

FORMER GSK SITE

Prologis Park, West London

LANDSCAPE MAINTENANCE AND MANAGEMENT PLAN



Ref:	1982/19-RP03	Rev B
Author:	MAB	
Checked:		
Date	30/11/20	



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1.0 MAINTENANCE AND MANAGEMENT STATEMENT

- 1.1 The establishment and future success of any soft landscape (or new green infrastructure) is largely dependent on the standard and frequency of the subsequent maintenance and management it receives. A maintenance and management regime will therefore be adopted for the site throughout the development period and thereafter drawing on the principles set out below.
- 1.2 It is intended that the overall management objective for the development will build on the landscape design principles to achieve a robust landscape that successfully assimilates into the local area and is of high ecological interest.
- 1.3 This document deals with the maintenance and management of the proposed landscape elements of the project.
- 1.4 The soft landscape infrastructure will, for the initial 1 year after Practical Completion, be maintained by the Landscape Contractor responsible for the implementation of the works. The contract will include a defects liability clause to ensure replacement planting is carried out and successful establishment achieved. Thereafter maintenance contracts will be organised by a facilities management company (set up by the developer) on an annual basis. The subsequent phases of landscape will be implemented at the first available planting season following completion of each plot development / building and maintenance arrangements for the plot landscape areas will be the same as that for the landscape infrastructure.
- 1.5 The maintenance and management matrix (Appendix A) provides information on the general techniques and methods to be adopted for the ongoing maintenance operations. These will be reviewed at regular intervals to respond to natural or man-made changes in the environment which affect the landscape types (e.g. tree disease).
- 1.6 The above approach will ensure that the quality of the landscape created can be maintained for the benefit of building occupiers and visitors to the site as well as providing significant nature conservation.

2.0 MANAGEMENT AIMS AND OBJECTIVES

Aims

- 2.1 The principle aims of the Landscape Management and Maintenance Plan are to achieve a coherent strategic and integrated approach to the management of the landscape components and to ensure the successful overall integration into the surrounding area.

Objectives

- 2.2 The main objectives associated with the management of the landscape are as follows:

- To ensure the successful establishment and continued growth through to maturity of the green infrastructure comprising the soft landscape scheme as shown on Barry Chinn Associates drawings (or any subsequent revision thereof);

- To enhance the biodiversity of the site through careful management of the woodland / thicket, shrub and grass areas;
- To ensure that the landscape develops in a manner commensurate with the original design intentions;
- To ensure that the maintenance, management and continued enhancement of the soft landscape areas is commensurate with both the aims and objectives of the Landscape Maintenance & Management Plan (LMMP);
- To ensure the successful establishment and retention of effective landscape buffer planting where possible along the boundaries of the site, providing amenity and ecological benefit;
- To secure a long term future for the new green infrastructure, including trees, shrub and thicket planting areas with particular emphasis upon achieving enhancement of ecological potential, increased biodiversity, nature conservation and visual amenity
- To achieve rapid establishment of the plant material with resultant total ground cover, thereby suppressing weed growth and reducing maintenance requirements
- To manage the landscape in a manner commensurate with the safety of site users by maintaining visibility splays, maintaining good surveillance, the removing of dead, dying or diseased branches, etc.
- To maintain and replace where necessary bat boxes, bird boxes and invertebrate nesting aids. Bat boxes to be checked by a licensed bat worker before removal or replacement;
- To maintain log piles for the benefit of invertebrates using arisings from site management.
- To manage the landscape in a manner convivial with the safety of site users, such as maintaining visibility splays and the removal of dead, dying or diseased tree branches.
- Upkeep and maintenance of all footpaths (hard surfaced)
- Upkeep and maintenance of all boundary fences

3.0 IMPLEMENTATION, MONITORING AND REVIEW

- 3.1 The new landscape will, for the initial 1 year period after Practical Completion, be maintained by the Landscape Contractor responsible for implementation of the works. The contract will include a defects liability clause to ensure replacement planting is carried out and successful establishment achieved.
- 3.2 Thereafter contracts will be organised by the persons responsible for estate facilities management on an annual basis. The maintenance and management operations envisaged over the first 10 year period are set out as a matrix in Appendix A.

