

Landscape Maintenance and Management Plan

Star Development; Uxbridge Road

Prepared by HSD Developments [UK] LTD

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1.0 Introduction and Background

This document has been prepared to guide the future maintenance operations for the external terraces and spaces at Star Development on Star Road, Uxbridge. The existing site is currently vacant and undergoing renovation into 'Star Development' a residential scheme with several external amenity terraces created at Ground Floor, First Floor Terrace and Third Floor areas.

This document has been prepared to ensure that the quality, character and integrity of the landscape is retained and enhanced through the maintenance and management of the proposals and to satisfy planning condition 10 which calls for the maintenance of the green roof areas.

The external landscape and planted areas include; planted amenity terraces to the first, third, fourth and roof space to Star Development, Uxbridge.

Refer below indicate the Management Zones for indication of areas covered by Management & Maintenance Plan. Refer also to General Arrangement Drawings, Landscape Softworks Drawings and specification documents for detailed scheme proposals.

Scope of Operations

The operations will involve the management and maintenance of the street level within the ownership line, roof terraces at different levels throughout the building, including paved areas, raised steel planters, new ornamental shrub and herbaceous planting etc

Excluded:

Public realm/ adopted highways and arboricultural treatment of existing trees close to or adjoining the development.

Interior planting within the building.

Animal pest control is also excluded, though insect control, with respect to plant health, is included.

Site Context

The redevelopment of Star Development sees the overhaul of the existing building into a residential development, including office and retail space a ground floor. The building design has a focus on well-being and sustainability with Suds requirements to control the flow of water.

The site is located in the London Borough of Uxbridge, on the corner of Uxbridge Road and Star Road..

2.0 Objectives of Maintenance / Management Regime

Objectives

The broad objectives for the maintenance of the site are:

- To provide an attractive and appropriate public realm/ and attractive and informal, attractive amenity space for residents.
- To produce a well-maintained environment that is robust enough to cope with the pressures of high-density urban environment
- To provide an attractive and easy to maintain green space, managing succession of planting over time with appropriate management of planting through the seasons

Environmental Outcomes

- The intention is to reduce, wherever possible, the impact that invasive management techniques cause on the environment, by timing certain activities such as heavy pruning outside of nesting periods or other life cycle periods, to cause as little damage as possible.
- The individual methods and operation of management will be considered to reduce the impact to the environment, such as avoiding indiscriminate pesticide spraying of block planting, by encouraging localised identification and treatment of pests and biological controls.
- The management and maintenance regime for the planting and is intended to enhance biodiversity

Landscape Management Areas

The management requirements cover:

1. *Ground Floor planting*

The area includes the boundary planting along Star Pub and the Rain Gardens

2. *Roof Terrace Levels*

There are a number of roof terraces providing amenity space, planting and seating for building users

General Biodiversity Considerations for Landscape Maintenance

To increase the ecological value of the site, the following shall be observed:

- Biodiversity features located within the planted areas e.g. insect houses are not to be disturbed by maintenance activities and should be retained.
- Seed heads of perennials and ornamental grasses should be left standing through winter to provide a shelter, structure and resource to birds and invertebrates.
- Small birds may nest in some large shrubs within the site. There should be no cutting back of large shrubs or hedges within the bird nesting season: end February to end August.

3.0 General Requirements

Insurance

The Contractor or maintenance team responsible for maintaining the landscape areas shall be a member of the safe contractor system and properly insured for public liability and shall provide details of the amount of cover if required.

Standard of Work

The landscape maintenance is to be carried out in accordance with the current relevant British Standards and Codes of Practice. The external areas are to be always kept neat and clean in appearance and the planting to be kept in a healthy state or replaced when dead or failing to thrive, with the appropriate species replacement. The Contractor or maintenance team shall ensure that the maintenance operations will not cause any inconvenience or pose a danger to the residents, visitors or staff, or other users of the premises or users of adjacent properties.

Protection of Property

The Contractor or maintenance team should prevent damage to and protect as necessary all paving, balustrades, furniture, utilities, buildings, plants and property of the landowner and of those using the development during the carrying out of the maintenance operations. Any damage caused to these items should be made good by the maintenance Contractor at the Contractor's own expense.

