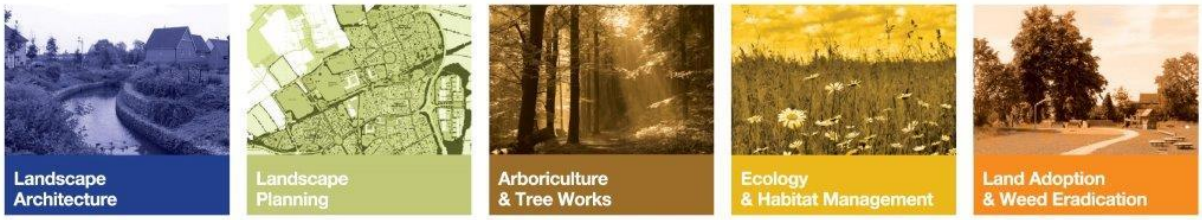

James Blake Associates Ltd

Our Ref: JBA 10/35 ECO-12 GP

2nd November 2018

Dear Mr Perfect,

RE: Addendum letter to Proposed 10 Year Management Plan for Persephone Gardens.

1. Introduction

1.1 Purpose and Scope of Letter

1.1.1. James Blake Associates has been commissioned by LifeCare Residencies to review and enhance the 10 Year Management Plan prepared by the London Wildlife Trust for Persephone Gardens, West Hampstead.

1.1.2. The 10 Year Management Plan prepared by the London Wildlife Trust was written prior to the submission of a planning application on the Site. As such, it is based on draft designs and excludes detailed management proposals regarding specific species. This addendum outlines the measures to manage the site in perpetuity.

1.1.3. This letter is intended to review the existing management plan, update the document with reference to the most recent ecological surveys, and to recommend amendments/additions to the management plan given the updated ecological data.

1.1.4. An additional aim of this letter is to provide a detailed 20 year monitoring strategy for the population of slow worms (*Angius fragillis*) inhabiting the site. This is to ensure the long term stability and eventual growth of the population, while enhancing the site's biodiversity value.

The Black Barn, Hall Road, Lavenham, Suffolk CO10 9QX
tel: **01787 248216** fax: **01787 247264** email: **jamesblake@jba-landmarc.com**
Chairman: James Blake BA (Hons) Dip LA (Hons) CMLI
Company Secretary: Louise Blake BSc PGCE
Directors: Elzbieta Zebrowska MSc Eng LArch MScEnvSc CMLI : Kevin Slezacek DipArb MArborA
John O'Connor MScEnvSc BSc (Hons) Ecology MCIEEM MIEnvSc PIEMA
Associate Directors: Vivienne Jackson : Jenny Beck BA (Hons)
www.jba-landmarc.com
Registration no. 08169866 VAT no. 512 4127 91

1.1.5. This letter should be read in conjunction with the proposed 10 Year Management Plan for Persephone Gardens prepared by the London Wildlife Trust. The ecological reports listed below were also consulted in the compiling of this letter:

- Construction Environmental Management Plan (CEMP), James Blake Associates, 2018
- Updated Phase 1 Habitat Survey, James Blake Associates, 2018;
- Updated Bat Activity Survey, James Blake Associates, 2018;
- Updated Breeding Bird Survey James Blake Associates, 2018;
- Updated Reptile Survey, James Blake Associates, 2018;
- Arboricultural Survey, Tim Moya Associates, 2017; and
- Landscape Report, Andy Sturgeon Landscape Design, 2017.

2. Amendments and further management recommendations to the Ten Year Management Plan

2.1.1. An important aim of this Management Plan Addendum is to prescribe works which will maintain and enhance habitats and features of benefit to protected species known to be present within the local area, as well as provide general enhancements for the wider benefit of local flora and fauna.

2.1.2. As stated in the 10 Year Management Plan: *'Lifecare Residences' Vision for the landscape of the site is to manage and enhance the amenity and semi-natural 'wild' spaces on site so that residents can be enriched by nature while ensuring sensitive biodiversity thrives, and the site's nature conservation designations are maintained'.*

2.1.3. In addition to the aims set out within the 10 Year Management Plan, the main objectives of this addendum are as follows:

- To protect and conserve the existing landscape character and screening function of the existing trees on the site boundaries, and to incorporate locally indigenous species within screening/structural landscape areas;
- To enhance existing trees, hedgerows and other vegetation character, composition and age structure through positive management with consideration to long-term health, safety and biodiversity value;
- To take measures to ensure the successful establishment and growth of new structural and incidental planting and to take appropriate long-term management measures to ensure the satisfactory appearance and sustainability of vegetation;
- To protect and enhance the biodiversity of existing and new habitats and to ensure the adoption of management practices that enhances the biodiversity value of the site. To fulfil all legal requirements in relation to the protection and management of ecological features and the protection and management of target species such as slow worms;
- To uphold the duty of care that all landscape components are safe and that all reasonable steps are taken to minimise risk of injury and damage to people and property; and
- To ensure that management practices are monitored and where necessary reviewed on an annual basis in accordance with changing site circumstances and the views of key stakeholders (Adopting Authority, resident's representatives and LPA).

