



Sustainability Statement

(Including National Technical Standards compliance)

Portsmouth City Council

FOR THE SITE AT:

Blendworth Crescent

Havant

Hampshire

Author	Version	Rev.	Date
IT	1	D	19.04.2016

Version No.	Revision No.	Date	Summary Details	Signed off
1	-	24.09.2015	Internal Draft	IT
1	A	25.09.2015	Draft for Issue/Comment	IT
1	B	28.09.2015	Revised for Issue	IT
1	C	02.10.2015	For Issue	IT
1	D	19.04.2016	Revised for Issue	IT

Version No.	Revision No.	Quantity	Issued To:
1	A	PDF	Portsmouth City Council
1	B	PDF	Portsmouth City Council
1	C	PDF	Portsmouth City Council
1	D	PDF	Portsmouth City Council

Copyright © 2015 by SRE Limited

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the author, except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law. For permission requests, write to the author, at the address below:

SRE Limited
 Greenforde Farm
 Stoner Hill Road
 Froxfield
 Petersfield
 Hampshire
 GU32 1DY

www.sre.co.uk



Table of Contents:

1.0	Executive Summary	4
2.0	Introduction.....	5
2.1	The Proposed Development.....	5
3.0	Applicable Standards and Policy.....	6
3.1	Emerging National Technical Standards.....	6
3.2	Local Planning Policy (Havant Borough Council)	6
4.0	National Technical Standards Compliance	8
4.1	Energy and CO ₂ Emissions (Part L)	8
4.2	Access (Part M)	9
4.3	Water (Part G).....	9
4.4	Security (Part Q).....	10
4.5	Waste (Part H).....	10
4.6	Nationally Described Space Standards.....	10
5.0	Sustainability Assessment	11
5.1	Overall Approach	11
5.2	Land Use and Location	12
	Site and Surroundings	12
	Site Contamination	13
5.3	Transport and Movement	14
	Transport Infrastructure	15
	Pedestrian Routes and Access	16
5.4	Flooding and Surface Water.....	17
	Surface Water Run-off	18
5.5	Construction Management	18
	Construction Waste	18
	Construction Site Impacts	19
5.6	Community.....	19
	Housing Provision	19
	Community Enhancement	20
	Employment.....	20
	Health and Well-being	20
5.7	Materials	20
5.8	Pollution.....	21
	Energy Conservation Measures	21
	Passive Solar Design.....	22
	Insulation and Air Tightness.....	22
	High Efficiency Heating and Ventilation.....	22
	Low Zero Carbon Technologies.....	22
	Other pollutants.....	22
	Light Pollution	23
	Noise Pollution	23
5.9	Biodiversity and Landscape.....	23
	Enhancement and Environmental Gain	23
	Density and Massing	24
5.10	Design and Continuity	25
	Overall Design and Impacts	25
	Boundaries.....	25
	Daylight, Sunlight and Privacy.....	25
	Design Security.....	25
6.0	Summary.....	26

Table of Figures:

Figure 1: Proposed Development Aerial Image with red line boundary	5
Figure 3: Nationally Described Space Standards – Space and Storage Requirements (Table 1)	10
Figure 4: Development Proposal – Site Layout: Blendworth Crescent, Havant	12
Figure 5: Proposed Perspective View, Blendworth Crescent, Havant	Error! Bookmark not defined.
Figure 6: Contaminated Land due to Landfill	13
Figure 7: Contaminated Land due to pollution.....	13
Figure 8: Map showing walking route/distance to railway station	14
Figure 9: Local Bus Routes - shown by Red lines - Havant (source: Openstreetmap.org).....	14
Figure 10: Parking Provision Table: Extract from HBC Vehicle and Cycle storage requirements SPD	15
Figure 11: Summary of Transport Accessibility within the Hitchin area.....	15
Figure 12: excerpt from HBC: Residential Car Parking and Cycle Provision Supplementary Planning Document	16
Figure 13: Havant Cycle Route map.....	16
Figure 14: Partial site plan showing pedestrian and cycle permeability	17
Figure 16: Flood Map (rivers and sea) – Environment Agency Flood Mapping Service	17
Figure 17: Flood Map (surface water) – Environment Agency Flood Mapping Service.....	18
Figure 18: Showing Proposed Site Plan and Surrounding Context	24
Figure 19: Figure-Ground diagram showing proposed (red) and existing (black) buildings.	24

Table of Tables:

Table 1: Proposed Specification of dwellings	8
Table 2: Showing Emissions improvement over Regulations	9
Table 3: CO ₂ Conversion Factors.....	21

1.0 Executive Summary

This Sustainability Statement has been undertaken by SRE for the Proposed Development at the Blendworth Crescent site for Portsmouth City Council (the Client) having regard to Havant Borough Council Planning Policy and the emerging National Technical Standards.