3.3 The maintenance and management works will be monitored and reviewed on a regular basis with advice provided as required by professional landscape design, ecological and arboricultural consultants to ensure the aims and objectives are being achieved. Adjustments will be made to the maintenance regimes as necessary to respond to natural or manmade changes in the environment which affect the landscape components (e.g. prevailing weather conditions, tree disease, vandalism, etc.)

APPENDIX A

Maintenance Schedule Matrix for initial 10 year period

APPENDIX A

SOFT LANDSCAPE 10 YEAR MANAGEMENT MATRIX

Former GSK Site

10 YEAR PERIOD LANDSCAPE MANAGEMENT SCHEDULE OF WORK MATRIX

ITEM OF WORK	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
GENERAL OPERATIONS FOR ALL AREAS										
Tidy up areas removing rubbish, litter, etc., from planted and grassed areas.	22 times									
Vegetation, which suppresses or otherwise inhibits the development of planted species and proper management of habitats shall be restricted and / or removed. Twice per year.	2 times									
Any species, which colonise the site and are incongruous with the planting scheme and / or with the surrounding context, shall be removed as necessary.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Note: All herbicides will be systemic, biodegradable, and non-residual, and only used where necessary and appropriate.										
Check that the plant material is firmly planted and firm in where required. Four times per year during initial 3 year establishment period.	4 times									
Treat pests and diseases as necessary by agreement with the Contract Administrator.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Prune woodland transplants / shrubs as necessary to avoid conflict with footpaths, grass mowing, car parking etc.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
All legally notifiable weed species shall be controlled i.e. Japanese Knotweed as necessary.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

APPENDIX A

SOFT LANDSCAPE 10 YEAR MANAGEMENT MATRIX

Former GSK Site

EXISTING VEGETATION	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
Existing Trees										
Selective pruning and any other required arboricultural works to be carried out on any dead and dangerous trees / branches, particularly within falling distance of footpaths or site boundaries as necessary.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Arisings to be relocated to a suitable location and formed into deadwood piles for use by species living on dead and decaying wood.										
Excessive arising's to be removed from the site.										
Native Hedgerows										
Hedgerow to be sided and topped to create a hedge with an 'A' shaped profile once every two years. No pruning to take place during the bird nesting season (1st March until 31st August).	✓		✓		✓		✓		✓	
Arising's to be processed through a brushwood chipper and broadcast or mulched and left in sit										

NOTE:

For newly planted areas the number of years for each maintenance operation to be carried out is to be based on time of planting. The matrix below shows all planting carried out at year 1. Therefore if planting is carried out in year 3 and the maintenance operation scheduled is for 5 years then the operation should run through to year 8.

TREE PLANTING	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
To semi mature, extra heavy standard and feathered trees: Check, adjust and replace stakes and ties as necessary. Water and feed as necessary. Prune dead and damaged wood.	✓	✓	✓	✓	✓					
Target removal of stakes and ties after year 5, subject to review										

APPENDIX A

SOFT LANDSCAPE 10 YEAR MANAGEMENT MATRIX

Former GSK Site

Check rabbit guards and re-firm / replace when required. Four times per year.	4 times Review									
Target removal of rabbit guards after 5 years subject to review.										
Weeds to be suppressed with 3 no. applications of a translocated herbicide during each growing season in 1m diameter circles around each tree.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Any vandalised, unhealthy and dead trees and shrubs will be replaced each year at the next available planting season and any underlying causes remedied.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Crown lifting for mature trees: Remove branch systems to give clearance height of 2.5 m above footpaths. Remove whole branches back to the stem, or cut lower portions of branches back to lateral or sub lateral buds or branches. Do not leave stumps. Once annually between September and February. Chip and broadcast all arising's up to 150mm diameter. Larger timber to be formed into deadwood piles. Excessive arising's to be removed from the site.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

WOODLAND / WOODLAND EDGE THICKET

YEAR 1 YEAR 2 YEAR 3 YEAR 4 YEAR 5 YEAR 6 YEAR 7 YEAR 8 YEAR 9 YEAR 10

Keep areas clear of weed growth by spot herbicide treatment as necessary from mid-April to late September. 4 times reducing after year 4 subject to review.	4 times	4 times	4 times	4 times Review	2 times	2 times	2 times	Once	Once	Once
Check rabbit guards and re-firm / replace when required. Four times per year. Remove weed growth from within.	4 times	4 times	4 times	4 times	4 times Review					
Target removal of rabbit guards after 5 years subject to review.										
Any vandalised, unhealthy and dead shrubs will be replaced each year at the next available planting season and any underlying causes remedied.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