2.1.4. The development proposals for the site have been driven by the desire to maintain the sites status as a Grade II SINC and complement the character of the surrounding area. To that end the development includes considerable 'green space' which provides a function both for public recreation and for the protection of

local biodiversity interests. A wildlife 'open' space is also proposed, which has restricted access to the public, and is intended to maintain the sites SINC status, with scope to upgrade the site designation from Borough Grade II to Grade I status.

2.1.5. Table 1 below contains descriptions of the recommended amendments to the management plan, along with the referenced section of the report.

Table 1: Descriptions of the amendments and enhancements to the management plan.

Clause Number	Management target	Description
2.1.1	General Management - Watering	***Watering trees:*** Water trees during dry periods (being any period without substantial rainfall for 14 days or more), until trees are successfully established. Water at a rate of 25 litres per tree position into watering tubes. The Landscape Management Contractor shall be entirely responsible for varying the frequency of these visits according to climatic conditions and for contacting the Adopting Organisation and agreeing the timing of any additional watering visits if required and where restrictions are placed on the use of water, sources and costs of obtaining second class water. The Landscape Management Contractor shall be responsible for any tree failures or excessive die back from drought stress during the management contract. ***Watering of ornamental hedges:*** Water ornamental hedges during dry periods (being any period without substantial rainfall for 14 days or more). Water shrubs to field capacity (minimum 10 litres per m^2) applying water in the morning or early evening to reduce evaporation. Apply at a frequency of up to 2 times per week from April to the end of September (to a maximum of 20 visits in any one calendar year) as required during any continuous hot weather lasting more than 7 days. The Landscape Management Contractor shall be entirely responsible for varying the frequency of these visits according to climatic conditions and for contacting the Adopting Organisation and agreeing the timing of any additional watering visits if required and where restrictions are placed on the use of water, sources and costs of obtaining second class water. The Landscape Management Contractor shall be responsible for any tree failures or excessive die back from drought stress during the management contract.

2.1.1	General Management - Watering	***Watering of ornamental shrubs:*** Water both shrubs and specimens during dry periods (being any period without substantial rainfall for 14 days or more). Water all shrubs to field capacity (minimum 10 litres per m²) and water all large specimens at 10 litres each. The Landscape Management Contractor shall be entirely responsible for varying the frequency of these visits according to climatic conditions and for contacting the Adopting Organisation and agreeing the timing of any additional watering visits if required and where restrictions are placed on the use of water, sources and costs of obtaining second class water. The Landscape Management Contractor shall be responsible for any tree failures or excessive die back from drought stress during the management contract. ***Watering amenity grass areas:*** During the first 3 years following initial seeding or following re-seeding operations, water amenity grass areas during periods of extreme drought (2 or more weeks without substantial rainfall) to a maximum of 15 occasions. After establishment continue to water only if deemed to be required. To aid the natural establishment of grass areas, only water where unavoidable, where the grass is going brown and appears to be suffering from severe drought stress. When watering, water to field capacity (minimum 20L/m2) in the morning or in the evening to reduce water evaporation, when the water is more likely to reach the roots. The Landscape Management Contractor shall be entirely responsible for varying the frequency of these visits according to climatic conditions and for contacting the Adopting Organisation and agreeing the timing of any additional watering visits if required and where restrictions are placed on the use of water, sources and costs of obtaining second class water.
2.1.5	General Management - Cleanliness	All paved surfaces shall be swept monthly to ensure that they are clean, tidy and free from dust, litter and debris (removing all arisings off site). Increase sweeping to fortnightly in autumn when leaves are falling.

2.2.1	Street Frontage and Entrances - Hedge	*Annual works* ***Cutting / trimming of ornamental hedges:*** Cut ornamental hedges at least twice annually, once in June and again in late November to an approximate height of between 1 and 1.5m to form a square, even and tidy hedge that is formal in character. Cut larger stems, and prune any diseased rotten wood back to sound wood. Remove all cut material from site. Leave the vegetation beneath the hedge line uncut to allow ground flora to develop. Avoid the use of herbicides and pesticides in the vicinity of native hedgerows.