The Proposed Development will provide resource efficient, sustainable development which meets the needs of the local community in terms of high quality housing.

This statement provides an overview of 'Best Practice' and sustainability and energy efficiency measures for the Proposed Development, taking into consideration both the technical and the economic viability of the proposals as well as local Planning Policy and Client objectives.

The inclusion of resource efficiency measures has been discussed to minimise on-site energy use, including high efficiency heating systems and improved insulation levels.

The Proposed Development also provides significant community and aesthetic enhancement to the area, utilising a site which is currently under used.

The Proposed Development has considered the intentions set out within local Planning Policy and therefore satisfies the requirements which are obligated on this site to achieve Planning Permission.

2.0 Introduction

- 2.0.1 The Sustainability Statement has been prepared by SRE to accompany the planning application for the Proposed Development at the Blendworth Crescent site, Havant on behalf of Portsmouth City Council.
- 2.0.2 The Statement provides an indication of the Proposed Development's complicity to local and national planning policy in relation to sustainability and the environment, and highlights all measures made by the design team to ensure the Proposed Development has as little impact on the environment as possible.
- 2.0.3 Details of how the Proposed Development responds to the relevant planning requirements, addresses key factors in relation to sustainability, and the National Technical Standards are shown under the following headings:
- Land Use and Location
 - Transport and Movement
 - Energy and Water
 - Waste and Recycling
 - Urban Design and Continuity
 - Community
 - Materials and Waste
 - Pollution
 - Biodiversity
- 2.0.4 This statement will also address issues of a wider context such as urban design and social impacts to ensure the development relates to the community it sits in, and enhances the local environment (social, natural and economic) of the surrounding area.

2.1 The Proposed Development

- 2.1.1 The Proposed Development is located towards the southern end of the Leigh Park area of Havant. The site area is approximately 1.17ha and is an 'Allocated Site' within the Havant Borough Local Plan (Site Ref: L86)



Figure 1: Proposed Development Aerial Image with red line boundary

- 2.1.2 The application site currently consists of Public Open Land which is surrounded on the north and east flanks by housing, with Trosnant Junior School to the south. Access is currently gained to the site via a pathway between dwellings on Blendworth Crescent, or from the south via the school grounds.
- 2.1.3 The Proposed Development will clear the site and replace it with a total of 51 dwellings. The units consist of a mix of dwelling types ranging from 1-2 bed flats to 3-4 bed houses. The Application Site will be intermixed with public/private open space and residential parking.
- 2.1.4 Please see the site layout drawing in Appendix A.

3.0 Applicable Standards and Policy

3.1 Emerging National Technical Standards

- 3.1.1 The National Standards are the emerging legal requirement within the UK Construction industry and primarily the result of the Deregulation Act 2015 seeking to streamline construction compliance issues into one overall compliance requirement under the Building Regulations.
- 3.1.2 These requirements replace various assessment methods previously used to demonstrate best practice in terms of design, and combine (what are thought to be) the pertinent issues into the Building Regulations, thus removing the need for compliance under third party assessment methodologies such as the Code for Sustainable Homes and Secured by Design.
- 3.1.3 Designed to reduce cost and bureaucracy, the National Technical Standards are anticipated to be adopted in full under the Building Regulations as of October 2015. Therefore, it is assumed that the Proposed Development will adopt these in full.

