



Plots E & F, Station Hill, Reading

Ecological Management Plan

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This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS OHSAS 18001:2007)

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1. Introduction

- 1.1. Waterman Infrastructure & Environment Ltd (Waterman) was commissioned by SH Reading Master LLP (hereafter referred to as the 'Applicant') to prepare an Ecological Management Plan (EMP) for Plots E and F of the Station Hill Development located in Reading City Centre (hereafter referred to as the 'Site').

Site History and Development Proposals

- 1.2. An Outline Planning Application for the redevelopment of the Site was submitted by Sackville Developments Reading Ltd (SDRL) in March 2013 (Planning Reference: 130436). The development, known as SH3, included the demolition of all existing buildings and structures at the Site, excluding the existing multi-storey NCP car park, and replacement with four new commercial buildings (referred to as Building Plots A - D) and two new primarily residential buildings (referred to as Building Plots E and F). The existing NCP car park would be reconfigured and refurbished. The planning application was granted permission in January 2015 and is hereafter referred to as the '2015 Consented Scheme'.
- 1.3. At the same time, an application was submitted for a temporary flexible event space on 0.35 ha of land within the north of the Site (Planning Application Reference: 130440/FUL). The temporary flexible event space was proposed to operate as an interim condition in the north-eastern part of the Site following demolition of the former Station Hill Retail Arcade (including 26 to 58 Station Hill). The temporary flexible events space was granted permission in January 2014.
- 1.4. Subsequent to submission of the application for SH3, SDRL acquired an area of land adjacent to the SH3 Site, known as the Telecom House site. An application to extend and amend Plot E of the 2015 Consented Scheme to incorporate the Telecom House site was submitted in August 2015 (Planning References: 151426 and 151427). These applications were granted permission July 2016.
- 1.5. A reserved matters application was also submitted for Plot B in 2015 and granted permission in August 2016 (Planning Reference: 151543).
- 1.6. Since receiving planning consent, the buildings located within the curtilage of Plots B, C and D have been demolished and the temporary events space has been constructed in the location of Plot C.
- 1.7. SH Reading Master LLP acquired the Site from SDRL in 2018 and are now submitting Reserved Matters Applications (RMAs) for Plots E and F of the Station Hill Development.

Aims and Objectives

- 1.8. This EMP has been prepared to support the RMAs for Plots E and F to provide sufficient information to discharge Condition 22 of the Outline Planning Consents (151426 and 151427) which state:

"In respect of each Plot, each application for the approval of Reserved Matters shall be accompanied by details of habitat mitigation works for that Plot (if and to the extent relevant to the subject matter of the Reserved Matters application). This shall include a report detailing the following habitat mitigation works which shall be submitted to and approved in writing by the Local Planning Authority:

- A. locations and specification for bird nesting habitats for Black Redstarts, Swifts and Peregrine Falcons;*

B. specifications for green roofs and brown roofs (to be a minimum area of 25% of each Plot's roof area in the development), including their method of construction and landscaping on-going management for five years; and

C. details of the ground level planting scheme (demonstrating how it has been designed to maximise its benefit to wildlife within the context of the scheme).

These approved habitat mitigation works shall be in place prior to completion of the relevant building / Plot and retained thereafter. Reason: to ensure that a habitat which would be designed specifically for these birds is created / re-provided for within the development, in the interests of biodiversity"

2. Relevant Planning Policy and BAPs

Planning Policy

Reading Borough Local Development Framework: Core Strategy

- 2.1. For the purposes of this report, only local planning policy has been referenced given the planning condition being addressed in this report.
- 2.2. The Reading Borough Local Development Framework Core Strategy¹ was adopted in January 2008 with alterations adopted in January 2015². This document sets out the Council's adopted planning strategy for the Borough. It sets out how planning and development will achieve the Reading 2020 Vision for the town. It provides a framework for how Reading can grow in a sustainable way in the future. The following policies are of relevance to this report:
- 2.3. Policy CS36 – Biodiversity and Geology states:
- "a) Development should retain, protect and incorporate features of biodiversity or geological interest (including protected species and their habitats) found within the application site into their schemes. On sites with recognised biodiversity or geological value, development will not be permitted where there would be a direct or indirect adverse impact on the site, unless it can be clearly demonstrated that:
 - i. The need for development clearly outweighs the need to protect the value of the site; and
 - ii. Appropriate compensation, impact minimisation, mitigation and compensation are provided.
 - b) Local Nature Reserves and Wildlife Heritage Sites will be safeguarded and where possible, enhanced. Permission will not be granted for any development that would adversely affect a designated nature reserve or Wildlife Heritage Site.
 - c) Any development that would sever or threaten the integrity of an established wildlife link, as indicated on an adopted proposals map, will not be permitted. Where applicable, developments should be designed to protect, consolidate, extend and enhance the network of wildlife links and corridors in and adjoining the Borough, working with neighbouring authorities where appropriate."
- 2.4. Policy CS38 – Trees, Hedges and Woodlands states:
- "Individual trees, groups of trees, hedges and woodlands will be protected from damage or removal, and the Borough's vegetation cover will be extended."*

Reading Borough Local Development Framework, Sites and Detailed Policies Document

- 2.5. Policy DM3 of the Sites and Detailed Policies Document³ relates to infrastructure Planning. The policy states that in determining planning applications the highest priority will be given to "open space, green infrastructure and other measures to improve or enhance biodiversity".

¹ <http://www.reading.gov.uk/documents/transport.../CD-2.6-Core-Strategy.pdf>

² Reading Borough Council (January 2015). *Reading Borough Local Development Framework: Core Strategy*.

