No.
No. OF EXISTING TREES RETAINED: 10No.
No. OF EXISTING TREES RELOCATED:
9No.(ON SITE) 4No. (MSP WIDER CAMPUS)
No. OF PROPOSED TREES: 48No.
1No. PROPOSED TREE TO BE PLANTED WITHIN MSP
WIDER CAMPUS. SIZE AND SPECIES TO BE
DETERMINED BASED ON LOCATION.

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NOTES

TO BE READ IN CONJUNCTION WITH:
(S)-L003 - LANDSCAPE COLOUR MASTERPLAN
(S)-L006 - LEVELS PLAN
(S)-L006 - TREE CONSTRAINTS PLAN
(S)-L007 - LANDSCAPE PAVING MATERIALS
(S)-L101 - GENERAL ARRANGEMENT PLAN
(S)-L202 - PLANTING PLAN
(S)-L301 - DETAIL AREAS SHEET 1 OF 3
(S)-L302 - DETAIL AREAS SHEET 2 OF 3
(S)-L303 - DETAIL AREAS SHEET 3 OF 3
(S)-L401 - TYPICAL CONSTRUCTION DETAILS
(S)-L402 - TYPICAL CONSTRUCTION DETAILS
(S)-L403 - TERRACE SEATING DETAILS
(S)-L404 - 'SW1' SEAT WALL DETAILS
(S)-L405 - 'SW2' SEAT WALL DETAILS
(S)-L406 - 'SW3' SEAT WALL DETAILS
(S)-L601 - LANDSCAPE SECTIONS SHEET 1 OF 2
(S)-L602 - LANDSCAPE SECTIONS SHEET 2 OF 2
(S)-L701 - TREE PIT DETAILS
(S)-L702 - TIMBER SCREEN DETAIL
BA-BDP-01-XX-SF-L-0001 - OUTLINE SPECIFICATION

C02 MP JF 03.11.21
4No. TREES ALONG SOUTHERN BOUNDARY REPLACED WITH NEW TREES AS PART OF TREE REPLACEMENT STRATEGY

C01 MP JF 05.03.21
ISSUE FOR CONSTRUCTION

D CZ JF 31.01.20
DESIGN AMENDMENTS FOLLOWING RE-DESIGN OF SOUTHERN PERIMETER LANDSCAPE TO ACCOMMODATE NEWSP ACCESS.

C LJ JF 31.01.2020
DRAWING NOTES UPDATED IN RELATION TO TREE NUMBERS

B CZ JF 16.01.20
2 No. RELOCATED TREES CHANGED TO PROPOSED TREES, AND RELOCATED ELSEWHERE WITHIN MSP CAMPUS.

A CZ JF 09.01.20
SPECIES AMENDED TO REFLECT BREXIT COMMENTS. HATCHES ADDED TO IDENTIFY TREE TYPES.

MANCHESTER SCIENCE PARKS

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NORTH



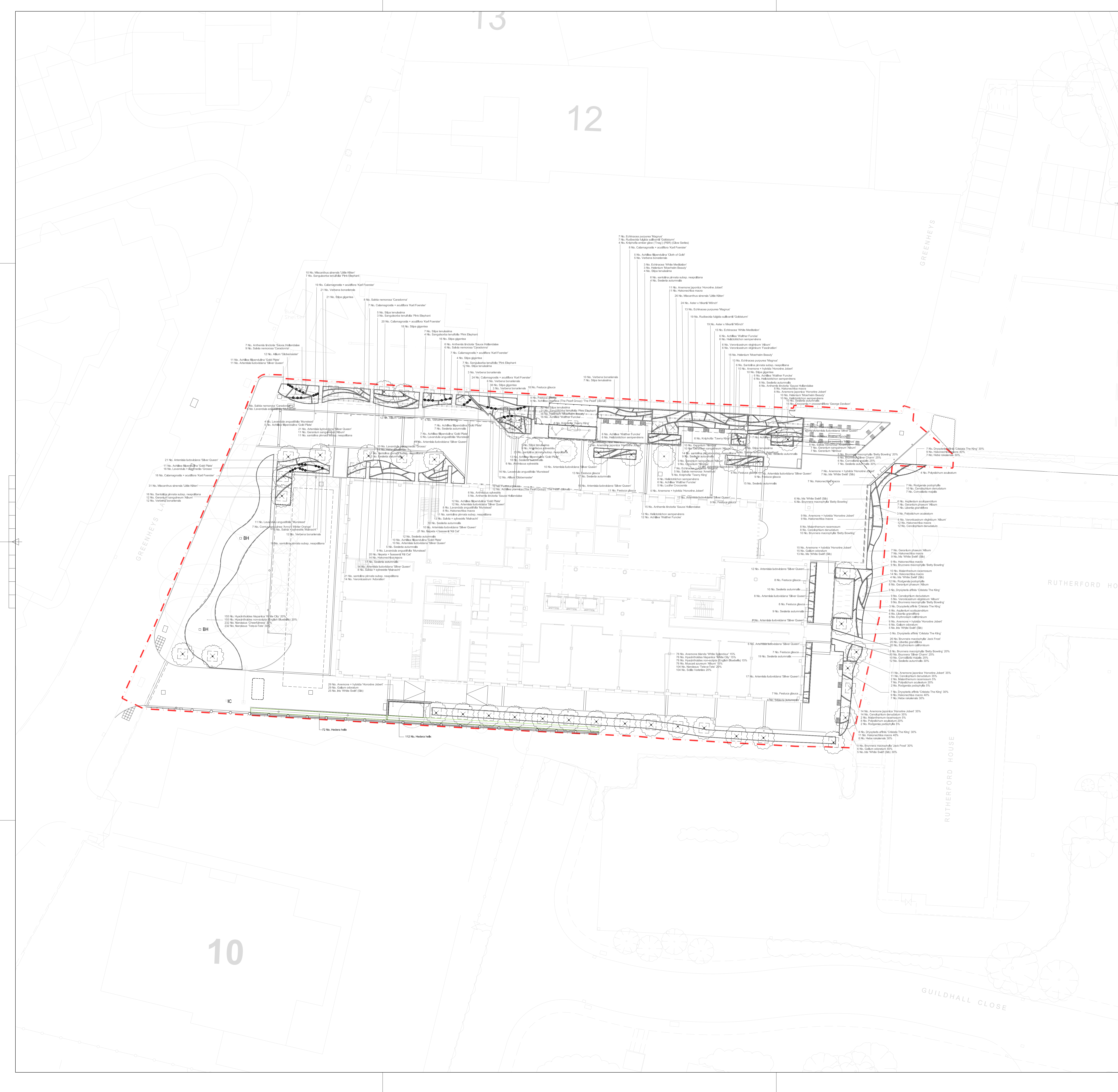
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MSP BASE Building
MANCHESTER SCIENCE PARKS