2.2.2	Street Frontage and Entrances – Street Tree	***General tree maintenance during establishment:*** Check all trees for firmness and stability in the ground. Check and adjust tree ties, replacing if necessary. Top up bark mulch levels where necessary around the base of new trees, using the same or similar product to that previously supplied to maintain an approximate depth of 50mm to reduce competition from weeds and retain soil moisture. Where trees are in grass areas, remove weed growth by hand and retain a circle of bark mulch (approximate radius of 500mm) to aid mowing and prevent damage to the main stem. All trees shall be fertilised using a suitable and approved liquid feed (N10:P15:K10) at a rate of 60g/m² during early May and again in late September. Prune back any diseased or rotten wood (including the removal of main stems and limbs) back to sound wood as required. Remove all cut material from site. ***Checking and removal of tree stakes and ties:*** Review the need for tree stakes and ties annually for up to 6 years. Remove stakes and ties between 4 to 6 years after planting, but be sure trees are firm and stable. Stakes and ties removed shall be cut at ground level, below lowest grass height (to prevent snagging mower blades) or pulled from the ground and the post holes filled with suitable topsoil. If the tree is found to be weak or unstable after the stakes have been removed, then check the base of the tree for signs of rot. If rotten or unlikely to stabilise, remove the tree and replace. If the tree is free from rot or other cause of its instability, then re-instate a tree support, using 100mm diameter chestnut stake and single tie. The stake should be pushed into the ground with a post rammer, to a depth of 600mm and cut to one third the height of the tree. Fix the tree stem with a rubber tie and spacing device attached to at a point no more than 25-35mm below the top of the post, in order to prevent chaffing against the post in high winds. Remove old posts and ties and arisings and dispose off site. ***Long-term tree surgery works:*** After 10-20 years of maintenance as above (or earlier if required), newly planted trees will reach semi-maturity and at this time may be in need of corrective surgery. Trees should become subject to the annual Arboricultural Assessment and any works recommended shall be carried out in accordance with best practice.

2.2.2	Street Frontage and Entrances – Street Tree	***Tree replacement and enhancement of tree cover:*** Any tree that dies or is necessarily felled, but which is not removed as part of a programme of tree removals, shall be replaced with a tree of appropriate species and stock size. Such replacement shall be with a tree of either the same or similar species as those existing. The option for replacing with a different species is to allow some flexibility avoiding problems encountered with 'Same Species Disease' and to ensure sustainable tree cover in the interests of visual amenity. Possible damage to drainage/services and adjoining building foundations must be considered before choosing a replacement tree species and location. Where alternative species are being considered, then the species should be suitable to the character of the location and adjoining trees. Once annually the site shall be considered for the need for any strategic replacement or enhancement planting, to broaden the age class of trees and tree groups, in the interests of the long-term sustainability of strategically important vegetation. Trees should be a minimum stock size of standards (10-12cm girth), and implemented and maintained in accordance with good horticultural practice. Replacement and enhancement planting is best undertaken during the planting season (November through to March inclusive). ***All trees*** Trees should be regularly visually checked for the presence of any diseased or rotten wood; fungal or other infections/disease; and stability. If any such issues are identified, then the advice of a qualified Arboriculturist should be sought immediately. An Arboricultural Assessment should be undertaken once annually by a qualified Arboriculturist inspecting the condition of existing trees including any cause of increased risk to people or property. Furthermore, during the Arboricultural Assessment, the health of the trees shall be monitored and any works required for health and safety or to promote the health and sustainability of existing trees shall be identified. Where possible works should be scheduled outside of the bird nesting season (between October through to March inclusive).

2.2.5	Street Frontage and Entrances – Hard Surfaces and Furniture	**Hard Surfaces** All paved surfaces shall be swept monthly to ensure that they are clean, tidy and free from dust, litter and debris (removing all arisings off site). Increase sweeping to fortnightly in autumn when leaves are falling. **Street Furniture** *Annual Works* ***General maintenance for street furniture:*** Inspect all elements of the street furniture monthly taking great care to inspect posts, footings, fixings and paint work for picnic benches, seats, bins, bollards, signage etc., are safe, functional, clean and free from dilapidations, bird faeces dust, graffiti and grime. Check that posts are upright and firm and that footings are intact. Ensure that paint work is complete and that there is no sign of rust. Ensure that all fixings are secure and in good repair. Any defect shall be carefully recorded and arrangements for repair made within seven days with the Street Furniture Company or other suitable and approved contractor. All painted, electrostatic powder coated, or stained surfaces (or other similar surface treatments) shall be closely inspected, and any damage, chipping, flaking, abrasion or fading made good with matching treatment, applied strictly in accordance with the manufacturer's instructions, product COSHH sheet and latest COSHH Regulations. All graffiti shall be removed and surfaces made good if necessary. Street furniture shall be cleaned monthly, removing dirt, bird faeces, and grime using detergent and scrubbing sponges or brushes – as appropriate, rinsing and drying to leave a clean surface. Litterbins shall be emptied at two-week intervals, including removal of any spilled litter and weekly between April and September inclusively, carting litter to licensed tip in sealed bags.