3.2 Local Planning Policy (Havant Borough Council)

- 3.2.1 Following the implementation of the Deregulation Act 2015, and a subsequent Ministerial Statement on the issue of construction and the assessment of environmental performance, the ability of Local Planning Authorities to implement additional requirements for CO₂ reduction from buildings outside of London has been significantly curtailed. Currently Local Authorities can ask for up to – but no more than – a 19% improvement over Building Regulations (Part L) compliance. Currently, at Havant Borough Council, Regulations Compliance only is being requested.
- 3.2.2 With the absence of methodologies such as BREEAM and the Code for Sustainable Homes there is no longer a national policy driver in place for the provision of overall sustainability requirements within new dwellings. However, where policy exists which highlights areas required to be met (that may have also been required under the CSH or BREEAM) these policies can be enforced in full by the Planning Authority.
- 3.2.3 Currently the following Planning Policies are applicable to the Proposed Development (with the exception of the requirement for CSH Level 3 compliance) in relation to Sustainability and the Environment:
 - **Havant Borough Council, Core Strategy Policies (Adopted March 2011)**
 - Policy CS1: Health and Wellbeing
 - Policy CS6: Regeneration of the Borough
 - Policy CS7: Community Support and Inclusion
 - Policy CS8: Community Safety
 - Policy CS9: Housing
 - Policy CS11: Protection and Enhancing the Special Environment and Heritage of Havant Borough
 - Policy CS13: Green Infrastructure
 - Policy CS14: Efficient Use of Resources
 - Policy CS15: Flood and Coastal Erosion Risk
 - Policy CS16: High Quality Design
 - Policy CS17: Concentration and Distribution of Development within the Urban Areas
 - Policy CS20: Transport and Access Strategy

- **Havant Borough Council, Core Strategy – Development Management Policies (Adopted March 2011)**
 - Policy DM1: Recreation and Open Space
 - Policy DM2: Protection of Existing Community Facilities and Shops
 - Policy DM3: Protection of Existing Employment and Tourism Sites
 - Policy DM7: Elderly and Specialist Housing Provision
 - Policy DM8: Conservation, Protection and Enhancement of Existing Natural Features
 - Policy DM10: Pollution
 - Policy DM11: Planning for More Sustainable Travel
 - Policy DM12: Mitigating the Impacts of Travel
 - Policy DM13: Car and Cycle Parking on Residential Developments
- **Havant Borough Council: Residential Car Parking and Cycle Provision Supplementary Planning Document.**

4.0 National Technical Standards Compliance

4.1 Energy and CO₂ Emissions (Part L)

- 4.1.1 Part L of the Building Regulations was introduced in April 2002 and is part of the drive to lower carbon dioxide emissions of new and refurbished buildings. This section of the Regulations focusses on both commercial and residential buildings and utilises building modelling software to compare the Proposed Building to a notional compliance model – of which the proposed design should improve upon.
- 4.1.2 At present, within Havant Borough Council, there are no additional standards required to be met (such as an improvement over Regulations performance). Therefore, compliance with Building Regulations will be sought for each dwelling within the Proposed Development.
- 4.1.3 The following specification has been drawn up as a basis for the energy calculations:

Element	U-Value
Doors and Windows	1.4
External wall - Brick (Social)	0.153
External wall- Render (Social)	0.1543
External wall - Brick (Affordable)	0.187
External wall- Render (Affordable)	0.185
Ground Floor	0.113
Pitch roof	0.113
Flat roof	0.15

Table 1: Proposed Specification of dwellings

- 4.1.4 As can be seen above, the Proposed Development has sought to exceed current Building Regulations by utilising a fabric first approach in line with the best practice energy strategy of: energy efficiency; clean energy and; low/zero carbon technologies. Calculations have been undertaken using the outline drawings provided, within the SAP modelling software with the following indicative results for each unit type proposed.
- 4.1.5 The Proposed Development at Blendworth Crescent aims to have standard house types: H1, H3, and H4 with a mix of 1 and 2 bed flats. Indicative modelling shows the following results in terms of Regulations Compliance:

Dwelling Type:	H1	H3	H4	Flat Type 1	Flat Type 2	Flat Type 3
	3B 5P	3B 6P	4B 7P			
TER	17.37	16.2	16.61	17.01	13.92	16.69
DER	15.87	15.41	15.73	15.68	12.80	15.78
% Improvement	8.64	4.88	5.3	7.82	8.05	5.45
TFEE	52.46	52.73	59.69	38.81	26.59	32.65
DFEE	44.45	43.59	49.17	32.76	23.15	28.86
Amount of PV needed to reach 19% imp.	0.75kW	0.75kW	1 kW	0.5kW	0.5kW	0.5kW

Table 2: Showing Emissions improvement over Regulations

- 4.1.6 As of October 2015 it is anticipated that proposals will be requested to achieve a 19% improvement over Building Regulations 2013. Should this improvement be requested by the Planning Authority, it is proposed that it will be made via on-site, roof mounted, PV in the quantities listed above.