TREE AND HEDGE
PLANTING PLAN

DATE: 04/17
1:200
JULY '19
C02

P3000597 BA-BDP-01-XX-DR-L-49-L101



Planting schedule

Shrubs	Number	Species	Specification	Density	Pot Size
	7	No. Cornus sanguinea 'Anny's Winter Orange'	C	5/m ²	5L
	36	No. Hebe rakaiensis	C	5/m ²	5L
	61	No. Lavandula angustifolia 'Munstead'	C	5/m ²	5L
	19	No. Salvia nemorosa 'Amethyst'	C	5/m ²	5L
	36	No. Lavandula x intermedia 'Grosso'	C	7/m ²	5L

Herbaceous	Number	Species	Specification	Density	Pot Size
	5	No. Achillea filipendula 'Cloth of Gold'	C	7/m ²	5L
	76	No. Achillea filipendula 'Gold Plate'	C	7/m ²	5L
	21	No. Achillea phaeica (The Pearl Group) 'The Pearl' (donal)	C	7/m ²	5L
	66	No. Achillea 'Watter Funck'	C	7/m ²	5L
	36	No. Allium 'Globemaster'	C	Counted	5L
	57	No. Anemone japonica 'Honorable Jobert'	C	7/m ²	5L
	81	No. Anemone x hybrida 'Honorable Jobert'	C	7/m ²	5L
	41	No. Anemone incolora 'Sauce Hollandaise'	C	7/m ²	5L
	20	No. Anthriscus sylvestris	C	7/m ²	5L
	239	No. Artemisia ludoviciana 'Silver Queen'	C	7/m ²	5L
	43	No. Aster x frikartii 'Mönch'	C	7/m ²	5L
	31	No. Brunnera macrophylla 'Jack Frost'	C	7/m ²	5L
	47	No. Brunnera macrophylla 'Betty Bowring'	C	7/m ²	5L
	16	No. Brunnera 'Silver Charm'	C	7/m ²	5L
	64	No. Ceanothus 'denudatum'	C	7/m ²	5L
	23	No. Convolvulus majalis	C	7/m ²	5L
	15	No. Crocosmia x crocosmiflora 'George Davison'	C	7/m ²	5L
	51	No. Echinacea purpurea 'Magnus'	C	7/m ²	5L
	18	No. Echinacea 'White Meditation'	C	7/m ²	5L
	28	No. Erythronium californicum	C	7/m ²	5L
	56	No. Galium odoratum	C	7/m ²	5L
	22	No. Geranium phaeum 'Album'	C	7/m ²	5L
	49	No. Geranium sanguineum 'Album'	C	7/m ²	5L
	28	No. Geranium 'Nimbus'	C	7/m ²	5L
	47	No. Helenium 'Moerheim Beauty'	C	7/m ²	5L
	74	No. Iris 'White Swirl' (Sib)	C	7/m ²	5L
	4	No. Kniphofia 'Tawny King' (PBR) (Glow Series)	C	7/m ²	5L
	18	No. Kniphofia 'Tawny King'	C	Counted	5L
	33	No. Libertia grandiflora	C	7/m ²	5L
	5	No. Lucifer Crocosmia	C	7/m ²	5L
	22	No. Malanthemum racemosum	C	7/m ²	5L
	41	No. Nepeta x faassoni 'Ed Cat'	C	7/m ²	5L
	23	No. Rodgersia podophylla	C	7/m ²	5L
	26	No. Rudbeckia fulgida sullivanti 'Goldsturm'	C	7/m ²	5L
	30	No. Salvia nemorosa 'Caradonna'	C	7/m ²	5L
	37	No. Salvia x sylvestris 'Mainacht'	C	7/m ²	5L
	42	No. Sanguisorba lenuifolia 'Pink Elephant'	C	7/m ²	5L
	146	No. Santolina pinnata subsp. neapolitana	C	7/m ²	5L
	78	No. Verbena bonariensis	C	7/m ²	5L
	17	No. Veronicastrum virginicum 'Album'	C	7/m ²	5L
	6	No. Veronicastrum virginicum 'Fascination'	C	7/m ²	5L
	14	No. Veronicastrum 'Adoration'	C	7/m ²	5L

Climbers

Number	Species	Density
184	No. Hedera helix 3.5/ m	

Bulbs

Number	Species	Specification	Density
78	No. Anemone blanda 'White Splendour'	Top size bulb	7/m ²
233	No. Hyacinthoides hispanica 'White City'	Top size bulb	7/m ²
233	No. Hyacinthoides non-scripta (English Bluebells)	Top size bulb	7/m ²
78	No. Muscari azureum 'Album'	Top size bulb	7/m ²
232	No. Narcissus 'Cheerfulness'	Top size bulb	7/m ²
336	No. Narcissus 'Tete-a-Tete'	Top size bulb	7/m ²
104	No. Scilla varieties	Top size bulb	7/m ²

Ferns

Number	Species	Specification	Density	Pot Size
12	No. Asplenium scolopendrium	C	7/m ²	5L
31	No. Dryopteris affinis 'Cristata The King'	C	5/m ²	5L
22	No. Polystichum aculeatum	C	7/m ²	5L

Grasses

Number	Species	Specification	Density	Pot Size
101	No. Calamagrostis x acutiflora 'Karl Foerster'	C	7/m ²	5L
143	No. Festuca glauca	C	7/m ²	5L
141	No. Hakonechloa macra	C	7/m ²	5L
46	No. Helictotrichon sempervirens	C	7/m ²	5L
67	No. Miscanthus sinensis 'Little Kitten'	C	6/m ²	5L
291	No. Sasa autumnalis	C	7/m ²	5L
107	No. Stipa gigantea	C	7/m ²	5L
101	No. Stipa tenuissima	C	7/m ²	5L

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(S)-L702 - TIMBER SCREEN DETAIL
BA-RDP-01-XX-SPL-0001 - OUTLINE SPECIFICATION

C02
MINOR AMENDMENTS TO PLANTING BED SHAPES, AND
PLANTING SCHEDULE, TO REPLACE TL PLOTS WITH SL PLOTS.
ISSUED FOR CONSTRUCTION.
MP JF 03.11.2021
MP JF 05.03.2021

C
DESIGN AMENDMENTS FOLLOWING RE-DESIGN OF SOUTHERN
PERIMETER LANDSCAPE TO ACCOMMODATE MWP ACCESS.
CZ DAW 29.05.2020
LJ DAW 31.01.2020

B
PLANTING AREAS AMENDED
LJ DAW 31.01.2020

A
INTERIM STAGE 4 ISSUE
CZ DAW 12.12.19

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MSP Bruntwood
BASE Landscape