³ Reading Borough Council (2012). *Reading Borough Local Development Framework, Sites and Detailed Policies Document, Adopted 2012*

Reading Borough Local Development Framework, Reading Central Area Action Plan

- 2.6. The Reading Central Area Action Plan (RCAAP) adopted in 2009⁴, stresses that the design and construction of new developments in the centre of Reading should be sustainable in nature. The Plan draws attention to the use of green and brown roofs which “*may enhance the biodiversity value of developments in the centre. Brown roofs in particular are of benefit to species such as black redstarts, one of the priority species in the [Reading] Biodiversity Action Plan, which have been sighted in the central area*”.

Station Hill South Planning and Urban Design Brief

- 2.7. The Station Hill Planning and Urban Design Brief⁵ acknowledges that the ecology of the area is mainly limited to black redstarts *Phoenicurus ochruros*, which are known to nest in the area. Design principle 8 states:

“Developments should demonstrate positive yield in terms of environmental and ecological benefits...”;

“Development should meet the requirements of the local Biodiversity Action Plan (BAP)”;

“Building tall buildings can also yield potential ecological and environmental benefits by integrating vertical landscaping, roof gardens or vegetation within the architecture. Further consideration will be expected as part of any application for taller buildings.”

Reading Local Plan 2018

- 2.8. Reading Borough Council are currently producing a new Local Plan⁶, which once adopted will replace the existing development plans detailed above. The new Local Plan was submitted to the Secretary of State for examination on Thursday 29th March 2018. The following policies relate to the Site and/or biodiversity and nature conservation:

- EN12: Biodiversity and The Green Network; and
- CR11: Station / River Major Opportunity Area
 - CR11a: Friar Street & Station Road;
 - CR11b: Greyfriars Road Corner;
 - CR11c: Station Hill & Friars Walk.

Biodiversity Action Plans

UK Post-2010 Biodiversity Framework

- 2.9. The Environment Departments of all four governments in the UK work together through the Four Countries Biodiversity Group. Together they have agreed, and Ministers have signed, a framework of priorities for UK-level work for the Convention on Biological Diversity. Published on 17th July 2012, the 'UK Post-2010 Biodiversity Framework'⁷ covers the period from 2011 to 2020. This now supersedes the UK Biodiversity Action Plan (UK BAP)⁸. However, many of the tools developed under UK BAP remain of use, for example, background information about the lists of priority

⁴ Reading Borough Council (2009). *Reading Borough Local Development Framework: Reading Central Area Action Plan To 2026*.

⁵ Reading Borough Council (2007). *Station Hill South Planning and Urban Design Brief*.

⁶ Reading Borough Council (2018) *Submission Draft: Reading Borough Local Plan*.

⁷ JNCC and DEFRA (on behalf of the Four Countries' Biodiversity Group). 2012. UK Post-2010 Biodiversity Framework. July 2012. Available from: <http://jncc.defra.gov.uk/page-6189>.

⁸ HMSO (1994) Biodiversity The UK Action Plan

habitats and species. The lists of priority species and habitats agreed under UK BAP still form the basis of much biodiversity work in the countries.

- 2.10. Although the UK Post-2010 Biodiversity Framework does not confer any statutory legal protection, in practice many of the species listed already receive statutory legal protection under UK and / or European legislation. In addition, the majority of Priority national (English) BAP habitats and species are now those listed as Habitats of Principal Importance (HoPI) and Species of Principal Importance (SoPI) in England listed under S41 of the NERC Act 2006. For the purpose of this report, HoPI and SoPI listed under S41 of the NERC Act are referred to as having superseded the UK BAP. All public bodies have a legal obligation or 'biodiversity duty' under Section 40 of the NERC Act 2006 to conserve biodiversity by having particular regard to those species and habitats listed under Section 41.
- 2.11. The following SoPI listed under S41 of the NERC Act 2006 are considered to be of relevance to this report due to the Site's location, baseline conditions (refer to Section 3 below) and the proposed mitigation and enhancement measures:
- Soprano pipistrelle *Pipistrellus pygmaeus*;
 - Noctule *Nyctalus noctule*;
 - House sparrow *Passer domesticus*;
 - Starling *Sturnus vulgaris*.

Local Biodiversity Action Plan

- 2.12. At a local level, the Site is covered by The Reading Biodiversity Action Plan (RBAP)⁹. The RBAP sets out a methodology to protect, conserve and enhance Reading's diversity of wildlife. Based on the results of the PEA, the following Habitat Action Plans (HAPs) and Species Action Plans (SAPs) listed on the RBAP are considered to be of potential value on and/or immediately adjacent to the Site:
- 2.13. The following LBAP HAP and SAPs are considered of relevance to this report:
- Urban I (Man-made site and structures);
 - Bats;
 - House sparrow; and
 - Black redstart.

⁹ The Reading Biodiversity Action Plan. http://www.reading.gov.uk/media/5972/Reading-Biodiversity-Action-Plan/pdf/Reading_BAP_February_062.pdf Access in November 2018.

3. Baseline Conditions

- 3.1. A Preliminary Ecological Appraisal (PEA)¹⁰ was undertaken at the Site (including Plots E and F) in August 2018. As part of the PEA the following ecological assessments were undertaken:
- Ecological data search;
 - 'Extended' Phase 1 Habitat Survey;
 - Preliminary bat roost inspections;
 - Invasive plant species assessment; and
 - Black redstart survey
- 3.2. Plot E is located at Ordnance Survey Grid Reference SU 71327 73638 and currently comprises buildings (B3 and B4, refer to PEA) and hard standing. As part of the preliminary bat roost inspections, Building B3 was assessed as having low potential to support roosting bats and B4 was assessed as having negligible potential to support roosting bats. A subsequent bat survey¹¹ confirmed the likely absence of roosting bats within B3, however a small number (1-3 individuals) of common pipistrelle bat passes were recorded during the survey.
- 3.3. Plot F is located at Ordnance Survey Grid Reference SU 71393 73680. Plot F currently comprises buildings (B3, refer to PEA) and hard standing. B3 and an adjoining adjacent building (B7) were assessed as having low potential to support roosting bats in the PEA, however a subsequent bat survey¹² confirmed the likely absence of roosting bats within these buildings.
- 3.4. Overall Plots E and F were assessed to be of limited ecological value owing to the habitat types present. However, it was noted that the buildings within Plots E and F have potential to support breeding birds including black redstarts.