Protection of People

The Contractor or maintenance team must ensure that any operation is carried out by appropriately qualified and trained operatives and that the correct certification is held before the carrying out of any works involving specialised equipment and the use of chemicals. Work should be carried out in accordance with the manufacturer's instructions and to the approved code of practice for the safe use of pesticides for non-agricultural purposes where they apply. The Contractor or maintenance team shall ensure at all times that all people on site or, adjoining/adjacent sites, and including their own personnel, are not subject to any hazard from the use of the chemicals or spray drift and that all containers are taken off site when not in use or emptied. The Contractor or maintenance team shall keep a record of the use of chemicals on the site and shall report their use to the Contract Administrator at the outset of any new operation. The Contractor or maintenance team shall be liable for any loss or damage caused by the misuse of chemicals especially with regard to third persons.

Ensure Safe Access can be gained when working on the roof – refer to building management and maintenance operations manuals for details of man-safe roof access systems etc. Ensure that relevant Health & Safety procedures are followed when working at roof level and in particular on raised planters.

Noise Control

The Contractor or maintenance team shall employ the best practical means to minimise noise produced by maintenance operations. Machines in intermittent use should be shut down on the intervening period between work or throttled down to a minimum. There may be some restrictions on noisy operations due to the use of the site as a workplace. The contractor should allow for noisy activities to be restricted to a maximum of one day per week.

Programme and Records

A **maintenance programme schedule** is to be agreed with the property owner and or management company. **Records of inspections** and maintenance activities are to be kept, indicating all actions required and defects found as well as proposed/ completed remedial actions.

The Application of Herbicides

Prior to the employment of any herbicide, the contractor shall ensure that the use of the herbicide has been cleared under the Control of Pesticides Regulations 1986, is appropriate for the stated purpose and work to be undertaken, and that the method of use will comply with the manufacturer's recommendations.

Once dead, all arisings from herbicide applications and weeding etc. should be collected and disposed of to tip. The operator shall comply with all safety requirements relating to the use of approved herbicides.

Care must be taken to **avoid herbicide drift** to planting, especially herbaceous species and seasonal planting which will be sensitive to herbicide.

Should the use of herbicides result in any damage whatsoever to plants other than those plants specifically to be controlled by the herbicide, within or outside the area to be treated, then these damaged areas should be fully reinstated. Water used for dilution should wherever possible be from the mains supply. The operator should ensure that the equipment is properly designed and manufactured for the purpose, and that all such equipment is in good working order.

The maintenance team's attention is drawn to the code of practice for the disposal of unwanted pesticides and containers on farms and holdings published by DEFRA. If on any part of the site a complete kill is not achieved by the first herbicide application for any reason the operator shall carry out additional herbicide applications, hand weeding or weed cutting operations necessary to achieve a complete kill throughout and to keep such areas in a clean and tidy condition until an acceptable kill has been achieved.

No overlap whatsoever in the application of any herbicide should occur, and particular care should be taken where margins for error in application rate are small (e.g. certain granular herbicides). Measures to prevent this may include the use dyes etc.

List of noxious and pernicious weeds to be eradicated in accordance with legislation guidelines, include:-

- Creeping Thistle
- Dock
- Couch Grass
- Spear Thistle
- Japanese Knotweed
- Himalayan Balsam
- Giant Hogweed

Site Visits

The Contractor or maintenance team shall visit the site at a frequency that is sufficient to carry out the maintenance duties as specified in this document and a **minimum of twice a fortnight**, with a duration of **1 day**, is required as an average throughout the year.

Composting

The Contractor will remove from site all materials arising from the work.

4.0 Hard Landscape Maintenance

In addition to the specified schedule of maintenance operations and specification clauses that follow in Sections 4.1, adherence to the general objectives and stipulations set out below (throughout this Section 4.0) are required:

Paving

- Acid based cleaning products MUST NOT be used for day-to-day cleaning operations.
- Specific spillages of oil-based substances or chewing gum should be removed as quickly as possible after the initial incident. Absorbent spillage mats should be used on any spills rather than brushing that spreads the contamination. Any direct large point loads from cherry pickers stabilizers and similar must use suitable spreader plates and baulk timbers to spread the load and prevent damage to the paving. Paving should be checked for lifting or cracking of slabs, with any broken slabs replaced immediately to remove trip hazards.
- Check on a regular basis for any loosening of surface including raising of blocks/bricks/slabs or other hard surfaces, resulting in loss of surface integrity or trip hazards. Replace any broken or missing paving units upon identification.

Tactile Paving

- Tactile surface should be swept on a regular basis to remove any algal growth and collected detritus using environmentally sound cleaning products to be approved prior to application. Paving to be manually brushed or brushed with a sustainably powered motorised vehicle.