4.2 Access (Part M)

- 4.2.1 Part M of the Building Regulations is designed to allow adequate access to dwellings for people with disabilities. This includes provision for level access, suitable turning circles, access routes, door opening widths and the heights of switches and controls. Parking space widths, room layouts and ramped access gradients are also considered under Part M.
- 4.2.2 As part of the compliance measures, the Proposed Development will meet all of the requirements within Approved Document M for the applicable dwelling types.

4.3 Water (Part G)

- 4.3.1 Part G of the Building Regulations is to focus on internal water use with an aim of reducing overall usage within dwellings.
- 4.3.2 With average water use for households in the UK at ~150 litres/person/day and an upwards trend of 1 litre per year¹, the need to reduce water use within dwellings is key to ensuring the security of supply. The Consumer Council for water state the average water usage per occupant being between 66m³ (single person) and 200m³ (6 person unit)
- 4.3.3 Water supply to the dwellings should be measured utilising 'The Water Efficiency Calculator Tool for New Dwellings' and show an internal potable water use of <125 litres/person/day, with an option for this to be reduced further to <110 litres/person/day, should this be requested by the local Planning body.
- 4.3.4 A maximum of 110 litres/person/day will be sought by the Proposed Development in order to reduce the overall cost to the end user, and demonstrate Best Practice for the Client. The water use within the dwellings will be restricted through the use of inline flow restrictors and reduced capacity cisterns and baths to meet this target. The following specification is indicative to meet this requirement:

¹ WaterWise

- Kitchen sink taps: flow rate of 6 litres/min or less
- Bathroom basin taps: flow rate of 6 litres/min or less
- Showers: a flow of 8 litres/min or less
- Dual Flush WC's (4/2.6 Litre)
- Bath: maximum 200 litres
- Default figures have been entered for the Dishwasher and Washing machine within this calculation.

4.3.5 Final calculations based on sanitary ware specifics and Client requirements will need to be undertaken to confirm the final water use for the Proposed Development.

4.4 Security (Part Q)

4.4.1 Part Q of the Building Regulations addresses the physical security of a dwelling, in order to resist attempts to gain entry by opportunist burglars.

4.4.2 The following sections are highlighted within Approved Document Q, and it has been assumed that these elements will be met by the Proposed Development:

- Doors: All ground floor, basement and easily accessible doors are to have mechanical fixings back to the building fabric in accordance with the manufacturer's instructions. For lightweight construction a resilient layer (timber or metal) of >9mm thick is needed for the full height of the door, and 600mm either side of the door set.
- Windows: All ground floor, basement and other easily accessible windows (inc. easily accessible roof lights) should be made to a design which can demonstrate compliance with British Standards Publication PAS24:2012, or Secured by Design Standards. All frames should be mechanically fixed to the building structure in line with the manufacturers installation instructions

4.5 Waste (Part H)

4.5.1 Part H of the Building Regulations addresses the need for adequate solid waste storage. This is to ensure that sufficient space is provided for waste storage that is accessible, and does not prejudice health and wellbeing of residents, the general public or waste collection operatives.

4.5.2 It is assumed that the Proposed Development will ensure compliance with this regulation.

4.6 Nationally Described Space Standards

4.6.1 As part of the Nationally Described Space Standards, the following minimum area will be required to be met:

Table 1 - Minimum gross internal floor areas and storage (m²)

Number of bedrooms(b)	Number of bed spaces (persons)	1 storey dwellings	2 storey dwellings	3 storey dwellings	Built-in storage
1b	1p	39 (37) ²			1.0
	2p	50	58		1.5
2b	3p	61	70		
	4p	70	79		2.0
3b	4p	74	84	90	
	5p	86	93	99	2.5
	6p	95	102	108	
4b	5p	90	97	103	
	6p	99	106	112	
	7p	108	115	121	3.0
	8p	117	124	130	
5b	6p	103	110	116	
	7p	112	119	125	3.5
	8p	121	128	134	
6b	7p	116	123	129	
	8p	125	132	138	4.0

Figure 2: Nationally Described Space Standards – Space and Storage Requirements (Table 1) ²

² Nationally Described Space Standard – Technical Requirements. Consultation draft (September 2014)