Materials Matrix
Sixth Issue

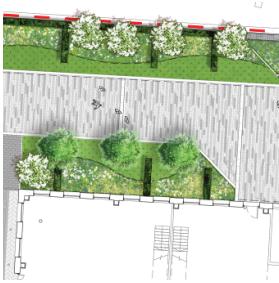
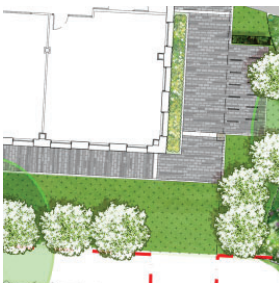
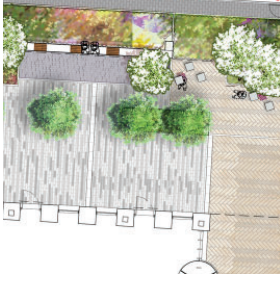
Project - BASE Building

Stage 4: External works Materials Matrix/ Outline Specification

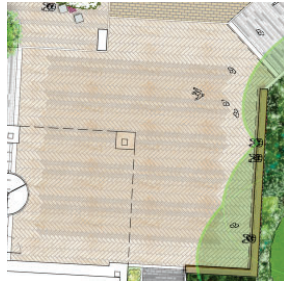
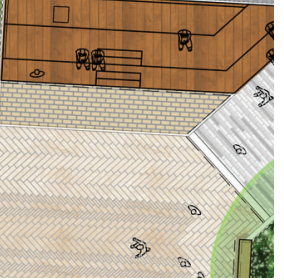
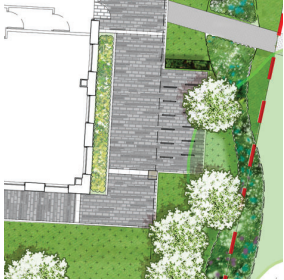
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BA-BDP-01-XX-SP-L-0001_E – P3000597

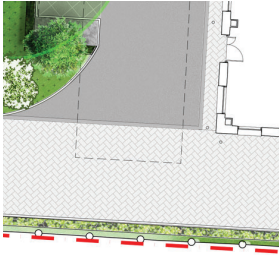
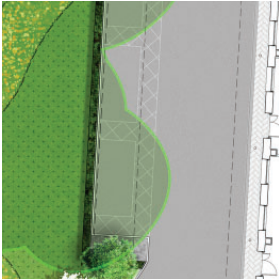
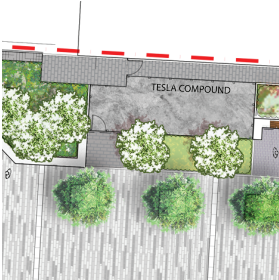
HARD LANDSCAPE MATERIAL

ITEMS	MASTERPLAN LOCATION	PRODUCT REFERENCE
PAVING TYPE 1 - MAIN SPINE WALKWAY - occasional vehicle access 		Supplier: Hardscape Product: Kellen Liscio/ Breccia Colour: Light colour blend: 15% Liscio Bianco 28% Breccia Bianco 28% Breccia Rosso 28% Breccia Alpi Sizes: 150 x 300mm x 80mm Thickness of stone to be verified by manufacturer and engineer. To be laid on a flexible sand bed. Close butted 2mm joint
PAVING TYPE 2 - CIRCULATION ROUTES - occasional vehicle access 		Supplier: Hardscape Product: Kellen Breccia - To be laid as permeable paved system with 'drain joint' Colour: Mid grey blend: 40% Tagenta B, 30% Tagenta E, 30% Alpi Size: 150 x 300mm x 80mm Thickness of stone to be verified by manufacturer and engineer. To be laid on a permeable sand bed, with Hardscape 'drain joint' between long paving joints, to Engineer's specification and Manufacturer's instructions.
TYPE 3 PAVING - OUTDOOR ROOMS 		Supplier: Hardscape Product: Kellen 'Setts' (Liscio and Breccia Mix) Colour: Light grey blend (Details TBC) Size: 100 x 100 mm x 80mm Thickness of stone to be verified by manufacturer and engineer. To be laid on a flexible sand bed. Close butted 2mm joint

HARD LANDSCAPE MATERIAL

ITEMS	MASTERPLAN LOCATION	PRODUCT REFERENCE
TYPE 4 PAVING - MAIN ENTRANCE PIAZZA PAVING - occasional vehicle access  warm tones  example of pattern similar to proposed		Supplier: Hardscape Product: Kellen 'Magma' (Liscio and Breccia Mix) Colour: Warm buff colour (Details TBC) Size: 150 x 300mm x 100mm, 150 x 600mm x 100mm, 75 x 300mm x 100mm Thickness of stone to be verified by manufacturer and engineer. To be laid on a flexible sand bed. Close butted 2mm joint Bespoke pattern - Bespoke units and sizes to be developed with Hardscape.
TYPE 5 PAVING - 'SUN TERRACE' FEATURE PAVING - occasional vehicle access  		Supplier: Hardscape Product: Kellen 'Magma' (Liscio and Breccia Mix) Colour: Warm buff colour (Details TBC) Size: 150 x 300 x 100mm, 150 x 600 x 100mm Thickness of stone to be verified by manufacturer and engineer. To be laid on a flexible sand bed. Close butted 2mm joint Bespoke pattern - Bespoke units and sizes to be developed with Hardscape.
TYPE 6 PAVING - CONNECTING PATHS 		Supplier: Hardscape Product: Kellen Breccia 'Planks' Colour: Light/ Mid Grey Blend (Details TBC) Size: 50 x 400 x 100mm planks. Thickness of stone to be verified by manufacturer and engineer. To be laid on a flexible sand bed. Close butted 2mm joint

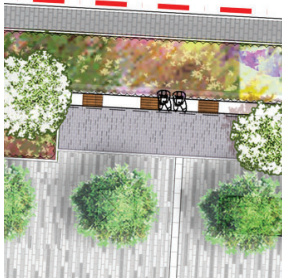
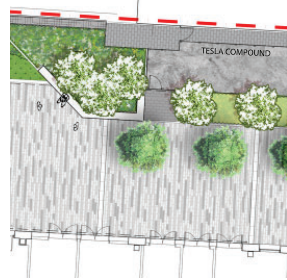
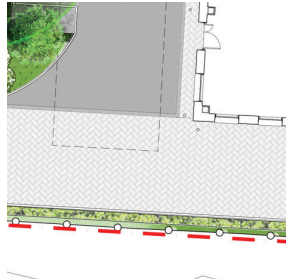
HARD LANDSCAPE MATERIAL

ITEMS	MASTERPLAN LOCATION	PRODUCT REFERENCE
TYPE 7 PAVING - SERVICE AREA - regular vehicle access 		Supplier: Tobermore Product: City Pave VS5 (Concrete block paving) Colour: Grey Blend (Details TBC) Size: 150 x 300 x 100mm Herringbone pattern Thickness of stone to be verified by manufacturer and engineer. To be laid on a rigid concrete bed with mortar joints. Expansion joints/ movement joints to engineers details.
TARMAC TO SERVICE YARD - regular vehicle access 		Supplier: TBC Product : Tarmac suitable for regular vehicle overrun Depth and build up to engineers details. Thermoplastic painted hatch to demark parking spaces.
CONCRETE TO TESLA COMPOUND 		Product : Insitu concrete for tesla compound and feeder pillar base, to engineers details.