APPENDIX A

SOFT LANDSCAPE 10 YEAR MANAGEMENT MATRIX

Former GSK Site

FORMAL NATIVE HEDGEROW

YEAR 1 YEAR 2 YEAR 3 YEAR 4 YEAR 5 YEAR 6 YEAR 7 YEAR 8 YEAR 9 YEAR 10

Keep clear of weed growth by hand weeding or spot herbicide treatment. 12 times during the growing season reducing after year 3 subject to review.	12 times	12 times	12 times Review	10 times	10 times	6 times				
Prune hedge to maintain desired height and width of 1200mm in straight and true lines. Once only. No pruning to take place during the bird nesting season (1st March until 31st August). Arising's to be processed through a brushwood chipper and broadcast or mulched and left in sit	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

SHRUB PLANTED AREAS

YEAR 1 YEAR 2 YEAR 3 YEAR 4 YEAR 5 YEAR 6 YEAR 7 YEAR 8 YEAR 9 YEAR 10

Prune shrubs as necessary to achieve desired form, to optimise flowering period and prevent invasive species smothering less aggressive species.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Prune dead, dying or diseased wood from plant material.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Keep shrub areas clear of weed growth by hand weeding and spot herbicide treatment as appropriate. 12 times during the growing season reducing after year 3 subject to review.	12 times	12 times	12 times	10 times	10 times	6 times	6 times	6 times	6 times	6 times
Apply a slow release fertilizer, Enmag CRF or similar approved composition NPK 11 + 22 + 9 + 6.0% Mg, to shrub areas at a rate of 30 gms / m ² . Once only (timing to be agreed with Contract Administrator).	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Edge up planted areas to maintain soil level 25mm below adjacent hard surfaces and kerbs. Any soil washed onto hard surfaces to be cleaned off. Once per month	12 times									
Lightly cultivate all shrub beds, breaking up soil evenly. Once only. Timing to be agreed with the contract administrator.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

APPENDIX A

SOFT LANDSCAPE 10 YEAR MANAGEMENT MATRIX

Former GSK Site

AMENITY GRASS AREAS (close mown)	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
Grass cutting with edge trim (where required). Frequency of grass cutting operations to be commensurate with location and visual importance of grass area: <ul style="list-style-type: none"> • Operation to be undertaken between March and November (inclusive) • Maximum length before cut 75mm • Cut down to 30mm <p>Approximately 21no. cuts per year</p>	21 times									
1m wide strip of grass either side of informal footpath (unless shown otherwise) to be cut down 18 times <ul style="list-style-type: none"> • Operation to be undertaken between March and November (inclusive) • Maximum length before cut 75mm • Cut down to 30mm <p>Approximately 18no. cuts per year</p>	18 times									
Shape grass edge as necessary with half moon spade. 2 times per year between March and November.	2 times									
Application of spring/summer lawn fertilizer in accordance with supplier's recommendations. Once only	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Application of selective herbicide in accordance with supplier's recommendations. Once only	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Application of autumn lawn fertilizer in accordance with supplier's recommendations. Once only	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Re-seeding of worn areas during April/May and November subject to review.	2 times									

APPENDIX A

SOFT LANDSCAPE 10 YEAR MANAGEMENT MATRIX

Former GSK Site

SPECIES RICH GRASSLAND AREAS

YEAR 1 YEAR 2 YEAR 3 YEAR 4 YEAR 5 YEAR 6 YEAR 7 YEAR 8 YEAR 9 YEAR 10

Mowing regime: During late August and early October, when sward is 200mm height one cut down to 75mm.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
All arising's should be removed with the general objectives of preventing scrub encroachment and providing appropriate conditions for meadow grassland flora and fauna.										
Control excessive weed growth with spot spray or weed wipe of an appropriate approved translocated herbicide, as required between June to September.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