2.2.5	Street Frontage and Entrances – Hard Surfaces and Furniture	*Occasional Works* ***Changes and renewals for street furniture****:* Where scheduled inspections report detects to street furniture, that are in need of wholesale replacement or alteration in order to function satisfactorily and to minimise risk of injury or harm, and where such items are found to be beyond repairable condition, then these changes or renewals should be effected immediately. Demolish and remove defective elements and replace or add new items as appropriate - including for carting away the failed and excavated or broken out materials to skip, ensuring all new elements match those existing in all respects, both the material type and gauge/ dimensions and the decorative finish and colour, unless a suitable alternative is agreed with stakeholders and suitable.
2.3.1	Courtyard Garden - Hedging	*Annual works* • Cutting using a hedge trimmer as required during the months of September-February to required height to form an even and tidy hedge line, retaining individual hedgerow trees. Cut larger stems, and prune any diseased rotten wood back to sound wood. Cuttings to be collected and removed. • Leave the vegetation beneath the hedge line uncut to allow ground flora to develop. Avoid the use of herbicides and pesticides in the vicinity of native hedgerows. • An Arboricultural Assessment should be undertaken once annually by a qualified Arboriculturist to inspect the condition of existing vegetation. The health of existing hedgerows shall be monitored and any works required for health and safety or to promote the health and sustainability of existing hedgerows shall be identified. *Occasional works* • All extensive Arboricultural works (e.g. coppicing or laying) shall be carried out by a skilled, qualified and approved Arboricultural Contractor in accordance with BS3998: 2010 'Tree Work - Recommendations'. All arisings that result from such management works shall be removed off site, unless needed to enlarge or renew hibernacula or eco piles.

2.3.2	Courtyard Garden – Planted Borders and Lawns	*Annual Works* ***General lawn care:*** Apply an approved turf fertilizer, selective weed killer and moss retardant in May and September, applying strictly in accordance with the manufacturer's instructions, Control of Pesticide Regulations, COSHH Regulations and product COSHH sheet in suitable weather conditions. Otherwise amenity grass areas shall be weeded either by hand or (especially persistent weeds) herbicide treated in order to maintain the visual amenity of the area. *Occasional Works* ***Replacement of failed turf:*** Small areas of dead, dying or failing lawn shall initially be made good through changes to the mowing regime or through temporary protection of high wear areas using temporary fencing or similar. Larger areas of degradation may require re-cultivating and reseeding. Cut out sections of distressed and failing or dead areas of turf using a suitable turf-stripping machine or for small areas by hand. Supply and lay new turf of a suitable standard and lay flush with existing sward, filling any cracks and top dressing with a 70:30 ratio mix of sand and screened topsoil. This sand/soil mix shall also contain grass seed of the same or similar species to the turf. For more wholesale degradation of the turf sward, the entire area will require to be re-seeded. Cultivate or power-harrow the affected area until a fine tilth is achieved (removing stones greater than 20mm) and grade until level with adjoining areas. Apply a pre-seeding fertilizer at a rate of 70g/m² and seed with a general amenity seed mix such as Barenbrug Bar 11 or other equal and approved, raking until the seed is a few millimetres below the surface. Water thoroughly and maintain the soil in a moist condition, removing stones, weeding and mowing until the grass is established.
2.3.3	Courtyard Garden – Trees	***General tree maintenance during establishment:*** Check all trees for firmness and stability in the ground. Check and adjust tree ties, replacing if necessary. Top up bark mulch levels where necessary around the base of new trees, using the same or similar product to that previously supplied to maintain an approximate depth of 50mm to reduce competition from weeds and retain soil moisture. Where trees are in grass areas, remove weed growth by hand and retain a circle of bark mulch (approximate radius of 500mm) to aid mowing and prevent damage to the main stem. All trees shall be fertilised using a suitable and approved liquid feed (N10:P15:K10) at a rate of 60g/m² during early May and again in late September. Prune back any diseased or rotten wood

		(including the removal of main stems and limbs) back to sound wood as required. Remove all cut material from site. ***Checking and removal of tree stakes and ties:*** Review the need for tree stakes and ties annually for up to 6 years. Remove stakes and ties between 4 to 6 years after planting, but be sure trees are firm and stable. Stakes and ties removed shall be cut at ground level, below lowest grass height (to prevent snagging mower blades) or pulled from the ground and the post holes filled with suitable topsoil. If the tree is found to be weak or unstable after the stakes have been removed, then check the base of the tree for signs of rot. If rotten or unlikely to stabilise, remove the tree and replace. If the tree is free from rot or other cause of its instability, then re-instate a tree support, using 100mm diameter chestnut stake and single tie. The stake should be pushed into the ground with a post rammer, to a depth of 600mm and cut to one third the height of the tree. Fix the tree stem with a rubber tie and spacing device attached to at a point no more than 25-35mm below the top of the post, in order to prevent chaffing against the post in high winds. Remove old posts and ties and arisings and dispose off site. ***Long-term tree surgery works:*** After 10-20 years of maintenance as above (or earlier if required), newly planted trees will reach semi-maturity and at this time may be in need of corrective surgery. Trees should become subject to the annual Arboricultural Assessment and any works recommended shall be carried out in accordance with best practice. ***Tree replacement and enhancement of tree cover:*** Any tree that dies or is necessarily felled, but which is not removed as part of a programme of tree removals, shall be replaced with a tree of appropriate species and stock size. Such replacement shall be with a tree of either the same or similar species as those existing. The option for replacing with a different species is to allow some flexibility avoiding problems encountered with 'Same Species Disease' and to ensure sustainable tree cover in the interests of visual amenity. Possible damage to drainage/services and adjoining building foundations must be considered before choosing a replacement tree species and location. Where alternative species are being considered, then the species should be suitable to the character of the location and adjoining trees. Once annually the site shall be considered for the need for any strategic replacement or enhancement planting, to broaden the age class of trees and tree groups, in the interests of the long-term