5.0 Sustainability Assessment

5.1 Overall Approach

- 5.1.1 As well as the requirements above, other aspects of Sustainability are required to be demonstrated as part of the UK Governments overall strategy to create a more sustainable and less environmentally damaging built environment.
- 5.1.2 The World Commission on Environment and Development (WCED) report: Our Common Future, describes Sustainable Development as development that:
- “meets the needs of the present without compromising the ability of future generations to meet their own needs.”*
- 5.1.3 This broad concept of Sustainable Development is taken into account within the Sustainability Statement. However, the focus is on successfully meeting the requirements of planning policy and guidance (as outlined within Section 3.2 above).
- 5.1.4 The outline approach for the Proposed Development is to address the site wide sustainability issues with the aim of:
- minimising the Proposed Development’s overall environmental impact during construction and operation
 - providing modern, high efficiency, aesthetically pleasing housing suitable for local and Client needs
 - integrating with other local residential neighbourhoods
- 5.1.5 In order to demonstrate compliance with the relevant Planning Policy reference above, the Sustainability Report has been broken down into the following sections:
- | | |
|------------------------------|------------------------------|
| • Land Use and Location | • Materials |
| • Transport and Movement | • Pollution |
| • Flooding and Surface Water | • Biodiversity and Landscape |
| • Community | • Design and Continuity |

5.2 Land Use and Location

Site and Surroundings

- 5.2.1 The Proposed Development will redevelop the area of open land into a residential area with a mix of housing type and tenure, open space, play areas and associated residential parking.
- 5.2.2 The site is located to the south of the Leigh Park area of Havant, south of Blendworth Crescent and forms the northern boundary to the Trosnant Junior School to the south of the site.



Figure 3: Development Proposal – Site Layout: Blendworth Crescent, Havant

- 5.2.3 The Application site is located within a medium density residential area, on the southern boundary of the Leigh Park area of Havant, Hampshire. The Proposed Development aims to enhance the area through the provision of new, modern housing whilst maintaining urban continuity and retaining areas of publicly accessible open space and play areas.
- 5.2.4 The Application Site – currently consisting of under used and poorly maintained open parkland – is underused in its present state.
- 5.2.5 Adaptation to climate change must be taken into account when looking at the sustainability of any site. The Proposed Development is to be constructed to high environmental standards, meeting the latest Building Regulations requirements.
- 5.2.6 The Proposed Development utilises the site in a manner which matches local urban characteristics with the proposal for terraced housing, mixed with various flat types and sizes.
- 5.2.7 The density and massing for the Proposed Development is appropriate for the site and echoes the streetscape of the existing surrounding streets through the grouping of lower density dwellings to the north of the site – mirroring nearby residential dwellings – with higher density flatted development towards the south of the site, close to the nearby school.
- 5.2.8 The Application Site is currently accessible to the public and this proposal will maintain these opportunities for public access and use of the space, post construction.
- 5.2.9 The design of the Proposed Development will be based on maximising the use of the site layout to provide a modern and efficient development that is a meaningful redevelopment of a locally prominent site.

Site Contamination

- 5.2.10 An initial contaminated land survey has been undertaken through the Environment Agency Mapping Service and the site is not located on contaminated land from historic landfill sites.

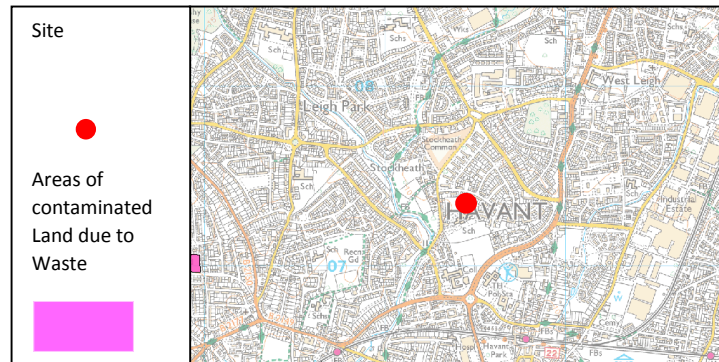


Figure 4: Contaminated Land due to Landfill

- 5.2.11 Where the land is deemed to be contaminated prior to works commencing, any remediation needed will be undertaken where necessary.