4.1 Hard Landscape Maintenance – Schedule of Activities

The following activities should be carried out for all areas of hard landscaping:

	ITEM	ACTIVITES	SUGGESTED FREQUENCY
1.	Weed control and Litter	<ul style="list-style-type: none">- (Hand weed during fortnightly visits.) If necessary for persistent species/situations, apply a suitable foliar acting herbicide- Clearance: Allow recommended period for	Twice a year in April/ May and August/September

	ITEM	ACTIVITES	SUGGESTED FREQUENCY
		herbicide to take effect before clearing arisings	
2.		- Remove litter, debris and weed growth; sweep as necessary:	Fortnightly
3.	Drainage Systems	- Remove mud, silt and debris from surface gutters, slot and channel drains	Minimum twice a year
4.		- Drainage gullies, empty traps and flush clean	Early Autumn and late Spring
5.	Repair Works	- Inspect all areas of paving and hard surfacing for broken, cracked and damaged units. Replace or repair as required. - Inspect all areas for evidence of lifting or settlement.	Fortnightly
6.	Stain Removal	- Remove cement and concrete stains using diluted hydrochloric acid, immediately rinsed with cold water.	As required, minimum twice a year.
7.		- Moss / Algae growth, treat with a proprietary moss and algae killer	
8.		- Chewing gum removal, using freezing aerosol and scrape off with a paint scraper	
9.	Snow Clearance	- Clear areas of laying snow from pedestrian and vehicular routeways	As required soon as possible after snow fall
10.		- De-ice footpaths with suitable material/process to be signed off by leader of Maintenance team. - Use application equipment suitable to size of space and avoid application onto adjacent planting beds. In tight spaces consider using low sodium content product or erect salt protect barriers along edge of planting.	As soon as possible after snow clearance and prior to a predicted overnight frost.

The following activities should be carried out for specific items of hard landscaping:

	ITEM	ACTIVITIES	SUGGESTED FREQUENCY
11.	Block/slab Paving	- Clean with a sweeping vacuum cart, using SOFT	Once a month

	ITEM	ACTIVITIES	SUGGESTED FREQUENCY
		plastic brushes, or with manual sweeping.	
12.		- If necessary, spray joints with a herbicide to prevent weed growth	Twice a year in April/ May and August/September
13.		- Check sand-filled joints and top up as required	Once a year
14.	Loose Gravel	- Rake over and level/re-distribute	Once every 2 weeks
15.	Asphalt Surfaces, including resin bonded aggregate	- Sweep and wash surfaces with a suitably sized road sweeper or by hand as access allows	Once every 2 months
16.	Furniture	- Inspect all furniture for damage and vandalism and replace / repair as necessary	Once a month
17.		- All timber furniture: Apply cleaning agent, hand wash and apply protective oil to all timber surfaces	Once every 2 years
18.		- All stone furniture, Pressure wash to remove dirt and grime	Once a year
19.		- All metal Furniture including planter cladding : Clean with appropriate cleaning agent to maintain finish of material	Once a year
20.	Porcelain Tiles on pedestals	- Remove moss or algae build-up using water and brush. (in accordance with manufacturer's guidelines) - Remove spills and marks using mild-detergent (free from waxes or perfumed oils (in accordance with manufacturer's guidelines) and brush - Inspect and repair any damage or raised / tiles which may present trip-hazard	Once a year Regular (Daily/weekly) cleaning to prevent dirt accumulation and build up. Regular (Daily/weekly) inspection for damage and trip hazards
21.	Gravel Fire Breaks	- Maintain gravel margins around structures, parapets, windows etc. clear of vegetation. - Top-up gravel levels if required	Once a year

5.0 Soft Landscape Maintenance – General

General planting maintenance

In addition to the specified schedule of maintenance operations and specification clauses that follow in Section 5.1, adherence to the general objectives and stipulations set out below (throughout this Section 5.0) are required:

- **Ensure Safe Access** can be gained when working on the roof – refer to building management and maintenance operations manuals for details of man-safe roof access systems etc. Ensure that relevant Health & Safety procedures are followed when working at roof level.
- **Take care not to damage** green roof elements within planters or protective layers below (waterproofing, irrigation pipes etc.). Refer to typical Details for planting depths and build-ups.
- **Planting beds** will be kept clear of weeds, litter and dead leaves, and neatly edged. Hand weeding will be carried out to avoid build-up of chemicals in planters and damage to surrounding plants and seedlings.
- **Trees, shrubs, climbers and hedging plants** will be checked to ensure they remain firmly bedded after strong winds, frost heave and other disturbances. 'Collars' at the base of tree stems created by tree movement will be broken up by fork, avoiding damage to roots, backfilled with topsoil as necessary, and re-firmed.
- **Litter** and detritus shall be regularly removed from all areas and removed from site to an approved waste handling centre.
- **Remove** and replace dead or diseased plants.
- All **plant losses** are to be reinstated as they occur, or within the next planting season, with plants conforming to the species and sizes originally specified.
- Remove any **dead wood** from shrubs and cut back any excessive vigorous growth of shrubs as agreed to promote healthy, even and well-balanced plants.
- Allow plants to grow to their **natural form** (with the exception of hedges). Do not cut shrubs to geometric shapes or top them to one even height. Only cut back plants to achieve healthy growth or for access, visibly or safety. Cut back plants growing above window sill heights and growing over pathways and roads where they impair the passage of people or vehicles. Do not cut back plants hanging or trailing down vertical faces unless absolutely necessary.
- **Re-firm** loose trees, shrubs and plants as necessary.
- Regularly carry out **inspections** to look for pests, diseases, damaged branches and dead, dying wood. Cut out dead and diseased wood in late winter. Prune if necessary, to re-establish leader.

Ornamental shrubs and ground cover

Areas of ornamental shrubs are to provide **year-round interest** and should be maintained to produce a well kempt, litter-free public space for the benefit of all users.

The entire area of planting will be kept weed free through hand weeding.

Ornamental planting beds will be kept with a **neatly formed and maintained line** between beds and edgings.

Shrub Planting

Management operations will include **thinning** of maturing planting to remove dead wood and promote growth. Thinning promotes new dense growth, providing greater habitat protection for nesting birds. A program of thinning would be based on the principle of maintaining a balance between the shrub and perennial planting types, increasing biodiversity rather than allowing one to dominate and kill off the weaker.

Any thinning works are to be done outside of the nesting to avoid the disturbance of birds. Operations are to be carried out by hand and waste is to be recycled wherever possible or appropriate.

Pruning - Generally allow natural forms to develop. DO NOT cut shrubs to square or other geometric shapes (other than hedges or specified topiary).

Allow and encourage **climbers** to grow up or hang down adjacent structures.

Replace plants as they die out in accordance with designs/planting plans. Review and agree the potential **refreshment** of 15- to 20-year-old ornamental shrub areas, replacing up to 15% every 3 years or as considered appropriate.

Perennials

Once established, suitable clumps of flowering perennials can be cut back by up to one third in early summer (the '**Chelsea chop**') to extend flowering season, promote sideshoots and reduce need for staking.

Removal of **dead-heads** shall not be carried out until early spring prior to the new season's growth, allowing for the production of seed heads etc. to provide a winter food source to the various insects, animals and birds. Deciduous ornamental grass species may be left standing over winter to provide structure and plant material and seed heads for wildlife.

Removal of dead growth is to be done manually with the use of hand-held non mechanical tools only. Vegetative waste arising from this operation is to be composted at a suitable position on site to be used in future mulching of plant beds.

Any **division** of perennials is to be done with as little disturbance to the soil layer as possible to avoid disturbance to hibernating insects or insect lava.

Regenerating and **self-seeding** perennials are to be allowed and encouraged to fill gaps that may develop and to provide a succession of new plants. The Contractor shall ensure that operatives carrying out work in planting beds are suitably horticulturally trained and experienced and are able to identify planting species at maturity and as seedlings.

Groundcover Planting

Ground cover planting may be in the form of shrubs or perennials, or a mix of both. In addition to its visual performance, groundcover planting is designed to reduce the need for manual weeding, reduce litter dispersal within planting beds and help reduce water loss from the soil. The objective is to maintain a closed covering of plants, and regenerating species are to be managed to help achieve this while maintaining the overall original visual effect.

Hedges

Hedges should be trimmed as specified and as necessary to avoid encroachment onto footpaths. Following establishment, formal hedges are to be as specified to retain profile. Trees planted or established within hedgerows should not be cut and clearly identified for retention so as not to be damaged by hedge trimming operators.

5.1 Soft Landscape Maintenance – Schedule of Activities

A **minimum of one visit per fortnight**, is required as an average throughout the year.