		sustainability of strategically important vegetation. Trees should be a minimum stock size of standards (10-12cm girth), and implemented and maintained in accordance with good horticultural practice. Replacement and enhancement planting is best undertaken during the planting season (November through to March inclusive). ***All trees*** Trees should be regularly visually checked for the presence of any diseased or rotten wood; fungal or other infections/disease; and stability. If any such issues are identified, then the advice of a qualified Arboriculturist should be sought immediately. An Arboricultural Assessment should be undertaken once annually by a qualified Arboriculturist inspecting the condition of existing trees including any cause of increased risk to people or property. Furthermore, during the Arboricultural Assessment, the health of the trees shall be monitored and any works required for health and safety or to promote the health and sustainability of existing trees shall be identified. Where possible works should be scheduled outside of the bird nesting season (between October through to March inclusive).
2.3.5	Courtyard Garden – Hard Surfaces	*Annual Works* ***General cleanliness:*** All paved surfaces shall be swept monthly to ensure that they are clean, tidy and free from dust, litter and debris (removing all arisings off site). Increase sweeping to fortnightly in autumn when leaves are falling. ***Condition of paved surfaces*:** All hard landscape surfaces and edgings shall be inspected monthly checking for mechanical damage, vandalism, settlement, frost heave, staining, litter and debris or any other defect. Any such defects shall be documented and a corrective methodology agreed with the Adopting Authority and implemented as appropriate by the Landscape Management Contractor. *Occasional Works* ***Repairs and renewals:*** Where scheduled inspection detects paved areas are in need of replacement, extension or alteration to their original intended function or to minimise risk of injury, then such repair and/or renewals should be effected immediately. Remove defective paving, through excavation and make good base and sub-base materials as required, re-use salvageable paving units, and relay paving, buying in new products to replace any that are damaged or defective. Where there is differential

		settlement or the units wobble, or are not firmly bedded, jointed or pointed, ensure that the units are relayed firmly, re-bedding, jointing and where appropriate pointing, all to match the bonding pattern existing on site.
2.4.3	Buildings, Terraces and Roofs – Green and Brown Roofs	*Annual Works* ***Establishment:*** During the first two years following implementation of the extensive green roof area complete watering, replenish any areas of settled substrate, correct any localised problems and replace any failed plants exceeding 5% of the total plants installed in accordance with the roof system suppliers instructions to ensure successful establishment and coverage of the green roof. ***Weeding:*** Remove unwanted plant material (including undesirable self-sown plants such as tree saplings which may damage the roof structure, drainage or waterproofing layers) or other species that would be detrimental to the intentional planting regime. Weeding should take place once every 2 months for the first year, reducing to 3-4 times a year once the plants have established. Weeding should be concentrated in spring and in periods after heavy rain fall when unwanted seedlings (rather than full grown plants) should be removed. Cut back grasses in late winter to early spring. Any bare areas should be left to naturally regenerate where possible. ***Fertilising:*** Apply a balanced slow release low-level fertiliser with micro-nutrients twice a year, once in spring and once in autumn in the first year. After establishment, apply fertiliser only when required to sustain diversity, plant growth and roof cover. ***Inspection and clearance of drainage outlets, chambers and fire breaks:*** Ensure drainage outlets, inspection chambers, shingle perimeters, upstands and roof penetrations are clear and free of vegetation and debris. Checks should be completed twice per year, once in spring and again in autumn to ensure excess water is able to drain from the roof. *Occasional Works* ***Annual Inspection:*** The green roof, including fall protection measures shall be inspected post installation and annually once per year thereafter. Any issues should be identified and recorded and remedial works required shall be completed by a specialist contractor.

