

5.PROPOSALS

5.11 FIRE & MEANS OF ESCAPE

This fire safety statement has been prepared to accompany applications for Reserved Matters Approval for Plots E & F of the approved Station Hill development. The Outline Scheme has considered fire safety from the outset to ensure the parameter plans and design codes allow for a successful and safe scheme to be developed at Reserved Matters stage. This outline fire statement addresses the main fire safety items and principles and provides an overview of the requirements and recommendations the scheme will need to meet.

The fire safety strategy for the Station Hill development will be based on the guidance of Approved Document B (2006) Volume 2[4], 2019 Edition; BS 9991:2015[1] and BS 9999:2017[2].



5.12 ECOLOGY

To assess the likely significant ecological effects of the proposed development, an ecological appraisal has been undertaken. This included desk-based ecological research, a range of ecological site surveys including surveys for bats and birds, and consultation with relevant wildlife organisations.

The habitats present within the area of Plots E & F comprises mostly buildings and hard-standing. These habitats are considered to be of low quality and value although it was noted that the buildings within Plots E and F have potential to support breeding birds including black Redstarts, a protected species of bird.

In order to protect against disturbance to breeding birds, including black Redstarts, demolition and site

It is based on a fire-engineered approach with mechanical ventilation and smoke extract; with sprinklers to all apartments and compartmentalisation of all units. Façades have been designed to ensure that non-combustible insulations are used and that cladding is fire-resistant. Friars Walk has been designed to accept the loadings of fire tenders and the building will also be accessible from Friar Street and Garrard Street.

Please refer to Hoare Lea's Fire Safety Report for the full strategy and approach.

clearance works will be undertaken outside the main bird breeding season where practicable (i.e. within the months September to February inclusive). If these works cannot be restricted to within this period, an Ecological Watching Brief would be put in place during the main bird breeding season to ensure that nesting birds are not adversely affected. This would include a pre-demolition check to confirm if any birds including black Redstarts and peregrines are breeding on site. If birds are found nesting on the site, their nests would be protected until the chicks have fledged.

The creation of new habitats within the completed development, including green roofs, bird boxes, bug hotels and ground-level tree and herbaceous planting, would provide new habitats for birds and invertebrates.

5.13 ENERGY SUSTAINABILITY/OVERHEATING

An energy assessment was carried out as part of the 2019 application and remains unchanged. This assessment was undertaken in line with Reading Borough Council's Core Strategy & Draft Local Plan, with a range of options considered to satisfy the key policies and regulations set out by Reading Borough Council, these can be summarised below:

- Reading Borough Core Strategy – Policy CS1 'Sustainable Construction and Design' states that all new developments must maximise the use of energy efficiency and energy conservation measures in their design, layout and orientation to reduce overall energy demand.
- Reading Borough Draft Local Plan – Policy H5 'Standards for New Housing' states that all major new-build residential development should be designed to achieve zero carbon homes.
- Reading Borough Draft Local Plan – Policy CC4 'Decentralised Energy' states that any development of more than 20 dwellings shall consider the inclusion of a CHP plant, or other form of decentralised energy provision, within the site, unless it can be demonstrated that the scheme is not suitable, feasible or viable for this form of energy provision. Further to this, where there is existing decentralised energy provision, developments of over 10 dwellings will be expected to link into this energy network or demonstrate why this is not feasible.
- Reading Borough Draft Local Plan – Policy CC2 'Sustainable Design and Construction' states that all major non-residential developments are

required to meet the most up-to-date BREEM 'Excellent' standards where possible.

The consented sustainability strategy for the Station Hill Plot E & F has been optimised to achieve the greatest possible carbon dioxide reduction for an all-electric heating for a private residential development providing more robust and 'real' ongoing carbon savings due to the decarbonisation of the grid supply and therefore future-proof the development. As expected the carbon saving results for SAP 2012 and the proposed SAP 10 are very different which reflect the change in carbon factors of electricity from 0.519 kg CO₂/kWh to 0.233 kg CO₂/kWh. The results using the SAP 10 carbon factors reflect how the dwelling will perform now and this will only improve in the future as the grid becomes cleaner.

In addition to the clear carbon savings, an all-electric approach will help to reduce the likelihood of overheating due to a lack of heat distribution pipework around the building and in the communal corridors, together with the associated energy for ventilating these spaces. There will also be a space saving, a cost saving of installation and operation, and a reduction of site waste, water use and materials as the heating and power will be provided by the same medium. This development will also not increase NOx emissions in the centre of Reading from boiler and CHP emissions.

The table across summarises the performance of each option against the various feasibility measures. As shown in the table, Option D, the all-electric strategy, performs best overall and is the recommended strategy for this development.