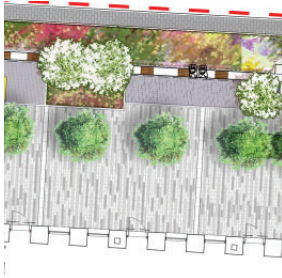
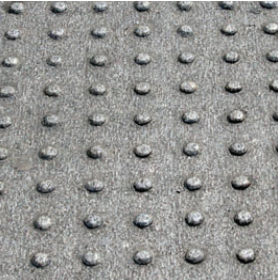
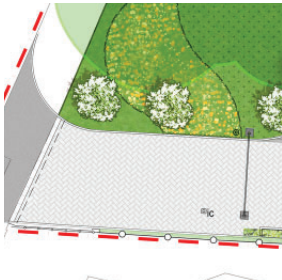
HARD LANDSCAPE MATERIAL

ITEMS	MASTERPLAN LOCATION	PRODUCT REFERENCE
UPSTAND PRE-CAST CONCRETE KERB 125mm (REF: K1) 		Supplier: Marshalls to BS EN 1340 P Product: Pre-cast Concrete Kerb British Standard Half battered Kerb laid as 125mm upstand Size: 125 x 150 x 915mm Full cement mortar bedding with close butted 2mm joint. Concrete haunching to engineers details. Special units: Radius kerbs to be used to obtain smooth curves on radii of 15m or less. Corner units to be used, mitre joints not permitted.
DROP KERB (REF: DK) 		Supplier: Marshalls to BS EN 1340 P Product: Pre-cast Concrete Drop Kerb British Standard Size: 125 x 150 x 915mm Full cement mortar bedding with close butted 2mm joint. Concrete haunching to engineers details. Special units: Radius kerbs to be used to obtain smooth curves on radii of 15m or less. Corner units to be used, mitre joints not permitted.
FLUSH STONE KERBS 200mm WIDE (REF: K2) 		Supplier: Hardscape Product: Flush stone kerbs Colour: White 'Mist' (bush hammered) Size: 200 x 150 x 900mm Full cement mortar bedding with close butted joint. Concrete haunching to engineers details.

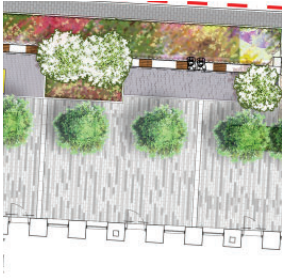
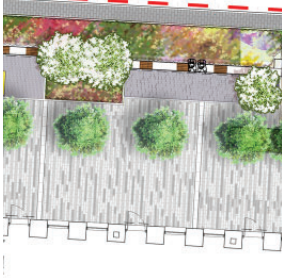
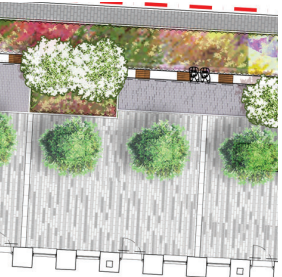
HARD LANDSCAPE MATERIAL

ITEMS	MASTERPLAN LOCATION	PRODUCT REFERENCE
FLUSH STONE KERB 100mm WIDE (REF: K3) 		Supplier: Hardscape Product: Granite flush kerb Colour: White 'Mist' (bush hammered) Size: 100 x 600 x 150mm Full cement mortar bedding with close butted joint. Concrete haunching to engineers details.
FEATURE BANDING - MAIN SPINE WALKWAY (REF: FB) 		Supplier: Hardscape Product: Granite feature paving band Colour: White 'Mist' (bush hammered) Size: 300 x 600 x 150mm Full cement mortar bedding with close butted joint. Concrete haunching to engineers details.
SOLDIER COURSE PACVING BAND 100mm WIDE (REF: PB) 		Supplier: Tobermore Product: Soldier course paving band Colour: Grey Size: 150x 300x 100mm Width of band: 300mm Full cement mortar bedding with close butted joint. Concrete haunching to engineers details.

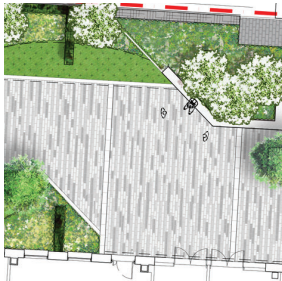
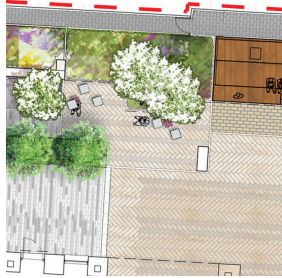
HARD LANDSCAPE MATERIAL

ITEMS	MASTERPLAN LOCATION	PRODUCT REFERENCE
FLUSH RECYCLED PLASTIC EDGE (REF: PE) 		Manufacturer: Lawn Edge. www.lawnedge.com. Product: Smart Edge Flexible lawn edging. Size: 10cm - 14cm deep x 2mm thick x 50m roll . Shape: flexible, black plastic edging. Material: black plastic Recycled content: Submit proposals. Finish: As supplied. Colour: Black. Method of fixing: To be laid flush with lawn surface - no area of plastic edge to protrude above lawn. To be fixed using fixing pins as supplied by manufacturer.
FLUSH METAL EDGE TRIM (REF: ME)  		Supplier: Kinley Product: Aluminium edge 'Aluexcel' Flush metal edge Depth: Approximate 100mm. TO be adjusted according to paving thickness Fixing: In accordance with manufacturer's recommendations Location: Planted tree pit areas
TACTILE PAVING TO PEDESTRIAN CROSSINGS (ALONG WITH SECTION 278 WORKS) 		Product: Pre-cast concrete tactile blister paving Colour: Mid Grey (flamed) Size: 400mm wide x 400mm long x 100mm Supplier: Marshalls or similar approved