The following maintenance activities should be carried out for all areas of soft landscape:

	ITEM	ACTIVITIES	SUGGESTED FREQUENCY
1.	Watering	<ul style="list-style-type: none"> - Water all terrace planting to ensure healthy development and survival. 	As required during periods of drought / prolonged dry weather between May-Sept)
2.	Plant replacements	<ul style="list-style-type: none"> - All plant deaths should be replaced as soon as practical - Remove dead plants within one week and replace within 2 weeks with originally specified species as soon as practical 	As required
3.	Clearing of Services	<ul style="list-style-type: none"> - All plant material is to be kept clear of the following structural elements where present: Ventilation ducts and openings, windows, drainage channels and gullies, service access points, CCTV cameras and light fittings 	Once a month
4.	Debris and Litter	<ul style="list-style-type: none"> - Keep planting beds clear of litter, dead leaves and debris 	Once a fortnight
5.	Weed Control	<ul style="list-style-type: none"> - Keep planting beds free from weeds at all times - Remove weeds entirely, including roots - Remove the minimum quantity of soil, and disturb plants, bulbs and mulch as little as possible 	Once a fortnight

	ITEM	ACTIVITIES	SUGGESTED FREQUENCY
		<ul style="list-style-type: none"> - Leave area in a neat and tidy condition - Where present, reinstate /top-up mulch/gravel to match. - Allow regenerating and self-seeding plants to fill gaps and provide planting regeneration /succession 	
6.	Soil Aeration	<ul style="list-style-type: none"> - All areas of planting suffering compaction should be lightly forked over - Prick surface to a depth of 75mm - Reduce soil to crumbs and level off - Do not damage plant roots 	Once a month
7.	Digging Over	<ul style="list-style-type: none"> - In areas where ground cover or regenerating plants are not present: all planting beds, should be lightly forked over, (after temporarily removing mulch to one side), to maintain healthy soil condition to a depth of 75mm. 	Once a year in Spring
8.	Soil Amelioration	<ul style="list-style-type: none"> - Where possible, avoiding damage to existing plants & roots : - Incorporate 50mm depth of composted green waste into top of soil to maintain soil quality 	Once every 3 years
9.	Mulch coverings	<ul style="list-style-type: none"> - Top up leca mulch to terrace planters. - Maintain a covering of all visible areas - thickness of 25mm 	Once a year in November

HEDGES

	ITEM	ACTIVITIES	SUGGESTED FREQUENCY
1.	All hedges (Years 2 – 3)	- Check general Health	
2.		- Cut back one third of new growth	Once a year until required height is reached
3.		- Check all ties, stakes, shelter and strained wire support fences and adjust as required	March and August
4.		- Weeding to base, by hand	Fortnightly or as required
5.		- Broken and diseased branches to be pruned back to viable bud or growth	Once a year August
6.		- Replace dead and diseased plants	Once a year November - December
7.	All hedges (Year 4 onwards)	- Check general health	Once a year March
8.		- Broken and diseased branches to be pruned back to viable bud or growth	As required
9.		- Remove all ties, stakes, shelters and supporting wire fences	Once hedge is sufficiently established, and when agreed

10.	Formal deciduous hedges	<p>As above, and:</p> <ul style="list-style-type: none"> - Cutting flat topped, with base slightly wider than top, to designed height 	Twice a year February and August
11.	Ornamental evergreen hedges	<p>As above, and:</p> <ul style="list-style-type: none"> - Cutting flat topped, with base slightly wider than top, to design height - Avoid cutting in areas where and when birds are nesting, or carryout 	As required, 2-4 times a year From February to September

	ITEM	ACTIVITIES	SUGGESTED FREQUENCY
		light trim by hand (no motorised machinery) at longer length than previous clip, within 5m each side of nesting site	
12.	Miniature ornamental Hedges	<ul style="list-style-type: none"> - Clip as square edged hedge as soon as plants start to touch each other. - Maintain at design height 	At least three times per year, and as necessary to maintain neat appearance approx. May - August.