¹⁰ Waterman IE (2018) *Preliminary Ecological Appraisal: Station Hill, Reading*. Ref: WIE14788-100-R-1-2-1-PEA.

¹¹ Waterman IE (2018) *Bat Survey Report: Station Hill, Reading*. Ref: WIE14788-100-R-2-2-1-BAT.

¹² Waterman IE (2018) *Bat Survey Report: Station Hill, Reading*. Ref: WIE14788-100-R-2-2-1-BAT.

4. Bird Nesting Habitat

- 4.1. This section relates to Part A of Condition 22, which requests “locations and specification for bird nesting habitats for Black Redstart, Swift and Peregrine Falcon”.

Plot E

- 4.2. The following artificial nesting sites will be provided at Plot E (precise locations presented in **Appendix A**):

- **Ibstock eco-habitat for swifts** - Thirty Ibstock eco-habitats for swifts will be incorporated into the fabric of the buildings within Plot E. The boxes will be located on the northerly façade at the highest building level with a clear adjacent airspace for the swifts to fly into;
- **Schwegler 1HE brick bird box for black redstarts** - Four Schwegler 1HE brick bird boxes for black redstarts will be incorporated into the fabric of the buildings within Plot E. The boxes will be located on the northerly façade and be in proximity to vegetated roof areas;
- **Schwegler 1B nest boxes** – Nine Schwegler 1B nest boxes will be installed on trees. This type of bird box provides nesting opportunities for a range of bird species including house sparrow *Passer domesticus*, blue tit *Cyanistes caeruleus* and great tit *Parus major*. The boxes will be located on five ground-level Himalayan birch *Betula utilis jacquemontii* trees proposed to the east of Block E along Friar's Walk and on four crab apple *Malus 'Evereste'* trees proposed on the level one podium planting at Block E. The boxes will be erected at least 2m above ground level and face north, north-east or east; and
- **Schwegler 3S nest boxes for starlings** – Two Schwegler 3S starling nest boxes will be installed on trees. These will be located on the two ground-level hornbeam *Carpinus betulus* trees proposed along Garrard Street in the north of Plot E. These will be erected at least 2m above ground level and face north, north-east or east.

- 4.3. It is noted that no artificial nest sites for peregrine falcon are included within Plot E. Given the height of the proposed buildings it is highly unlikely that a nest box would be used by this species. Previously peregrine falcons have been seen perching on the former Western Tower building within wider Development (not within Plot E). This EMP is prepared on the basis that Plot E forms one part of the whole of the Station Hill Development (Planning Reference: 151426 and 151427), which comprises seven plots (Plots A to G). A peregrine falcon box will be provided upon the building within Plot B (and / or taller buildings proposed within the other plots) as documented in the Plot B EMP¹³. As such it is not considered appropriate to install a peregrine falcon box within Plot E.

Plot F

- 4.4. The following artificial nesting sites will be provided at Plot F (precise locations presented in **Appendix A**):

- **Ibstock eco-habitat for swifts** - Twelve Ibstock eco-habitats for swifts will be incorporated into the fabric of the buildings within Plot F. The boxes will be located on the northerly façade at the highest building level with a clear adjacent airspace for the swifts to fly into;
- **Schwegler 1HE brick bird box for black redstarts** - Two Schwegler 1HE brick bird boxes for black redstarts will be incorporated into the fabric of the buildings within Plot F. The boxes will be located on the easterly façade and be in proximity to vegetated roof areas; and
- **Schwegler 1B nest boxes** – Five Schwegler 1B nest boxes will be installed on trees. This type of bird box provides nesting opportunities for a range of bird species including house sparrow

¹³ Waterman (2016) *Ecological Management Plan: Building B, Station Hill, Reading* (Ref: WIB12350-111-R-6.6.3-SD).

Passer domesticus, blue tit *Cyanistes caeruleus* and great tit *Parus major*. The boxes will be located on five ground-level Himalayan birch *Betula utilis jacquemontii* trees proposed to the west of Block F along Friar's Walk. The boxes will be erected at least 2m above ground level and face north, north-east or east.

- 4.5. As with Plot E, no artificial nest sites for peregrine falcon are included within Plot F.

Installation and Maintenance

- 4.6. The instructions for bird box instalment will be followed as provided by the product supplier. The CDM Regulations 2015 have been considered for the installation of the bird boxes as outlined in risk assessment in **Table 1** below.
- 4.7. Damaged bird boxes will be repaired or replaced as necessary. The boxes will then be replaced in their original positions.

Table 1: CDM Risk Assessment – Provision of bird boxes at buildings/trees

CDM Design Rationale	Hazard Control Mechanism	Residual Risk Level
Location for instalment	The locations of the bird boxes are detailed in Appendix A. The locations have been selected for ecological reasons to increase the likelihood of nesting birds utilising the features provided (located on an aspect of the building/tree to ensure the features receive the desired optimal levels of solar radiation, as close to green infrastructure as possible and in an area where artificial lighting will not shine directly upon the feature). The locations have however also been selected to avoid potential hazards to personnel undertaking future maintenance and monitoring (see sections below). The bird boxes to be installed on buildings are highly unlikely to be dislodged from their position given they will be incorporated into the fabric of the building. The bird boxes to be installed on trees, could become dislodged (e.g extreme winds), however provided the boxes are installed correctly and regular tree maintenance checks (refer to Section 6) are undertaken, the likelihood of this is considered low.	Negligible (buildings) Low (trees)
Maintenance	The bird boxes selected are maintenance free in terms of their usage. However, should the boxes need to be replaced due to damage, access to the boxes can be provided by ladders, towers or Mobile Elevated Work Platforms (MEWPs) as required by the contractor's own risk assessment.	Negligible
Manual handling	The weight of the Ibstock eco-habitat for swifts is 4.5kg, the Schwegler 1HE brick bird box is 2.6kg, the Schwegler 1B Nest Box is 3.6kg and the Schwegler 3S Starling Nest Box is 4.4kg. These boxes have been selected to minimise manual handling risks during installation and replacement (if required).	Negligible