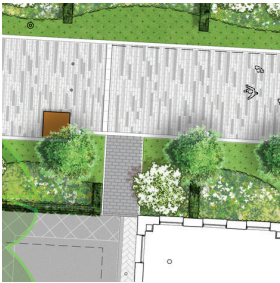
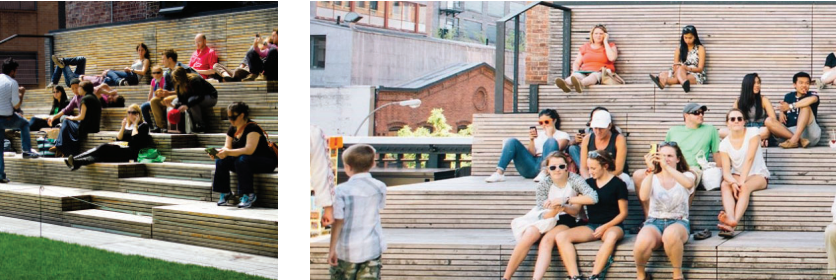
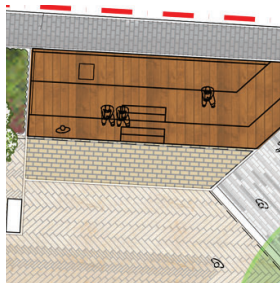
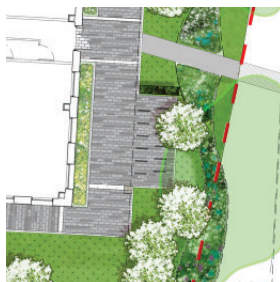
SITE/STREET FURNITURE/EQUIPMENT

ITEMS	MASTERPLAN LOCATION	PRODUCT REFERENCE
RAISED METAL EDGE 200mm HIGH (REF: RE1) 		Supplier: Kinley Product: Corten steel edge Nominal size: 200mm raised metal edge Fixing: In accordance with manufacturer's recommendations
RAISED METAL EDGE TRIM 450mm HIGH (REF: RE2)  		Supplier: www.kinley.co.uk Product: Corten steel planter Size: 450mm raised above ground level.
OUTDOOR ROOMS SEAT WALLS (REF: SW1)  		Supplier: Bespoke Product: White concrete seat wall with wrap over timber seating plinth. FSC Timber: Hardwood timber ie iroko or similar approved. Fixed using galvanised steel straps Integrated lighting to Engineers details Colour: White Size: 500mm wide x 450mm high

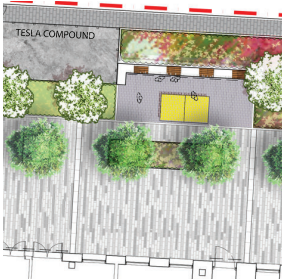
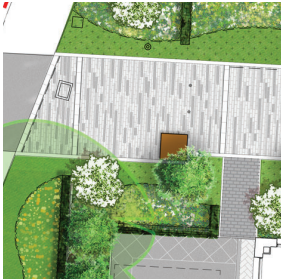
SITE/STREET FURNITURE/EQUIPMENT

ITEMS	MASTERPLAN LOCATION	PRODUCT REFERENCE
FEATURE SEAT WALL TO MAIN PIAZZA (REF: SW2) 		Supplier: Hardscape Product : Granite 'Magma' feature seat wall To include: Anti-skate deterrents (refer to design intent drawing) and feature lighting Bespoke skateboard deterrent: Hardscape Size: Custom Designed (refer to design intent drawings) Integrated lighting to Engineers Details Note: Stone to be cut from a continuous seam, to ensure marbling pattern within stone continues along the full length of the bench
APPROACH SEAT WALL TO MAIN WALKWAY (REF: SW3) 		Supplier: Hardscape Product : Granite 'Magma' feature seat wall To include: Anti-skate deterrents (refer to design intent drawing) and feature lighting Bespoke skateboard deterrent: Hardscape Size: Custom Designed (refer to design intent drawings) Integrated lighting to Engineers Details Note: Stone to be cut from a continuous seam, to ensure marbling pattern within stone continues along the full length of the bench
FEATURE SEATING SEAT CUBES (REF: S1)  		Supplier: Hardscape or similar approved Product: Granite Stone Seat Cube with recessed base/ shadow gap Colour: White Nominal size: 500 mm Cube

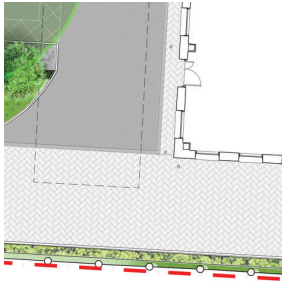
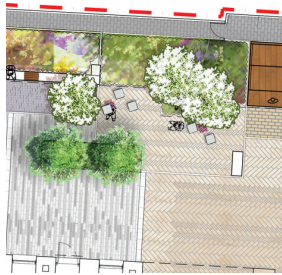
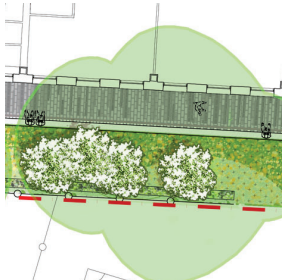
SITE/STREET FURNITURE/EQUIPMENT

ITEMS	MASTERPLAN LOCATION	PRODUCT REFERENCE
MSP SEATING PLINTH (REF: S2) 		Supplier: Furnitubes or similar approved Product: Bespoke metal / timber benches Nominal size: 1500 x 1500 x 450mm Laser cut corten steel side panels Hardwood timber top, Iroko or similar approved. Integrated lighting To match Bright Building bench as shown on image.
TIMBER 'SUN TERRACE' SEATING AND STEPS (REF: TS) 		Supplier: Contractor bespoke design Product: Bespoke metal / timber bleacher seating Size: Custom design (refer to design intent drawings) FSC Timber. Hardwood for seating / facing elements, Iroko or similar approved. Green tanalised treated softwood timber for any structural timber elements. Note, design is subject to final structural input from qualified Engineer. Integrated lighting beneath edge of seating to Engineers Details
SHEFFIELD CYCLE STANDS (REF: CS) 		Supplier: Broxap Product : Sheffield Cycle Stands Size(s) to manufacturers specification Material: Stainless Steel, Grade 316 Fixed below ground to manufacturers/engineers details Height: Above ground, 800mm