SHRUB PLANTING

	ITEM	ACTIVITIES	SUGGESTED FREQUENCY
1.	Removal of dead plant material	<ul style="list-style-type: none"> - At end of growing season, check all shrubs and remove all dead foliage, wood and broken or damaged branches and stems 	Once a year in late Autumn
2.	Pruning Ornamental Shrubs	<ul style="list-style-type: none"> - Trim / clip extent only when particular specified heights and profiles are required, or to reduce dominance over adjacent planting, using suitable mechanical cutters. - Generally; allow natural forms to develop. DO NOT cut shrubs to square or other geometric shapes (other than hedges or specified topiary). - In accordance with good horticultural and arboricultural practice to suit species - To encourage healthy and busy growth and desirable ornamental features, such as flowers, fruit or autumn colour 	To suit species. (Once or twice a year)
3.	Replacement planting	<ul style="list-style-type: none"> - Inspect short lived wood stemmed shrub species and carry replacement planting to maintain healthy stock and appearance - Review and agree refreshment of 12 to 15 year old ornamental shrub areas, replacing up to 15% or as considered appropriate. 	Once every 5 years Every 3 years and as agreed
4.	Climbers	<ul style="list-style-type: none"> - Encourage climbers to train along wires but trim to prevent from blocking ventilation grilles, lights or interfering with lighting conduits, cables or other infrastructure. 	To suit species. (Once or twice a year)

HERBACEOUS PERENNIALS

	ITEM	ACTIVITIES	SUGGESTED FREQUENCY
1.	General maintenance during growing season	<ul style="list-style-type: none"> - Remove dead flower heads, <u>except</u> where seed heads provide winter interest and/or wildlife food source - Remove fallen leaves and debris to encourage healthy growth 	Once a week

	ITEM	ACTIVITIES	SUGGESTED FREQUENCY
2.		- Support necessary herbaceous species as required	As required
3.	Chelsea chop	- Cut back 50% of larger clumps of flowering perennials by one third to keep plants shorter and more compact and to prolong overall flowering time	May
4.	End of season maintenance	- Trim older flowering stems <u>except</u> where seed heads provide winter interest and/or wildlife food source - Remove redundant plant supports	Once in late Autumn
5.	Thinning and Dividing	- For suitable species lift, divide and separate over-mature clumps and replant to encourage new juvenile growth and maintain healthy stock	As necessary, once every 3 years, while forking over and adding green waste

5.2 Biodiversity Enhancements

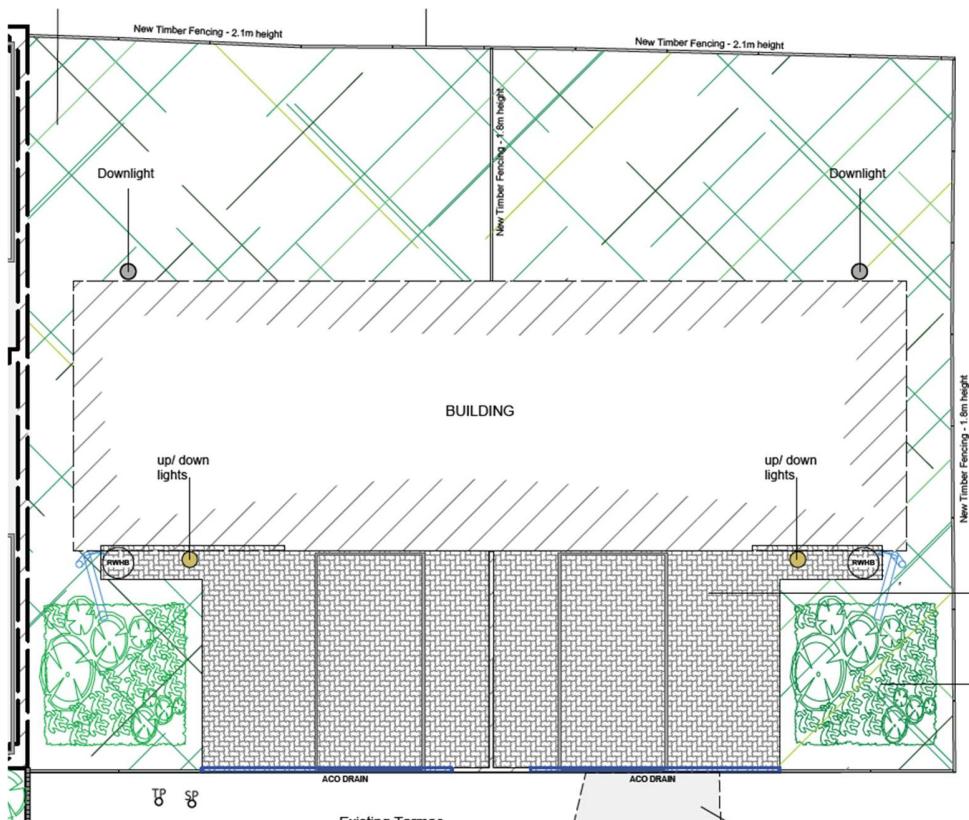
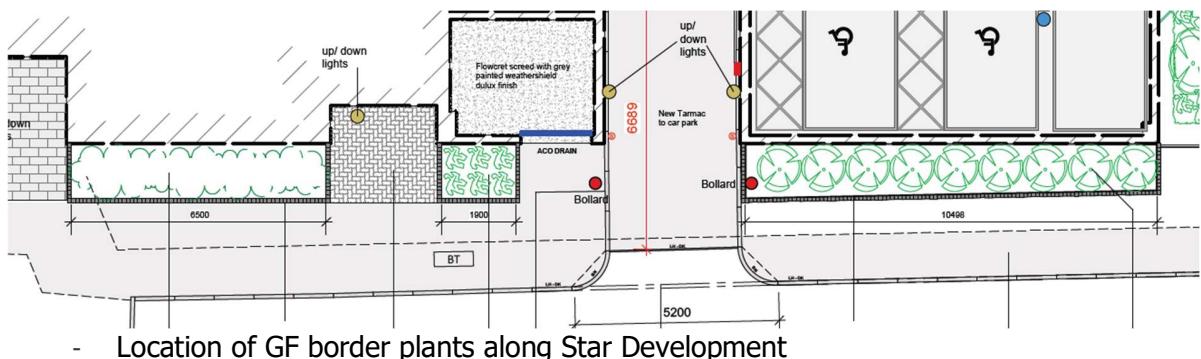
The scheme includes bat, bird and insect boxes, provided to encourage wildlife and improve biodiversity within the site. Within the planting to the terraces are positioned a number of insect and ladybird houses, locations are shown on the detailed planting drawings.