5. Green Roofs

- 5.1. This section relates to Part B of Condition 22, which requests “specifications for green roofs and brown roofs (to be a minimum area of 25% of each Building’s roof area in the development), including their method of construction and landscaping on-going management for five years”.
- 5.2. Green roofs are a tool in providing habitats for invertebrates and birds located in areas which would otherwise have been devoid of green space¹⁴.

Plot E

- 5.3. The total roof area of Plot E is 4,963m² and will include the following areas of green roofs and podium/terrace planting (**Appendix B**):
- 240m² of herbaceous/shrub/tree planting on Level 0 (North Courtyard);
 - 104m² of herbaceous/shrub/tree planting on Level 1 (North Terrace);
 - 254m² of herbaceous/shrub/tree planting on Level 1 (South Terrace);
 - 19m² of herbaceous/shrub planting on Level 6 (Terrace);
 - 145m² of sedum roof on Level 6;
 - 67m² of sedum roof on Level 10;
 - 286m² of sedum roof on Level 10;
 - 71m² of sedum roof on Level 11; and
 - 76m² of sedum roof on Level 12.
- 5.4. Soft landscaping upon roofs therefore totals 1,262m² which represents approximately 25.42% of the roof area which exceeds the minimum required area of 25% stated in Condition 22.

Plot F

- 5.5. The total roof area of Plot F is 1,212m² and will include the following areas of sedum roof and podium/terrace planting (**Appendix B**):
- 25m² of sedum roof on the ground floor (Level 0);
 - 21m² of herbaceous/shrub planting on Level 11 (Terrace);
 - 43m² of sedum roof on Level 11; and
 - 247m² of sedum roof on Level 12.
- 5.6. Soft landscaping upon roofs therefore totals 336m² which represents approximately 27.72% of the roof area which exceeds the minimum required area of 25% stated in Condition 22.
- 5.7. Management prescriptions for the areas of green roofs are set out below. These are designed to ensure the suitable maintenance of the green roofs at the Plots E and F Site in the long-term.

Management and Monitoring

Objectives

- 5.8. To provide a species rich habitat in an urban area for invertebrates in the long term, therefore supplying a long-term food source for birds and bats in the local area.

¹⁴ Johnston, J and Newton, J (2004) *Building Green: A Guide to Using Plants on Roofs, Walls and Pavements*.

Prescriptions

- 5.9. Whilst the green roof will be designed to minimise maintenance, where possible, it is considered that some maintenance (if access to the roof is possible) will be required.
- 5.10. For at least the first five years, two maintenance visits per year will be undertaken, ideally in spring and autumn.
- 5.11. Maintenance of the green roof will include:
- Removal of debris and dead vegetation from the roof surface, drainage outlets, guttering and inspection chambers (if required);
 - Ensure the drainage outlets are all free draining. Any issues affecting the drainage systems of the roof should be addressed;
 - Weeding and removal of any undesirable vegetation by hand. If weeding is required this should be done in late winter or early spring; and
 - Clear and clean all perimeters and detailing surrounds.
- 5.12. Additional maintenance works may be required in accordance with the manufacturer's specification.
- 5.13. If a significant number of plants/seeds fail to establish these will be replaced following consultation and review of the suitability of the seed mix.
- 5.14. The green roof will also be watered during periods of drought to aid establishment as well as prevent loss in very dry conditions.
- 5.15. If breeding birds are found to be present on the green roof, maintenance works outlined above will be undertaken outside the breeding bird season (March to August inclusive).

Success Indicators

- 5.16. The green roofs would be healthy and species rich, providing suitable habitat for invertebrates and in turn, other species in the local area.

6. Ground Level Planting

- 6.1. This section relates to Part C of Condition 22, which requests “details of the ground level planting scheme (demonstrating how it has been designed to maximise its benefit to wildlife within the context of the scheme)”.
- 6.2. The ground level planting included within the landscape scheme for Plots E and F comprises the following planting (**Appendix B**):
- Two herbaceous planting beds and one hornbeam *Carpinus betulus* tree to the north of Block E along Garrard Street;
 - Three rowan *Sorbus aucuparia* or callery pear *Pyrus calleryana* 'Chanticleer' trees to the north of Block F along Garrard Street;
 - One crab apple *Malus* 'Evereste' tree within an herbaceous planting bed to the south-east of Block F; and
 - Trees set amongst herbaceous planting beds between Plots E and F along Friar's Walk comprising eighteen Himalayan birch *Betula utilis jacquemontii* trees, one sweet gum *Liquidambar styraciflua* two great white cherry *Prunus* 'Tai-haku' trees, three junberry *Amelanchier lamarckii* trees and three kousa *Cornus kousa* trees.
- 6.3. The above planting will provide east-west and north-south green links across Plots E and F. Once fully established, this planting will provide nesting habitat for birds as well as habitat for invertebrates, and therefore foraging opportunities for birds, bats and other wildlife. As such, it will enhance the current ecological value of Plots E and F.
- 6.4. The habitat types and planting schedule (both ground level and the green roofs) comprises varying growth heights which will provide texture and a contoured topography across Plots E and F. This will also create a range of opportunities for invertebrates which utilise different sward heights at different stages during their life-cycle. In addition, the plant species composition comprises species which have varying flowering periods, which span from early Spring to Autumn. This is particularly beneficial to invertebrate species because it will provide an extended pollen and nectar source throughout the year. Once the soft landscaping is fully established, it will support an invertebrate community which will provide foraging opportunities for birds, bats and other wildlife. As such, it is considered that the soft landscaping will enhance the ecological value of Plots E and F.
- 6.5. The landscape proposals for the Site incorporate both native and non-native species. Given the Site's largely urbanised surroundings and those habitats previously present it is considered that in addition to the planting of native species, the non-native species to be planted would also be of benefit to biodiversity and contribute to enhancing the ecological value of the Site. Non-native plant species would provide nesting and foraging habitat for bird species, whilst nectar producing species would provide foraging habitat for invertebrates which in turn would become a foraging resource for birds and bats in the local area.
- 6.6. Whilst it is assessed that the ground level soft landscaping will enhance Plots E and F for biodiversity, there also exists the potential to enhance the ecological value of Plots E and F further through the appropriate management of them. This, in addition to the green roofs and erection of artificial bird boxes on buildings within Plots E and F, will ensure that opportunities for a range of S41 and LBAP species (such as those listed within Section 2 above) remain at the Site.
- 6.7. As a general recommendation, where new landscaping is to be undertaken, horticultural practice will include the use of peat-free composts, mulches and soil conditioners. The use of pesticides (herbicides, insecticides, fungicides and slug pellets) and chemical fertilizers will be discouraged to