2.4.4	Buildings, Terraces and Roofs – Semi-improved neutral grassland	**Development area semi-improved grassland** *Annual works* Cut using a brushcutter once in March and again in October. Cutting should be carried out in warmer conditions (temperature over 10°C) to ensure slow worms are warm enough to escape. The vegetation should be cut un-evenly at variety of heights to provide a layered habitat; providing a thermal gradient which is preferential for slow worms. Vegetation should be cut no lower than 5cm. **Wild 'open' space semi-improved grassland** *Annual Works* A mosaic of sward heights should be created through rotational cutting of different parts of the grassland on a two year cycle to a height of 5cm. The cutting should take place in autumn. Only one half of the grassland area will be cut in each year and the areas to be cut should be designed to create a mosaic of sward heights rather than two distinct areas. This will provide a range of thermal niches which will benefit reptiles and wildlife in general. *Occasional works* Hand weed pernicious, ruderal and aggressive or invasive weeds in in order to maintain the visual amenity of the area. Do not herbicide or fertilise. Arising's from tree surgery work can be retained on site and used to create new hibernacula as required.
2.4.5	Buildings, Terraces and Roofs – Retention Pond	*Annual Works* ***Regular inspection and maintenance:*** This will be undertaken by the Adopting Organisation and is important for the effective operation. Regular mowing in and around the area is required along maintenance access routes, amenity areas and across embankments. Maintenance activities should be detailed in the Health and Safety Plan and a risk assessment should be undertaken. Specific maintenance activities are detailed in the maintenance schedule attached (see appendix 6.1). *Occasional Work* ***Replacement planting:*** For distressed and failing areas of vegetation, remove dead material and re-cultivate the topsoil, to a depth of 100mm. Small areas may be reseeded following the autumn cut by spreading the cut arisings onto the bare soil to set seed. Evenly seed with an appropriate mix of wildflowers and

		grasses in either October/ November or February/ March, to a mix and at a rate as agreed with the landscape architect or consultant ecologist. Carefully rake in thoroughly to ensure that the seed is a few millimetres below the surface. Roll using a very light roller or a cylinder mower, ensuring the surface is even and level. In the event of unexpected dry weather water thoroughly to field capacity using a fine spray hose and continue to water to maintain a moist soil until complete establishment. Protect newly seeded areas by metal stakes and high visibility tape to restrict access and hand weed out persistent residual weeds and new germinated ruderal weed seed. Inspect inlets, outlets, overflows and grilles for blockages and clear if required. Inspect inlets for silt accumulation, and excavate if found to be impeding inlet function. Sediment to be disposed of in line with Environment Agency protocol, with sediment testing to be undertaken as required.
2.4.6	Buildings, Terraces and Roofs – Scrub and Trees (TPO Trees)	Any works recommended for each tree (such as crown raising, crown reduction, substantial pruning, removal of limbs, pollarding or felling) should be documented and a formal application made to the LPA for approval (with the exception of the removal of dead wood) in advance of the works being undertaken wherever necessary. Any tree that dies or is necessarily felled, but which is not removed as part of a programme of thinning or coppicing, shall be replaced with a tree of appropriate species and stock size. Such replacement shall be with a tree of either the same or similar species as those existing. Once annually the site shall be considered for the need for any strategic replacement or enhancement planting, to broaden the age class of trees and tree groups, in the interests of the long-term sustainability of strategically important vegetation. All trees should be a minimum stock size of standard (10-12cm girth), and implemented and maintained in accordance with good horticultural practice. Replacement and enhancement planting is best undertaken during the planting season (November through to March inclusive).
2.4.8	Buildings, Terraces and Roofs – Biodiversity Enhancement Features	**Reptile Hibernacula** *Initial works* ***Installation:*** Construction of the hibernacula will involve the excavation of a linear trench to a depth of 300mm that is then filled with demolition rubble and brash to a height of 700mm above ground level. The linear hibernacula will then be capped with topsoil to a maximum depth of 250mm on top and 200mm toward the sides. These margins are to be left open to allow access to

		amphibians. *Annual works* ***General maintenance:*** Once created the hibernacula will be seeded with wildflower meadow mix EM2. In the first year following development spot treatment for weed species will be undertaken and the grassland over the hibernacula will be strimmed on a regular basis and all arising will be left in situ. In subsequent years the grassland over the hibernacula will be strimmed to a height of approximately 20mm on an annual basis in mid-summer and the arisings will be left in situ. Strimming in mid-summer will allow the regeneration the grassland over the hibernacula prior to the hibernation period. **Bird Boxes** *Annual works* ***General box maintenance:*** All bird boxes should be annually inspected for presence, damage, obstruction and if necessary should be cleaned. Inspection and cleaning should be conducted during winter months to avoid impact on nesting birds. *Occasional works* ***Repairs and replacement:*** If replacement through loss or damaged is required, it should be for an identical product positioned in a similar location. **Bat Boxes** *Annual works* ***General box maintenance:*** Bat boxes should be annually inspected for presence, damage, obstruction and if necessary should be replaced for an identical product in a similar location. *Occasional works* ***Repairs and replacement:*** Bat boxes should be cleaned once every three years by a suitably licensed bat ecologist. Unlicensed individuals should not interfere with bat boxes or bricks once installed.
2.4.9	Buildings, Terraces and Roofs – Steps and Access Features	*Annual Works* ***General maintenance for structures and walls:*** Inspect structures, walls monthly taking great care to inspect piers, masonry, pointing and jointing, copings, damp proof courses etc. Look for and record any cracking, loose elements, damage, graffiti, spalling cement, efflorescence or dampness issues, sapping, flaking or crumbling of masonry or units. All defect shall be