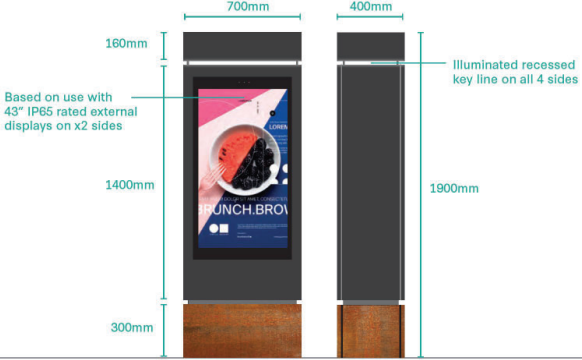
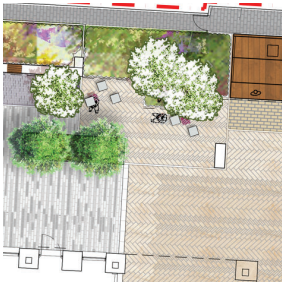
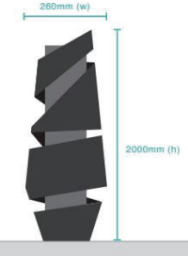
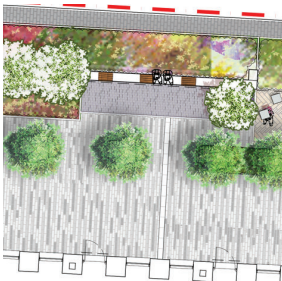
SITE/STREET FURNITURE/EQUIPMENT

ITEMS	MASTERPLAN LOCATION	PRODUCT REFERENCE
TIMBER FENCE PANEL (REF: FE1 AND FE2) AND GATE 		Product : Timber fence panel screen Size: Custom design (refer to design intent drawings) FSC Timber, Hardwood, i.e Southern Yellow Pine or similar approved. Security spikes to top of fence type FE1 Ironmongerydirect or similar approved Product: Prikkastrips, 500 x 45mm Gate Type 1: Tesla compound. Slatted timber lockable gate to coordinate with height and design of fence around compound. Details of locking requirements to be confirmed by client/engineer. Gate Type 2: Access security gate, to south of Greenhays Building. 1.2 high x 1m wide, Timber gate, lockable.
TREE GRILLE IN HARD PAVING (REF: TG) 		Supplied by: Jones of Oswestry or similar approved Tree Grille Specification Product: 'Arborslot' Approx size 1500 x 1500mm Infill paving to match surrounding hard paving Flush uplights to engineers details Trees in Soft Product : Flush metal edge around planting
DROP BOLLARDS (REF: DB) 		Supplier: Broxap Product: Drop Bolards TBC (to match bollard lighting at Bright) Colour: Powder coated dark grey RAL colour TBC.

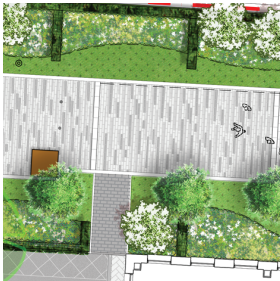
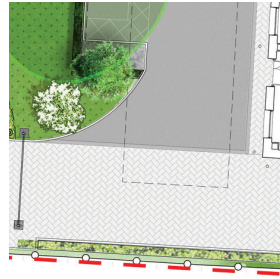
SITE/STREET FURNITURE/EQUIPMENT

ITEMS	MASTERPLAN LOCATION	PRODUCT REFERENCE
STATIC BOLLARDS (REF: B) 		Product: Static Bollard Supplier: TBC (to match bollard lighting at Bright) Colour: Powder coated dark grey. RAL colour TBC.
LITTER BINS (REF: LB) 		Supplier: Artform Urban Furniture Product : 'Select Recycling bin' Capacity: 91L each waste stream. 2 waste streams required - 'general' and mixed recycling 'bottles / cans' Height: 1067mm Width: 856mm Depth: 432mm Finish: Panguard II powder coated. Black trim for general waste, green trim for mixed recycling Fixing: surface mounted
BEE AND BIRD BOXES  		Ecology enhancements Product : 2 x Vivara Pro WoodStone Starling Nest Box 2 x Schwegler Underground Bumble Bee Boxes Supplier: https://www.wildcare.co.uk/wildlife-nest-boxes/bat-boxes.html or similar approved Final instalation location to be confirmed by the ecologist and Landscape Architect.

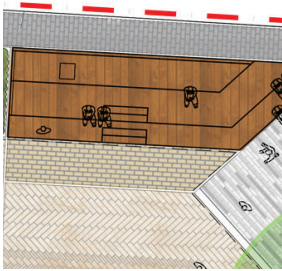
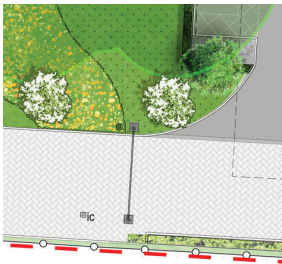
SITE/STREET FURNITURE/EQUIPMENT

ITEMS	MASTERPLAN LOCATION	PRODUCT REFERENCE
ELECTRONIC SIGN (REF: ES)  		Product : Large Electronic Sign Location: 1No. within main entrance square Specification: Electronic information sign with corten steel plinth. Sizes as shown on image. Contractor to request further details from Client if required
SIGNAGE POST (REF: SG and SG2)   'SG' 'SG2'		Product : Signage post Size(s) to manufacturers specification Supplier: TBC 'SG2' Totem signage requires power for illumination. Concrete foundation to Engineer's details, nominal size: 1000mm(L) x 750mm(W) x 450mm(D) above prepared sub-base. Contractor to request further details from Client if required.
LINEAR DRAINS TO PEDESTRIAN AREAS (REF: 'LD')  		Product : Slot drains and channel drains within public realm Size(s) to engineer's details Supplier: Engineer's specification

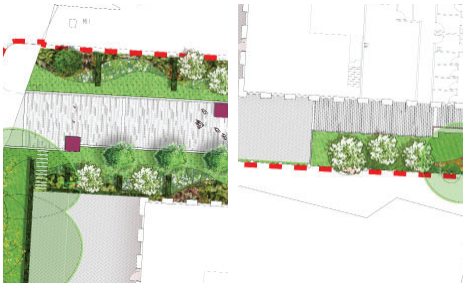
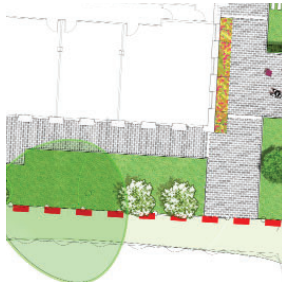
SITE/STREET FURNITURE/EQUIPMENT

ITEMS	MASTERPLAN LOCATION	PRODUCT REFERENCE
LIGHTING COLUMNS AND BOLLARDS 		Product: Lighting bollards and columns (to match bollard lighting at Bright Building) Colour: Dark Grey. RAL TBC. RAL: TBC Refer to Lighting Design Proposals Supplier: To engineers specification
UPLIGHTING AND SEAT WALL LIGHTING 		Products: Refer to Buro Happold Lighting Design Refer to Lighting Design Strategy for luminaire types, equipment and achieved lux levels Supplier: to engineers specification
MAN HOLE (REF:MH) 		Product :Manhole Size(s) to engineer's details Supplier: to engineers specification Refer to engineers details for size and loading requirements. Lid to be orientated with the paving pattern. Lid to be recessed and filled with paving other than in the service yard