prevent fatal effects on the food chain particularly invertebrates, birds and / or mammals and any weed removal will be undertaken by hand. Any pesticides used will be non-residual.

- 6.8. Should fertiliser be required to maintain the health of particular plant species, fertiliser application will be kept to a minimum and will be in accordance with the advice of the supplier.
- 6.9. Management objectives and prescriptions for individual habitat types are set out below. These are designed to ensure the suitable maintenance of the Site is undertaken to retain ecological value, whilst ensuring minimal damage and disturbance to the habitats and species they support.

Herbaceous Planting

Objectives

- 6.10. Herbaceous planting using both native and non-native species will be used. Although this habitat will primarily be for aesthetic purposes, it will still be of benefit to the Site's ecology. Management will focus on maintaining continuous shrub/plant cover with a neat and tidy appearance.

Prescriptions

- 6.11. During establishment, pruning and watering would be undertaken as required to promote healthy, bushy growth. Following this, pruning would only be undertaken to prevent obstruction to footpaths and prevent shading to smaller shrubs. This will retain the availability of nesting and foraging opportunities for birds. Wood collected from pruning would be chipped and used on Site for mulching.
- 6.12. Spent flowers from perennial plants should be removed through 'deadheading' to allow the plants to place more energy into strengthening themselves rather than seed production. Where each flower head is on its own stem, the entire stem should be removed from the base of the plant. When a plant's older leaves start to look worn, these should be pruned back to where there is still fresh growth, or back to any new basal growth. Should any plants begin to die out within their centre, 'division' may be required.
- 6.13. To reduce excessive competition, mulching would be laid around the base of all plants to suppress weed growth and would be maintained to a depth of c.50mm. Should any weeds require removal, this would be undertaken by hand.
- 6.14. Should plants fail to establish, these will be replaced with like for like specimens. Watering may be required during periods of prolonged drought.
- 6.15. Works would be undertaken during the winter months and outside of the breeding bird season. Cutting later in the year will retain berries, seeds and flowers which will benefit birds and invertebrates (and therefore bats).

Success Indicators

- 6.16. Areas of herbaceous planting will be dense and have aesthetic value with no evidence of disease or other impairment. Fruiting and flowering bodies should be present after a few years. Areas of perennial planting will establish quickly and show longevity. Self-seeding may also occur, evidence of foraging birds and invertebrates may also be present.

Scattered Trees

Objectives

- 6.17. Management will focus on maintaining a neat and tidy appearance, which will encourage tree growth whilst also providing habitats for species such as birds and invertebrates as well as any bats in the local area.

Management and Monitoring

- 6.18. The following management and monitoring prescriptions are proposed for the trees planted within Plots E and F:
- Where trees with 35cm - 40cm girth and 6m in height are newly planted and staked, the stakes and ties will be checked regularly and adjusted at least twice annually or as required. Broken or damaged stakes will be replaced and ties re-fixed. Stakes will be removed as necessary when the tree is suitably established, but will remain in place for at least the first year;
 - Should new trees planted fail to establish these will be replaced and watering may be required during periods of prolonged drought;
 - To reduce excessive competition, mulching will be laid to a diameter of 0.5m around the base of planted trees to suppress weed growth and will be maintained to a depth of c.75mm;
 - Between April and September inspections will be undertaken with weeds removed by hand;
 - An appropriately qualified arboriculturalist or tree surgeon will be consulted prior to undertaking any major tree works on Site with annual inspections of all trees on Site or adjacent to areas of public access carried out by trained arboriculturalists according to British Standards. Checks will be made for damage and disease, and pruning will be undertaken to maintain appropriate height clearances for safe pedestrian access (once established) as well as maintaining the health and structural stability of the trees; and
 - Formative tree works such as pruning will be undertaken during the winter months (September – February) outside of the breeding bird season. If this is not possible then a nesting bird check will be undertaken by a suitably qualified ecologist prior to works being undertaken to avoid disturbance to breeding birds. Should an active nest be found, works on the tree will be suspended until the young have fledged and left the nest.

Success Indicators

- 6.19. Trees should show good growth structure and form with no evidence of disease or other impairment.

7. Invertebrate Habitat

- 7.1. Two 'bug hotels' will be included within the soft landscaping proposed on the level one podium planting of Plot E. These features will provide foraging and sheltering habitat for invertebrates which in turn will create a foraging resource for bats and birds. The bug hotels will be installed in a position that receives a combination of sun and shade.
- 7.2. The bug hotels should not require any specific management or maintenance other than periodic checks to confirm that they remain undamaged and fit for purpose. Damaged bug hotels will be repaired or replaced as necessary.