ARTIFICIAL HABITAT

YEAR 1 YEAR 2 YEAR 3 YEAR 4 YEAR 5 YEAR 6 YEAR 7 YEAR 8 YEAR 9 YEAR 10

Supplement or replace log piles as necessary to ensure continued provision of habitat.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Clean out nesting material within bird and bat boxes and spray with recommended disinfectant, to be carried out annually in winter.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

HARD SURFACED FOOTPATHS ROUTES

YEAR 1 YEAR 2 YEAR 3 YEAR 4 YEAR 5 YEAR 6 YEAR 7 YEAR 8 YEAR 9 YEAR 10

Footpaths - Supply and apply a translocated herbicide to weed growth on footpath surfaces. Twice per annum.	2 times									
Leaf clearance 6 times per annum, mainly during autumn and early winter.	6 times									

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Former GSK Site

GREEN ROOF (SEEDING AND PLUG PLANTING) YEAR 1 YEAR 2 YEAR 3 YEAR 4 YEAR 5 YEAR 6 YEAR 7 YEAR 8 YEAR 9 YEAR 10

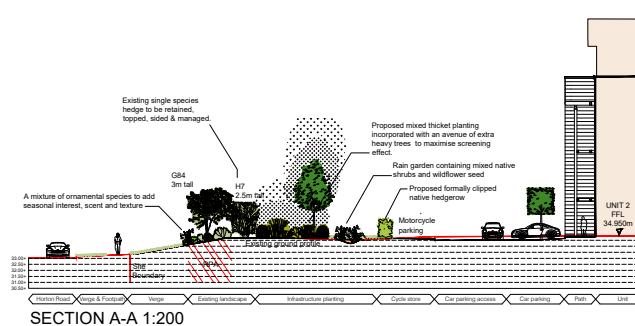
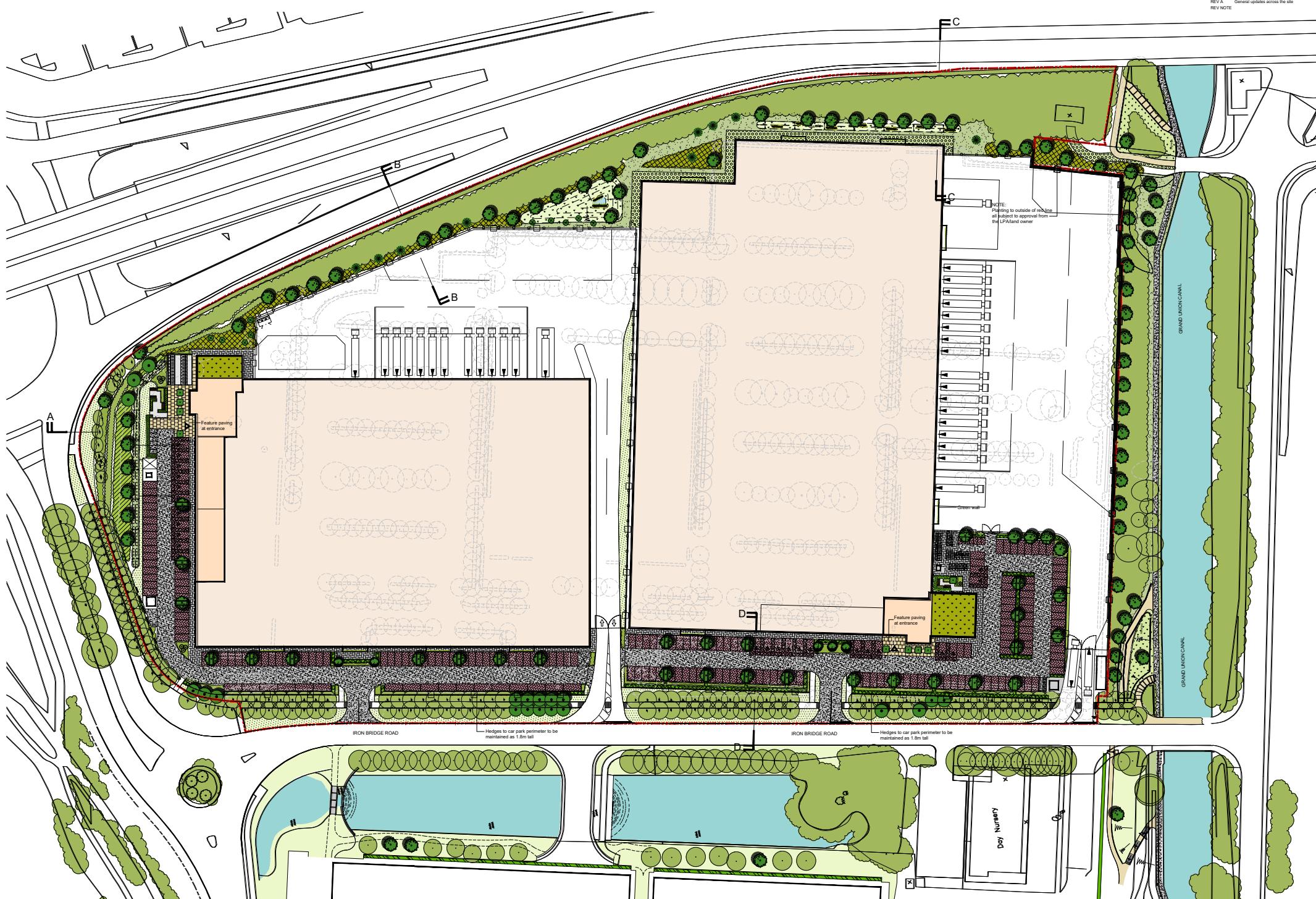
One cut of wildflower seeded areas down to 100mm in early September. Excessive arisings shall be removed from site.	✓									
Removing unwanted leaf litter that has fallen onto the roof surface from overhanging trees both in the spring and autumn, to ensure that this does not smother the vegetation beneath.	2 times									
Replenishment of any areas of settled substrate as required	✓	✓	✓							
With the exception of saplings, which should always be removed, weeds on the biodiverse green roof should be considered as a problem only of aesthetics, unless they are particularly invasive. Hand weed sapling and weed seedlings.	2 times									