Microclimate (Wind)

A wind tunnel assessment was conducted to determine the likely significant effects of the development on the local wind environment. The assessment used the Lawson Comfort Criteria to benchmark the wind microclimate and focused on the results for the winter and summer seasons.

Multiple configurations were considered, including the maximum parameters plans within the context of both existing and cumulative surrounding buildings.

Meteorological data acquired for Heathrow indicates prevailing winds blow from the south west throughout the year with secondary springtime winds from the north east.

Wind conditions in and around the existing Site are suitable for their current use. With the introduction of the proposed development, wind conditions become windier in and around the Site, with localised areas where conditions exceed the recommended criteria for their intended use. These occur at ground level around Plot A and Plot B and on roof terraces on Plot E in both the unmitigated and mitigated scenarios. Furthermore, there are occurrences of strong winds exceeding the pedestrian safety criteria within the northern part of the site.

	SAP 2012 Carbon Savings	SAP 10 Carbon Savings	Technical Feasibility	Practical Feasibility	Financial Feasibility	Overall
Option A - Boiler & CHP	Yellow	Red	Yellow	Yellow	Yellow	Red
Option B - ASHif	Green	Green	Yellow	Red	Yellow	Yellow
Option C - QSHF	Green	Green	Yellow	Red	Red	Yellow
Option D - All Electric	Red	Red	Green	Green	Green	Green

A wind mitigation strategy comprising shrubs and porous screens have been developed to help alleviate windy conditions on the roof terraces of Plot E.

Windier than desired conditions within the northern part of the Site would be alleviated when their detailed design comes forward.

With the introduction of the detailed design of Plot B within the context of cumulative surrounding buildings, wind conditions are improved across the northern site such that there are no exceedances of the pedestrian safety criteria.

Wind conditions in and around the proposed development are generally consistent with the assessment included in the 2015 ES.

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5.14 SECURITY SUMMARY (HOARE LEA SECURITY)

Introduction

The high-level aim of the security design for Plots E & F is to provide appropriate and proportionate security risk mitigation measures that allow residents and users to not only be, but feel, safe and secure.

A formal security risk assessment has been undertaken in order to determine the security requirements across the Station Hill development. This approach has provided a robust, auditable methodology to identify the security risks posed to the site or assets and subsequent treatment measures. This SRA was completed at masterplan level, then the defined strategies applied to Plots E & F. As part of the SRA a detailed threat assessment has been completed that has identified the design basis threats from which the security risks have been assessed.

Throughout the process there has been engagement with both internal and external development stakeholders. The Thames Valley Police Designing Out Crime Officer (DOCO) has been consulted by Hoare Lea security. Appropriate consultation with the Police's Counter Terrorism Security Adviser (CTSA) is through the DOCO.

This Design & Access Statement has been structured around key headings taken from international best practice for the incorporation of security design into projects, such as Crime Prevention Through Environmental Design (CPTED). It outlines those elements that have been derived from the security as well as architectural design.

Access and Connectivity

A layered approach to security will be adopted for Plots E & F creating a series of security zones. This will be enforced through a mixture of electronic access control, mechanical access control (key locks) or through clear delineation of areas (see ownership). Another key principle within the zoning approach that has been included is that of 'secure lobbies' and the requirements within these for a degree of permissible access from users such as postal services. The zones that have been identified as applicable across the development are:

- **Public:** Accessible to everyone at all times with no ability to impose control measures.
- **Semi-public:** Space that is easily accessible to the general public. Typically, restricted outside of normal hours.
- **Semi-private – Owner/tenant:** Predominantly for the use of a limited, authorised population. Usually employs an electronic or procedural access control measure.
- **Semi-private – Ops:** Predominantly for the use of a limited, authorised population. Usually employs an electronic or procedural access control measure.
- **Private:** Private areas with limited access to authorised individuals and guests. Guests usually escorted.
- **Restricted:** Contain critical or sensitive assets or reserved for a very exclusive user group. Visitors may be allowed but would always be escorted.

Pedestrian access into Plots E & F will be from Friar Street, Garrard Street (into lower ground) or the public realm between the plots. Where entrance points exist, secure lobbies are being created. There is vehicular access from Garrard Street. Access will be controlled through a flexible locking strategy based upon electronic access control systems, mechanical locks and operational procedures.

A number of emergency exit points exist at the base of stair cores. These are for emergency egress only.

Retail units have dedicated off-street access and there is no interconnectivity between residential and these spaces.

Externally accessible plant areas provide no access into the residential areas.

Vehicular access (service vehicles) will be from Garrard Street into a dedicated service yard. Control of access for deliveries and contractors into the cores will be via a dedicated approach route from this location and operationally managed access into the cores.