8. Lighting

- 8.1. The following strategies are proposed for Plots E and F to minimise the impacts of artificial lighting:
- All exterior lighting will be carefully positioned and aimed, integrated with the architecture where appropriate, and specified with suitable optics and accessories to ensure that light is delivered to the point where it is required, thereby avoiding light pollution and light trespass;
 - Where uplighting of features is used it will be very carefully detailed and aimed to ensure minimal spill of light, and where possible completely eliminate this. Any upward light spill will be kept within the limits for the relevant environmental zone as outlined in the ILP Guidance Notes for the Reduction of Obtrusive Light GN01:2011;
 - Lighting will be carefully adjusted to ensure that no light from the development falls on the locations of bird boxes;
 - The decorative feature elements of the scheme (including the majority of the uplighting elements) will be switched off at curfew, limiting the timing of this lit effect to that when it can be appreciated by residents and visitors;
 - The use of lighting controls will ensure that lighting is only operational when it is required during the hours of darkness, and adjusting to suit changing times of sunrise and sunset; and
 - To reduce the attractiveness of light sources to invertebrates, warm white (2700 K to 3000 K CCT) LED light sources with little to no output in the UV / extreme blue end of the spectrum will be utilised.
- 8.2. Full details of the lighting strategy for Plots E and F are provided by DPA Lighting Consultants.

9. Conclusions

- 9.1. This EMP produced by Waterman IE sets out the ecological enhancement measures provided within Plots E and F of the Station Hill Development. It is assessed that the information provided within this EMP is sufficient to discharge Condition 22 of the Outline Planning Consents (151426 and 151427) for Plots E and F.
- 9.2. This EMP is based on the current bird box location plans (**Appendix A**) and landscape plans (**Appendix B**) submitted to accompany the Reserved Matters Application. Should revisions be made to the landscape proposals, then this EMP should also be reviewed and updated as necessary.



APPENDICES

Appendices

Plots E & F, Station Hill, Reading

WIE14788-100

WIE14788-100-R-7-2-1-EMP



A. Bird Box Location Plans

Appendices

Plots E & F, Station Hill, Reading
WIE14788-100
WIE14788-100-R-7-2-1-EMP



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LEGEND

● HOLE NEST BOXES

0 10m

North

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PROJECT TITLE
STATION HILL READING BLOCK E & F

DRAWING TITLE
BLOCK E&F SITE SECTION FRIARS WALK
LOOKING EAST

ISSUED BY London T: 020 7467 1470
DATE Jan 2019 DRAWN SZ
SCALE@A1 1:250 CHECKED BW
STATUS Sketch APPROVED CI

DWG. NO SHR-LDA-SB-ZZ-DR-L-400-101

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LEGEND

● HOLE NEST BOXES

● BUG HOTEL

0 10m

North

PROJ. ISSUED FOR PLANNING CI 08/02/19

REV. FOR INFORMATION CI 18/11/19

REV. DESCRIPTION APP. DATE

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PROJECT TITLE

STATION HILL READING BLOCK E & F

DRAWING TITLE

BLOCK E&F SITE SECTION THROUGH BLOCK E AND FRIARS WALK LOOKING NORTH

ISSUED BY London T: 020 7467 1470

DATE Jan 2019 DRAWN SZ

SCALE@A1 1:250 CHECKED BW

STATUS Sketch APPROVED CI

DWG. NO SHR-LDA-SB-ZZ-DR-L-400-102

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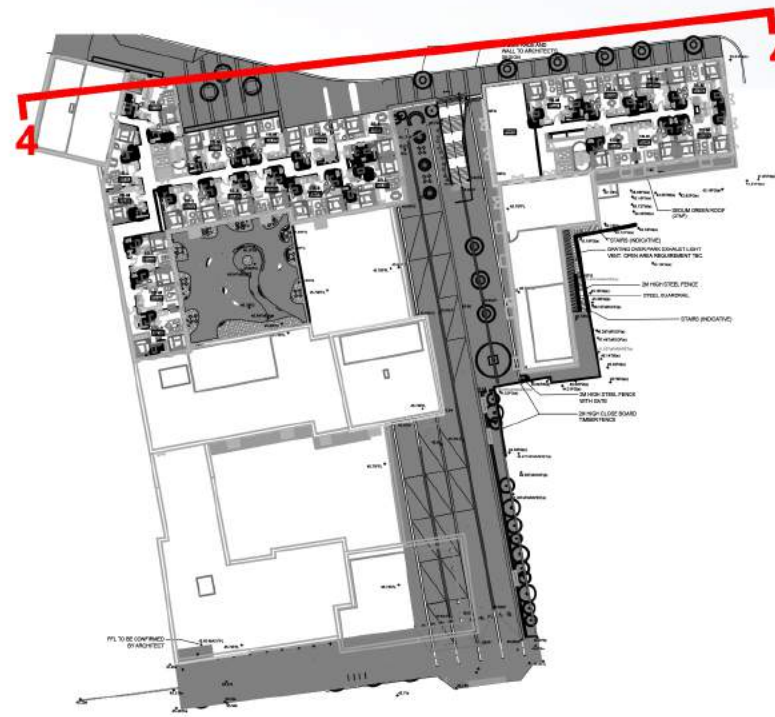
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X:\JOBS\6516_STATION_HILL_READING\VCADD\DRAWINGS\SECTION 4\SECTION 4 WITHOUT TREE.DWG

LEGEND



- SWIFT NEST BOXES
- STARLING NEST BOXES



P02	ISSUED FOR PLANNING	CI	08/02/19
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PROJECT TITLE
STATION HILL READING BLOCK E & F