APPENDIX B

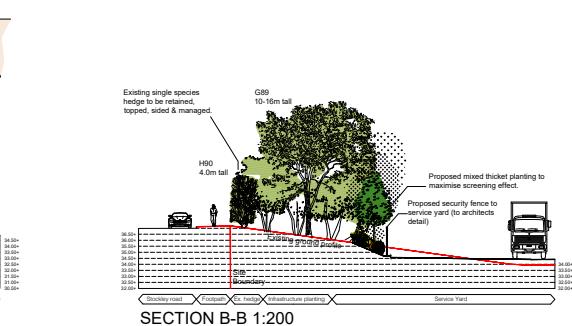
Site Layout Drawings
1982/19-05M Landscape Concept Plan



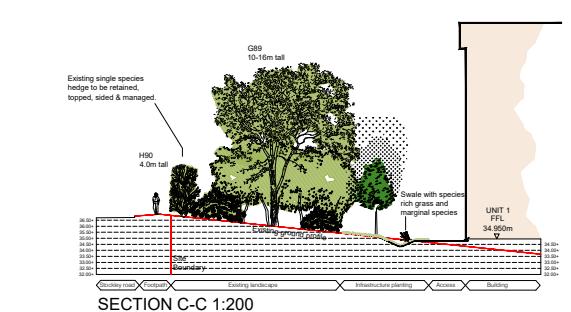
NORTH



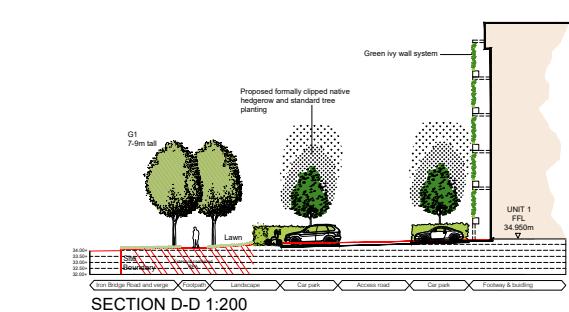
SECTION A-A 1:200



SECTION B-B



SECTION C-C 1:20



SECTION D-D 1:200



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LANDSCAPE CONCEPT PLAN

10 of 10 pages

CONTRACT 1982-19 DRG NO. 25

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SCALE	PLANNING	CHECKED	RECD	RECD BY
1:500	ORIG SHEET AD		REV	

CAD FILE 1982-19-05K Landscape Concept Plan.dwg

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