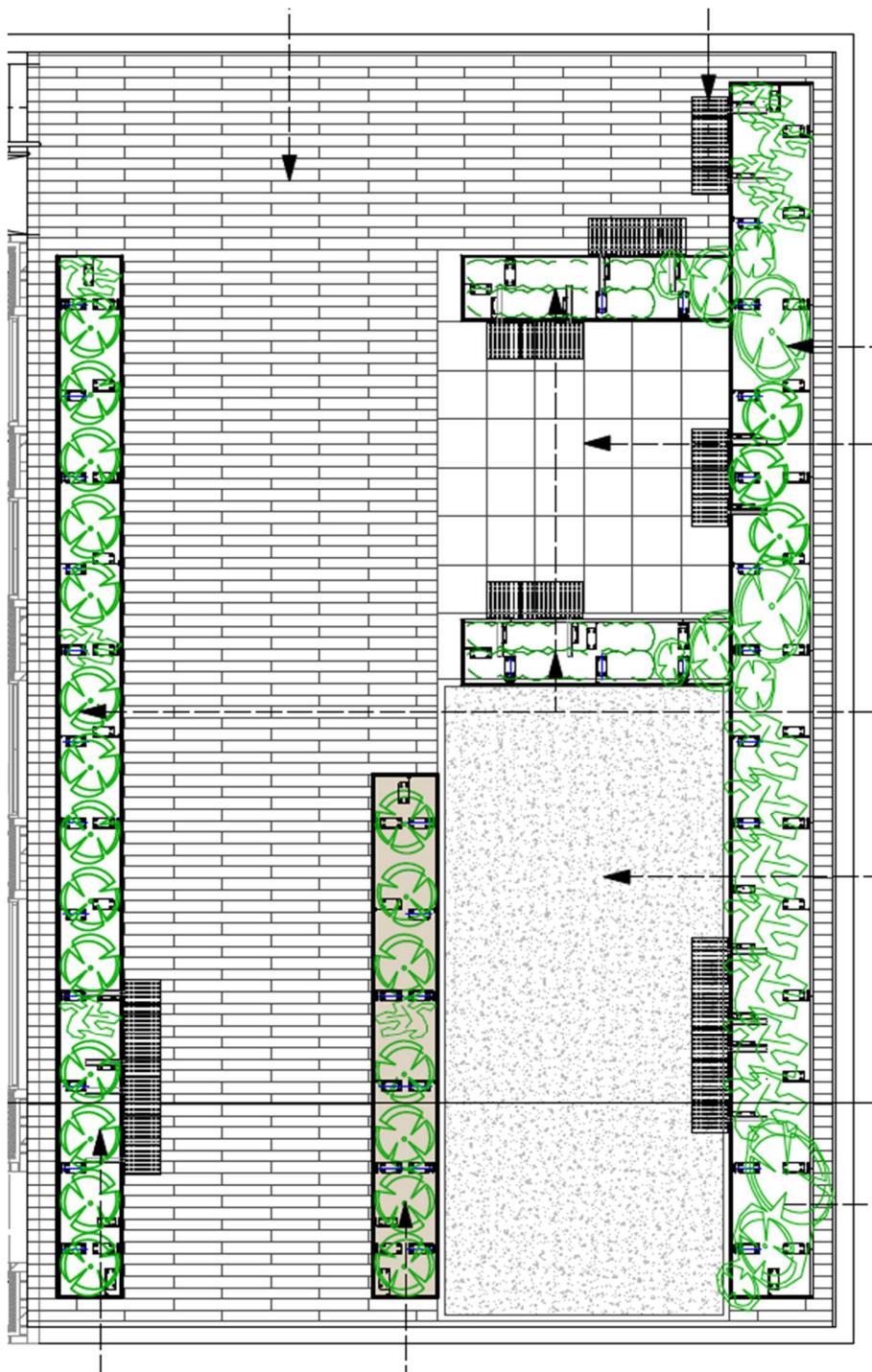
At least one of each of the following are included on each of the amenity terraces:

Ladybird House from greengardener.co.uk – free standing, positioned on a mounting pole. Position / reposition carefully to avoid damaging drainage and protective layers within planters.

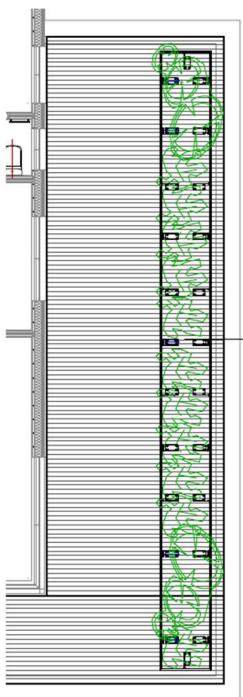
Beneficial Insect House from greengardener.co.uk - positioned within planters, reposition if fallen over.

FOLLOWING PAGES SHOW GREEN SPACES

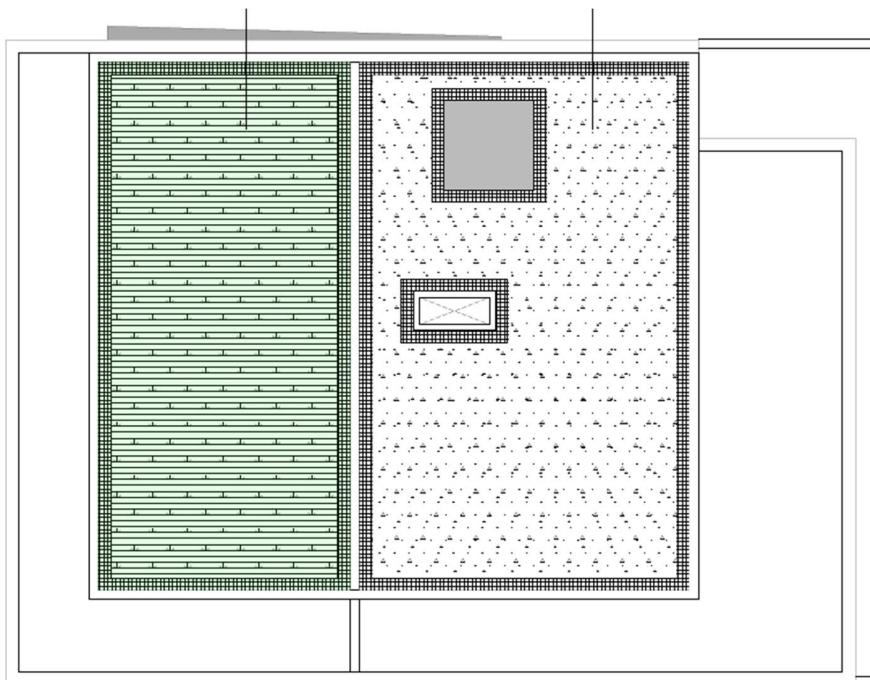




- First floor roof terrace area using raised planters which include seating. Decking system for different floor finishes and includes a blue roof below



- Third floor terrace raised planters and decking



- Section of Flat Roof to be a green roof including ballast area for Solar Panels