		carefully recorded and arrangements for repair made within seven days with an approved masonry contractor as appropriate. ***General maintenance for timber fences:*** Inspect posts, footings, rails, styles, braces, fixings, latches, bolts, fasteners and paint or stain work. Check that posts are upright and firm and that footings are intact. Ensure that fixings show no signs of rust. Record all defects carefully and making arrangements for making good, repair adjusting, tightening or re-painting/ staining as required within seven days with an approved fencing, decorating or cleansing contractor as appropriate. ***General maintenance for railings:*** Inspect posts, footings, rails, rods, braces, fixings, latches, bolts, fasteners, galvanising and paint work. Check that posts are upright and firm and that footings are intact. Ensure that fixings, metalwork and paint work show no signs of rust, chipping, flaking, abrasion or any other defect. Record all defects carefully and making arrangements for making good, repair adjusting, tightening or re-painting/ staining as required within seven days with an approved fencing, decorating or cleansing contractor as appropriate. Railings that have defective paintwork shall be painted with paint to match existing – apply with a suitable brush for the paint type (e.g. some metal work paints need a Turks-head brush, and ensure 100 Microns per coat, and a total of 3 coats, applied in dry open weather, above the dew point and following suitable preparation work, cleansing the surfaces with soap and water and then allowing adequate drying time. Re-painting shall take place at 5-10 year intervals or as required to keep paintwork in good condition. *Occasional Works* ***Changes and renewals for structures, walls, railings, fencing and gates:*** Where scheduled inspections report defects to structures and other enclosing elements, that are in need of wholesale replacement, extension or alteration in order to function satisfactorily and to minimise risk of injury or harm, and where such items are found to be beyond repairable condition, then these changes or renewals should be effected immediately. Demolish and remove defective elements and replace or add masonry, panels, posts, timber work, or metalwork, as appropriate - including carting away the failed and excavated or broken out materials to skip, ensuring all new elements match those existing in all respects, both the material type and gauge/ dimensions and the decorative finish and colour.

2.5.2	General Management - Invasive or problematic species removal	Virginia creeper (*Parthenocissus quinquefolia*) has been identified encroaching on the northern site boundary in the Updated Phase 1 Survey (James Blake Associates, 2018). This is a Schedule 9 invasive species, and the spread should be controlled to reduce further encroachment. Virginia creeper should be cut back to the residential garden fencing and the arisings removed from site and appropriately disposed.

3. 20 Year Monitoring Strategy

3.1. Aims and Objectives

3.1.1. In order to ensure the long term stability of the slow worm population, and maintain the sites Grade II SINC status, the following reptile monitoring regime should be implemented in the years following the translocation of slow worms to the wild 'open' space. A 20 year monitoring strategy has been recommended as an extension to 10 year management plan, as this is the only known population of slow worms in the Camden area. As the slow worm population is a key attribute in the sites Grade II SINC designation, it is considered that extending slow worm monitoring to 20 years will allow for reactive management of the site to ensure habitat suitability is optimised in the long term.

3.1.2. The objectives of the 20 year monitoring are as follows:

- To monitor the site through conducting walkover biodiversity assessments, reptile surveys and vegetation transects;
- to maintain or steadily increase slow worm population size through habitat enhancement through the monitoring period and provide 'trigger points' at which to take action if the population is observed to be decreasing at any point; and
- to upgrade the site designation from Borough Grade II to Grade I SINC long term.

3.2. Walkover Biodiversity Assessment

3.2.1. Details can be found in section 3.1 of 10 year management plan (London Wildlife Trust, 2017).

3.2.2. Commencing year 10 (2028) walkover biodiversity assessments should be undertaken every 5 years for the remainder of the 20 year period.

3.3. Vegetation transects

3.3.1. Details can be found in section 3.2 of 10 year management plan (London Wildlife Trust, 2017).

3.3.2. Commencing year 10 (2028) vegetation transects should be undertaken every 5 years for the remainder of the 20 year period.

3.4. Reptile surveys

3.4.1. Surveys should be conducted commencing 2020 (year 2), following the enhancement of the wild 'open' space and subsequent translocation of slow worms**.** Here on after they should be carried out on years 4 and 6 then every five years commencing year 6 (2024) in accordance with established guidance (Natural England, 2011; Froglife, 1999; Gent and Gibson, 1998).