Structure and Spatial Arrangements

The security zoning has been applied to the current architectural designs and this will provide the basis for design development. Where security zones abut an adjacent zone greater than one factor higher (eg, public abuts semi-private) then this provides an additional focus for security measures.

The following have been considered in relation to the spatial arrangements:

- Reduction in the number of secluded spaces
- Spaces have a clear and identifiable function/use
- Location of mail boxes in lobbies to reduce requirement to approach residential doors
- Location of entrance points for retail/commercial separate from residential
- Location and access of refuse stores – accessible from public spaces with secured through access to development.

Surveillance

Surveillance requirements will be achieved through a balance of natural and active surveillance (video surveillance systems – VSS). The optimisation of natural surveillance – where space is naturally overlooked by users, residents and occupiers – has the increased benefit of reducing the need for active measures whilst remaining an excellent deterrent to crime within that space. This is particularly applicable with regards to the central public realm area between Plots E & F. It also provides benefit to the building curtilage/public areas.

Active surveillance will reinforce the natural surveillance as well as provide mitigation for those vulnerable areas identified within the SRA that are less able to benefit from natural surveillance, such as lift lobbies, parking and bike store. It can also be used to enhance surveillance in those areas where natural surveillance is limited to certain times of the day (eg, retail operating hours).

As part of the surveillance design there will also be integration and coordination with lighting design in order to support both active systems and natural surveillance.

Physical Protection

Physical protection of assets within the development will be as identified through the SRA or in accordance with SBD principles and Building Regulations Approved Document Q.

Any enhancements to public realm will integrate physical security requirements in the landscape design and will include crime prevention measures such as those designed to reduce the likelihood of anti-social behaviour such as rough sleeping. This will also provide control of vehicular access to the public realm between the plots.

Design of physical protection will be proportionate to the identified security risks and aligned to the principles of defence in depth.

Where retail facilities exist, security measures are being limited to physical security of access points only. For commercial areas, physical security of access points is also being included along with the provision of containment only for future installation of tenant systems.

Ownership and Activity

The development has been designed such that there are clear areas of ownership and intended activity of spaces. Areas such as the residents' terrace and amenity spaces provide a clear understanding of what space is to be used for.

Adaptability

Safety and security of a development is enhanced where there is adaptability within the space to manage changes in security needs. The flexibility in access permissions afforded by the electronic access control system provides opportunity to enhance or reduce security posture dependent upon any future potential needs. For example, horizontal and vertical compartmentalisation can be addressed should that fit with the operational security stance.

Operational Management

The security design allows for Plots E & F to be operationally managed on a day-to-day basis from either a central control room or locally in isolation. Servers and control PCs for the security systems will exist within designated spaces within server rooms to enable occasional management requirements such as new card issue or interrogation of video surveillance systems.

The management of postal deliveries has also been considered. In order to maintain residential security, the intent is that any deliveries will be made at reception areas on the ground floor accessed from B1. Larger deliveries will be made via the service yard and then to the ground floor.

5.14 RETAIL & LEISURE PROVISION, ACTIVE FRONTAGE, SHOPFRONT DESIGN

The applicant is working with specialist agents and considering how a mix of uses and the experience they can offer could contribute to the ecosystem of Station Hill. This will differentiate it from other well-established locations in the town centre. The objective is to create a genuine sense of neighbourhood and attract the most relevant operators. These will be complementary to and not to compete with established local operators. As such it is envisaged that the offer that is likely to be successful is the service-led, smaller sized operator, artisan trades and local hero retailers. The following areas of retail are being considered by the applicant:

- Experiential retail
- Service retail
- Leisure activities
- Health & fitness

As noted in the Transport Assessment and Waste Management Strategy, the servicing of the units will be off Friar Street and Garrard Street and loading bays have been considered in relation to bus routes and traffic impacts as well as any negative impact on the residents. The refuse strategy is designed to minimise impact on the residents and refuse stores are allocated at the same level of the units.

Indicative unit sizes. Combinations may vary and sizes change as market understanding matures.		
Plot E A1-A5 units (from north to south):		
Unit 1	86 m ²	353 m ²
Unit 2	72 m ²	
Unit 3	114 m ²	
Unit 4	81 m ²	
Unit 8	56 m ²	
Unit 9	60 m ²	
Unit 10	99m ²	
Total	568 m²	NIA 651m² GIA
Plot F A1-A5/D2 units (from north to south):		
Unit 8	66 m ²	
Total		634m² NIA 68m² GIA

Indicative layout for retail





View of junction of Friars Walk and Friar Street with retail/leisure on the left and main residential entrance along the new street