DRAWING TITLE
BLOCK E&F SITE SECTION
THROUGH GARRARD STREET
LOOKING SOUTH

ISSUED BY	London	T: 020 7467 1470
DATE	Jan 2019	DRAWN SZ
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STATUS	Sketch	APPROVED CI

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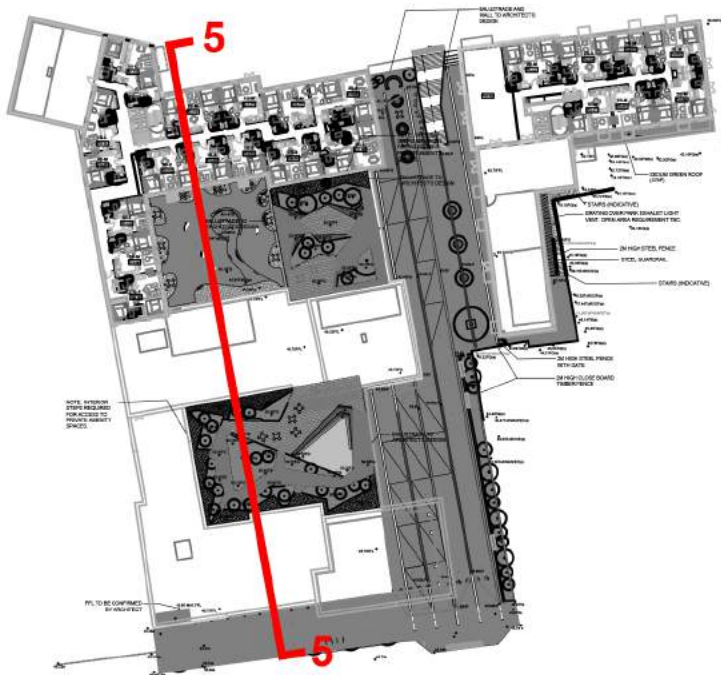
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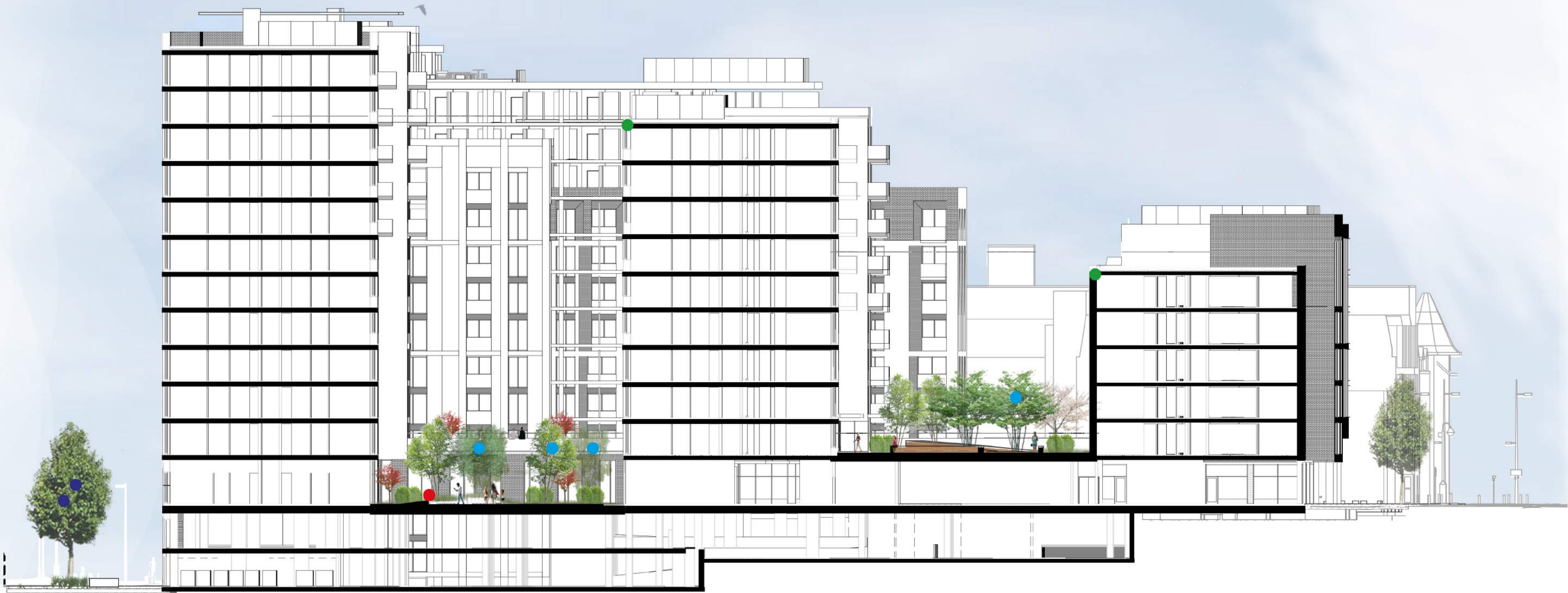


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LEGEND



- STARLING NEST BOXES
- BLACK REDSTART BOXES
- BUG HOTEL
- HOLE NEST BOXES



P02	ISSUED FOR PLANNING	CI	08/02/19
P01	FOR INFORMATION	CI	18/1/19
REV.	DESCRIPTION	APP.	DATE

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STATION HILL READING BLOCK E & F

DRAWING TITLE
BLOCK E&F SITE SECTION
THROUGH BLOCK E
LOOKING WEST

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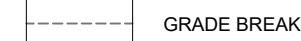
B. Landscape Plans