3.4.2. Surveys should be conducted between the months of April or May to ensure that the development pressures and management practices are maintaining the population of slow-worms. Monitoring surveys require placing reptile refugia, in the form of squares of roofing felt, measuring approximately 0.25m^2 throughout site in areas of suitable habitat. Reptile surveys should consist of a total of 10 site visits during optimal weather conditions for reptiles (between 10 and 20°C) in dry conditions.

3.4.3. The reptile survey methodology adopted in year 2 should be repeated exactly (and within two weeks of the baseline date) in subsequent years to ensure that there is consistency and minimal bias created from the results.

3.4.4. If the population is shown to have decreased during the monitoring period, or a steady increase in the slow worm population is not observed after year 3, a review of the wild 'open' space habitat management should be undertaken by an ecologist.

3.4.5. To quantify a 'decrease' in population, the percentage change in population size should be calculated and compared to the previous year. If the population is shown to decrease by 10% or more, an ecologist should be consulted to review the habitat condition and management, and suggest appropriate action.

3.4.6. Alterations should be informed by the most recent walkover biodiversity assessment. Such changes could include altering the sward height of cut semi-improved grassland, changing the ratio of habitat types such as semi-improved grassland and scrub, or providing additional hibernacula.

3.4.7. The 10 year management plan will be reviewed once each year's monitoring results are provided to highlight any areas in which the receptor site may not be suitable for reptiles. The plan will then have to be adjusted to improve the management of the receptor site, for example the cutting regime may have to be altered from a three year to a five year rotation or further habitat creation may be required.

3.4.8. All records ascertained over the monitoring period should be submitted to the local biodiversity records centre (Greenspace Information for Greater London, GIGL).

3.4.9. A monitoring schedule detailing the survey timings over the monitoring period can be found in Table 2 below.

Table 2: Monitoring schedule for 20 year management plan.

Survey type	Year 1 2019	Year 2 2020	Year 3 2021	Year 4 2022	Year 5 2023	Year 6 2024	Year 11 2029	Year 16 2034	Year 20 2039
Walkover biodiversity assessment	May - June		May - June		May - June		May - June	May - June	May - June
Vegetation transects	June - July		June - July		June - July		June - July	June - July	June - July
Reptile surveys	Slow worm trans-location	April-May		April-May		April-May	April-May	April-May	April-May

4. Implementation and Review

4.1 Implementation

4.1.1 A Private Management Company will be established for the site to undertake all management aspects relating to the external landscape areas that lie outside of private residential areas.

4.1.2 The Private Management Company will coordinate all management of the site in perpetuity in accordance with this Landscape Management Plan and the accompanying maintenance schedules. A representative of the Private Management Company will be appointed as the main point of contact for residents, relating to the management of the site.

4.1.3 The Private Management Company may employ a Landscape Management Contractor to carry out general maintenance operations. Specialist Contractors may be used on an as needs basis to complete specialist operations and/or occasional works.

4.1.4 The Private Management Company may also appoint from time to time consultants to provide specialist advice, monitoring or to undertake a watching brief in relation to particular aspects of this site or specific maintenance operations. This may include suitably qualified ecologists, arboriculturists, landscape architects, engineers and/or health and safety executives.

4.1.5 All works, materials and operations will be in accordance with relevant legislation, British Standards, Regulations (including the CDM Regulations) and Codes of Practice.

4.2 Process for Monitoring and Review

4.2.1 The Landscape and Ecological Management Plan and maintenance schedules will be monitored and assessed for their effectiveness on an annual basis for the first five years following the completion of the development.

4.2.2 Each annual review will be coordinated and completed by a suitably qualified representative of the Adopting Authority. The review will include advice from specialist consultants as required (such as a qualified Arboriculturist and ecologist), the Landscape Management Contractor and other stakeholders including representative(s) from the LPA and local residents.

4.2.3 **To this end the review may include (as appropriate):**

- Specialist reports - advising on particular aspects such as protected species, general silvicultural husbandry and health and safety issues;
- Records or attendance sheets demonstrating the maintenance work undertaken; and

- A walk over assessment of the landscape areas to assess landscape components and their condition, and the need for enhancement including minutes.

4.2.4 The review should identify any changes to site conditions and circumstances, whether the aims and objectives of the Landscape and Ecological Management Plan are being met, and where identified changes are need to existing management practices and timeframes. Furthermore, any strategic enhancements, including new planting should be identified and priorities established for undertaking these works.

4.2.5 Within 1 calendar month of the review, a revised Landscape and Ecological Management Plan shall be produced (if appropriate), and circulated to stakeholders. Within 5 years of the completion of the site, then the revised document shall be submitted to the LPA as a non-material amendment to the previously approved Landscape Management Plan.

4.2.6 After the first five years the Landscape and Ecological Management Plan will be reviewed every five years, or as required to ensure the satisfactory management of the landscape in perpetuity.

Figure 1: Management areas plan (not to scale).

Yours sincerely,

George Poulton
Assistant Ecologist
James Blake Associates Ltd.