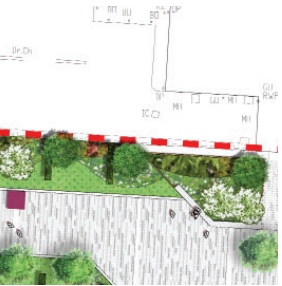
SITE/STREET FURNITURE/EQUIPMENT

ITEMS	MASTERPLAN LOCATION	PRODUCT REFERENCE
'PT' POP UP TAP AND 'PP' POP UP POWER 		Product: Pop up power Product: Pop up tap Supplier: TBC by engineer. Fixing to engineers details
INERCOM AND ARM BARRIER (REF: IC) 		Supplier: TBC Product : Arm barrier and intercom Proposed intercom to engineers details.
KNEE RAIL (REF: KR) 		Product : Timber Knee Rail Supplier: Contractors choice Treated softwood, green tanalised timber. Galvanised steel straps. Height: 500mm Posts every 1.2m

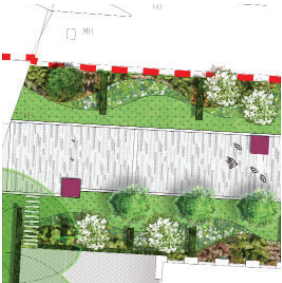
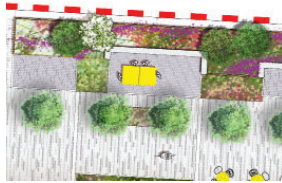
SOFT LANDSCAPE

ITEMS	MASTERPLAN LOCATION	PRODUCT REFERENCE
MATURE TREES - IN SOFT LANDSCAPE   For further details refer to: (9-) L101 - General Arrangement Plan (9-) L201 - Tree and Hedge Planting Plan (9-) L401 - Typical Construction Details (9-) L701 - Tree Pit Details		30-35cm Girth mature trees planted (for species please refer to (9-) L201.) Tree pit: 1.5m x 1.5m x 1.2m depth (including drainage layer - a deeper excavation may be required to accommodate root barrier) NB: Specification is different for trees planted in soft landscaping, containers, pavements and tree grilles, please refer to specific drawings for details. Tree Mulch (soft landscaping): 'Mini Pine Mulch' size 3 -18mm, see (9-) L701 for specific details (Supplier: Melcourt, www.melcourt.co.uk, 01666 502711) Backfill: Well mixed 45% appropriate pH topsoil, 45% soil conditioner, 10% river sand, 5kg/m³ slow release fertilisation, 2 year formulation and ameliorant
SEMI-MATURE TREES   For further details refer to: (9-) L101 - General Arrangement Plan (9-) L201 - Tree and Hedge Planting Plan (9-) L401 - Typical Construction Details (9-) L701 - Tree Pit Details		16-18cm / 20-25cm semi-mature trees planted as per drawing (9-) L201 Tree Pit: 1.5m x 1.5m x 1.2m depth (including drainage layer - a deeper excavation may be required to accommodate root barrier) NB: Specification is different for trees planted in soft landscaping, containers, pavements and tree grilles, please refer to specific drawings for details. Tree Mulch (soft landscaping): 'Mini Pine Mulch' size 3 -18mm, see (9-) L701 for specific details (Supplier: Melcourt, www.melcourt.co.uk, 01666 502711) Backfill: Well mixed 45% appropriate pH topsoil, 45% soil conditioner, 10% river sand, 5kg/m³ slow release fertilisation, 2 year formulation and ameliorant Relocated trees: existing trees to be lifted carefully and re-planted where specified, to be the same as planting specification for new trees (see drawings referenced).

SOFT LANDSCAPE MATERIAL

ITEMS	MASTERPLAN LOCATION	PRODUCT REFERENCE
MULTI-STEM TREES For further details refer to: (9-) L101 - General Arrangement Plan (9-) L201 - Tree and Hedge Planting Plan (9-) L401 - Typical Construction Details (9-) L701 - Tree Pit Details		Tall 3-5 breaks multi-stemmed trees as specified in drawing (9-) L201 Tree Pit: 1.5m x 1.5m x 1.2m depth (including drainage layer - a deeper excavation may be required to accommodate root barrier) NB: Specification is different for trees planted in soft landscaping, containers, pavements and tree grilles, please refer to specific drawings for details. Tree Mulch (soft landscaping): 'Mini Pine Mulch' size 3 -18mm, see (9-) L701 for specific details (Supplier: Melcourt, www.melcourt.co.uk, 01666 502711) Backfill: Well mixed 45% appropriate pH topsoil, 45% soil conditioner, 10% river sand, 5kg/m³ slow release fertilisation, 2 year formulation and ameliorant
FAN TRAINED TREES For further details refer to: (9-) L101 - General Arrangement Plan (9-) L201 - Tree and Hedge Planting Plan (9-) L401 - Typical Construction Details (9-) L701 - Tree Pit Details		Tall 3-5 breaks multi-stemmed trees as specified in drawing (9-) L701. Tree Pit: 1.5m x 1.5m x 1.2m depth (including drainage layer - a deeper excavation may be required to accommodate root barrier) NB: Specification is different for trees planted in soft landscaping, containers, pavements and tree grilles, please refer to specific drawings for details. Tree Mulch (soft landscaping): 'Mini Pine Mulch' size 3 -18mm, see (9-) L701 for specific details (Supplier: Melcourt, www.melcourt.co.uk, 01666 502711) Backfill: Well mixed 45% appropriate pH topsoil, 45% soil conditioner, 10% river sand, 5kg/m³ slow release fertilisation, 2 year formulation and ameliorant Support: S3i Stainless Steel Wire Frame Kit or similar www.s3i.co.uk

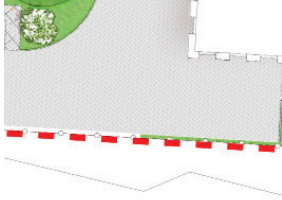
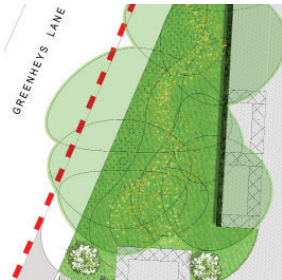
SOFT LANDSCAPE