Appendices

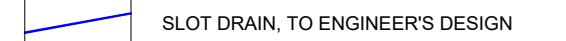
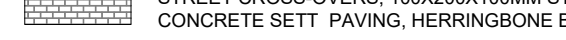
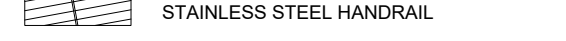
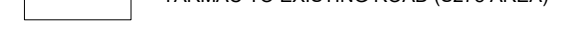
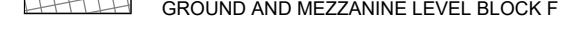
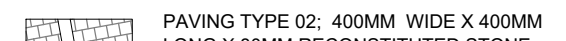
Plots E & F, Station Hill, Reading
WIE14788-100
WIE14788-100-R-7-2-1-EMP

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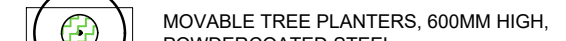
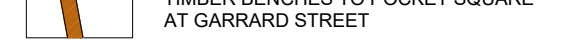
BASEMENT LINE



HARDWORKS



FURNITURE



NOTES

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2. Proposed levels and drainage are shown indicatively for concept coordination. Refer to engineers' drawings for all levels, drainage, build ups and services.
3. Refer to Architect's drawings for balustrades and wall claddings.

GENERAL NOTES

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P03	FINAL DRAFT FOR PLANNING	CI	29.01.2019
P02	REVISED FOR INFORMATION	CI	18.01.2019
P01	FOR INFORMATION	CI	07.12.2018
REV.	DESCRIPTION	APP.	DATE

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PROJECT TITLE
STATION HILL READING

DRAWING TITLE
PLOT E&F LOWER GROUND FLOOR
GENERAL ARRANGEMENT
GARRARD STREET

ISSUED BY	London	T: 020 7467 1470
DATE	NOV 2018	DRAWN
SCALE@A1	1:250	CHECKED
STATUS	Planning	APPROVED

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- LEGEND
- GENERAL
- LEVELS
- HARDWORKS
- FURNITURE
- SOFTWORKS
- PROPOSED HERBACEOUS PLANTING
- PROPOSED TREES
- LAWN

- NOTES
- GENERAL NOTES

P05	REVISED FOR PLANNING	CI	14.02.2019
P04	FOR PLANNING	CI	08.02.2019
P03	FINAL DRAFT FOR PLANNING	CI	29.01.2019
P02	REVISED FOR INFORMATION	CI	10.01.2019
P01	FOR INFORMATION	CI	07.12.2018

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PROJECT TITLE

STATION HILL READING

DRAWING TITLE			
PLOT E&F LEVEL 01			
GENERAL ARRANGEMENT			
PODIUM TERRACES			
ISSUED BY	London	T: 020 7467 1470	
DATE	NOV 2018	DRAWN	ER
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STATUS	Planning	APPROVED	CI

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PROJECT BASE POINT N471300/E173700

77.275 FL

77.525 FG

FB TB TB

LEGEND
GENERAL

SOFTWARES

SEDUM GREEN ROOF

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3. Refer to Architects drawings for balustrades and wall claddings.

GENERAL NOTES
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P03	FINAL DRAFT FOR PLANNING	CI	29.01.2019
P02	REVISED FOR INFORMATION	CI	18.01.2019
P01	FOR INFORMATION	CI	07.12.2018
REV.	DESCRIPTION	APP.	DATE

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PROJECT TITLE
STATION HILL READING

DRAWING TITLE
PLOT E&F LEVEL 10
GENERAL ARRANGEMENT
GREEN ROOF

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STATUS	Planning	APPROVED	CI

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GENERAL

HARDWORKS

- PAVING TYPE 15: SLIP RESISTANT COMPOSITE DECKING
- PAVING TYPE 16: ARTIFICIAL TURF

FURNITURE

- MOVABLE PLANTERS TO ROOF TERRACES 750MM HIGH POWDERCOATED GALVANIZED STEEL
- RAISED PLANTERS TO ROOF TERRACES 450MM HIGH POWDERCOATED GALVANIZED STEEL
- MOVABLE LOUNGE FURNITURE TO ROOF TERRACES
- MOVABLE TABLE AND CHAIRS TO ROOF TERRACES
- MOVABLE FURNITURE - BEAN BAGS OR SIMILAR

SOFTWARES

- PROPOSED HERBACEOUS PLANTING
- SEDUM GREEN ROOF
- LAWN

NOTES

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- Refer to Architect's drawings for balustrades and wall claddings.

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P04	FOR PLANNING	CI	08.02.2019
P03	FINAL DRAFT FOR PLANNING	CI	29.01.2019
P02	FOR INFORMATION	CI	18.01.2019
P01	FOR INFORMATION	CI	07.12.2018

REV. DESCRIPTION APP. DATE

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PROJECT TITLE
STATION HILL READING

DRAWING TITLE
**PLOT E&F LEVEL 11
GENERAL ARRANGEMENT
ROOF TERRACE AND GREEN ROOFS**

ISSUED BY	London	T: 020 7467 1470
DATE	NOV 2018	DRAWN ER
SCALE@A1	1/250	CHECKED BE
STATUS	Planning	APPROVED CI

DWG. NO SHR-LDA-SB-11-DR-L-110-106

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PROJECT BASE POINT N471300/E173700

LEGEND

GENERAL

SEDUM GREEN ROOF

NOTES

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P04	FOR PLANNING	CI	08.02.2019
P03	FINAL DRAFT FOR PLANNING	CI	29.01.2019
P02	FOR INFORMATION	CI	18.01.2019
P01	FOR INFORMATION	CI	07.12.2018
REV.	DESCRIPTION	APP.	DATE

LDA DESIGN

PROJECT TITLE
STATION HILL READING

DRAWING TITLE
**PLOT E&F LEVEL 12
GENERAL ARRANGEMENT
GREEN ROOF**

ISSUED BY	London	T: 020 7467 1470
DATE	NOV 2018	DRAWN
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STATUS	Planning	APPROVED

DWG. NO SHR-LDA-SB-12-DR-L-110-107

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UK and Ireland Office Locations