ITEMS	MASTERPLAN LOCATION	PRODUCT REFERENCE
HEDGE PLANTING  For further details refer to: (9-) L101 - General Arrangement Plan (9-) L201 - Tree and Hedge Planting Plan (9-) L401 - Typical Construction Details		Hedging to be planted according to drawing (9-)L201 - to be planted at 7No. per linear meter. Taxus within borders to be maintained at a low height to define planting beds. 700mm. Hedging at boundary's to be maintained as a tall hedge for screening -1.2 to 1.5m tall Supplier: Instahedge.com, or similar approved. Mulch (soft landscaping): 'Mini Pine Mulch' size 3 -18mm, see (9-) L701 for specific details (Supplier: Melcourt, www.melcourt.co.uk, 01666 502711) Backfill: Well mixed 45% appropriate pH topsoil, 45% soil conditioner, 10% river sand, 5kg/m³ slow release fertilisation, 2 year formulation and ameliorant
ORNAMENTAL SHRUBS  For further details refer to: (9-) L101 - General Arrangement Plan (9-) L202 - Planting Plan (9-) L401 - Typical Construction Details		Ornamental shrubs to be planted in densities of 5-7No./m² at 30% of planting areas, refer to drawing (9-) L202 Mulch (soft landscaping): 'Mini Pine Mulch' size 3 -18mm, see (9-) L701 for specific details (Supplier: Melcourt, www.melcourt.co.uk, 01666 502711) Backfill: Well mixed 45% appropriate pH topsoil, 45% soil conditioner, 10% river sand, 5kg/m³ slow release fertilisation, 2 year formulation and ameliorant

SOFT LANDSCAPE

ITEMS	MASTERPLAN LOCATION	PRODUCT REFERENCE
ORNAMENTAL HERBACEOUS AND GRASS PLANTING For further details refer to: (9-) L101 - General Arrangement Plan (9-) L202 - Planting Plan (9-) L401 - Typical Construction Details		Mix of low maintenance perennial meadow style planting featuring long grasses, herbaceous plants and ferns dependent on aspect (see drawing (9-) L202. Planted in 450mm of high quality soil Mulch: (soft landscaping): 'Mini Pine Mulch' size 3 -18mm, see (9-) L701 for specific details (Supplier: Melcourt, www.melcourt.co.uk, 01666 502711) Backfill: Well mixed 45% appropriate pH topsoil, 45% soil conditioner, 10% river sand, 5kg/m³ slow release fertilisation, 2 year formulation and ameliorant
BULBS For further details refer to: (9-) L101 - General Arrangement Plan (9-) L202 - Planting Plan (9-) L401 - Typical Construction Details		Large / medium sized bulbs to be planted, species to include but not limited to Narcissus, Iris, Hyacinthoides etc, as per (9-) L202 Planting and specification to be determined at time of planting and whether supplied as bulbs or potted plants.

SOFT LANDSCAPE

ITEMS	MASTERPLAN LOCATION	PRODUCT REFERENCE
CLIMBERS   For further details refer to: (9-) L101 - General Arrangement Plan (9-) L202 - Planting Plan (9-) L401 - Typical Construction Details		Mix of evergreen climbing plants to provide additional security and year round interest. Please refer to (9-) L202 and (9-) L401 Support: Zinc coated galvanised steel wiring and vine eye climber support to be confirmed with contractor. Backfill: Well mixed 45% appropriate pH topsoil, 45% soil conditioner, 10% river sand, 5kg/m³ slow release fertilisation, 2 year formulation and ameliorant
WILDFLOWER GRASS  		Supplier: Germinal Amenity.co.uk Seed mix: WFG20 Eco Species Rich Lawn mixed with WF1 Flowering Meadow. Sowing rate: 10g / m². Preparation: Strip back existing amenity grass. Create a fine friable seedbed down to 150mm in depth. Carry out two equal sowings at right angles to each other and diagonally to main axis. Broadcast manually or use seed drill, rake level and roll. Ensure good seed to soil contact

ADDITIONAL NOTES

• All trees and plants shall be obtained from one of the sources identified in the categories listed below, or alternatives submitted for approval by Landscape Architect.

• Trees

To BS 4043, sizes and other criteria as scheduled

Supplier(s):

- Deepdale Nurseries Ltd, Tel: 01767 262636
- Specimen Trees, Tel: 01925 755204
- Barcham Trees, Tel: 01353 720748
- Hillier Nurseries Ltd, Tel: 01794 368733
- Wykeham Johnsons Trees, Tel: 01423 330 234
- Wyvale Nurseries, Tel: 01432 352255

Client to confirm number of years for tree replacement, following Practical Completion.

NOTE:

All topsoil to be clean imported topsoil to BS3882.

Minimum soil depths:

Trees: 1m

Hedges / Specimen shrubs: 600mm

Shrubs and planting: 450mm

Grass: 150mm topsoil above clean graded 150mm subsoil.

NOTE:

Root barrier to be incorporated into side of tree pits where planted within 3m of service or foundation.

Product: 'Re-Root 2000'

Supplier: Green Blue Urban or similar approved.

• Shrubs and herbaceous plants

To BS 4043, sizes and other criteria as scheduled

Supplier(s):

- Specimen Trees, Tel: 01925 755204
- Specimen Trees, Tel: 01925 755204
- Johnsons of Whixley, Tel: 01423 330234
- Notcutts Nurseries Ltd, Tel: 01394 383344
- Hillier Nurseries Ltd, Tel: 01794 368733

• Bulbs:

To: BS 3936-9, sizes and other criteria as scheduled

- J Parker Dutch Bulbs, Tel: 0161 848 1100 or similar approved

Contact: Jenny Ferguson
BDP
11 Ducie Street
Piccadilly Basin
Manchester
M60 3JA
United Kingdom

Tel: +44 [0]161 828 2200
Email: jenny.ferguson@bdp.com
www.bdp.com

Rev	Date Purpose	Created	Checked	Approved	Client Authorised	Comments
-	30.07.2019 First Issue	Cindy Zheng Landscape Designer	Darrell Wilson L.A. Associate	James Millington L.A. Director	Client to confirm Date TBC	
A	10.12.2019 Second Issue	Cindy Zheng Landscape Designer	Darrell Wilson L.A. Associate	James Millington L.A. Director	Client to confirm Date TBC	Interim Stage 4 Issue
B	04.02.2020 Third Issue	Lucy Jones Landscape Designer	Jenny Ferguson L.A. Associate	James Millington L.A. Director	Client to confirm Date TBC	Stage 4 Issue
C	13.02.2020 Fourth Issue	Lucy Jones Landscape Designer	Jenny Ferguson L.A. Associate	James Millington L.A. Director	Client to confirm Date TBC	Stage 4 Issue
D	09.03.2020 Fifth Issue	Lucy Jones Landscape Designer	Jenny Ferguson L.A. Associate	James Millington L.A. Director	Client to confirm Date TBC	Stage 4 Issue - Tender Addendum
E	03.08.2020 Sixth Issue	Jenny Ferguson Landscape Designer	Jenny Ferguson L.A. Associate	James Millington L.A. Director	Client to confirm Date TBC	Stage 4 Issue - Tender Addendum 2