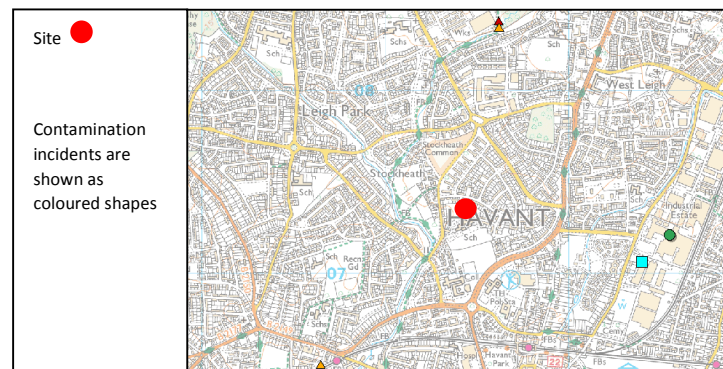


Figure 5: Contaminated Land due to pollution

- 5.2.12 As can be seen from Figure 5 above, there are no recorded major incidences of pollution directly on the site and therefore the site is unlikely to be at risk from contamination.
- 5.2.13 There are authorised releases to the air to the East of the site via chemical and waste treatment plants which will not have any significant impacts on the site or surroundings.
- 5.2.14 To the north of the site there are historical issues relating to the release of sewage onto land. However, this was over 10 years ago and is unlikely to cause any danger to the Application Site.

5.3 Transport and Movement

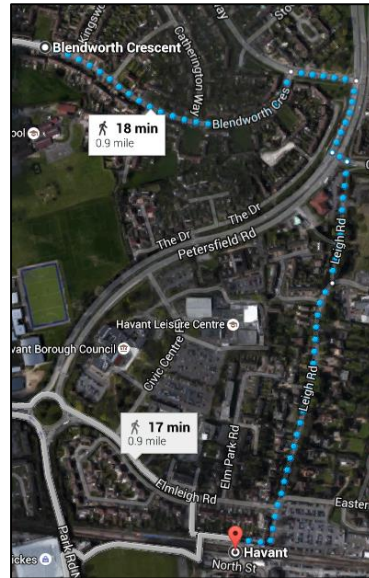


Figure 6: Map showing walking route/distance to railway station

- 5.3.1 The Application Site has a good level of public transport provision nearby, <20 minutes walk (0.9 miles) from Havant Train Station, and ~6 minutes walk from the bus stops on Bedhampton Way. This close proximity to local public transport services is likely to encourage the use of Public Transport in this urban location, reducing traffic congestion and associated CO₂ emissions from private vehicle use.

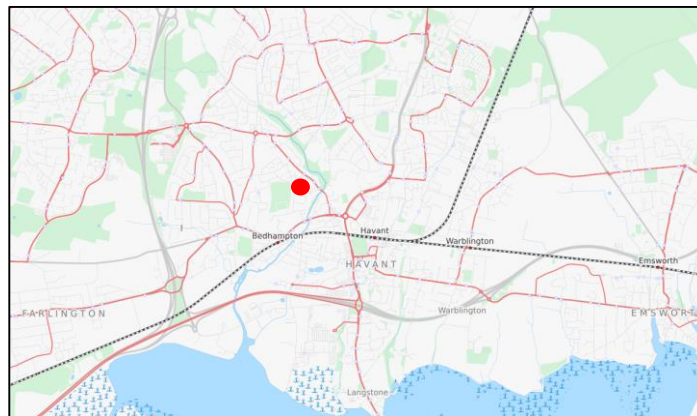


Figure 7: Local Bus Routes - shown by Red lines - Havant (source: Openstreetmap.org)

- 5.3.2 The typical transport movements associated with residential areas are the 'rush-hours' of 0730 – 0900 and 1700 – 1900 with a possible increase in traffic at approximately 1500-1600 due to the 'School Run'. Traffic in this area is unlikely to be significantly affected as the number of dwellings within the site, relative to those existing presently in the area is minimal.
- 5.3.3 The prominence of local facilities such as schools, shops, leisure centres and parks is also likely to reduce the overall dependence on the motor vehicle.
- 5.3.4 Parking requirements within Havant vary dependent on the location of the development and the allocation of the parking spaces throughout the development. It has been assumed that the spaces within the Proposed Development **will be allocated** to individual units to reduce car number expansion by individual dwellings.

Table 4 Vehicle Parking			
Zone Size of dwelling	Standard	Havant town centre	Waterlooville town centre
1 Bed Unit	1 space	Max 1 space	1 space
2 Bed Unit	2 spaces	Max 1 space	1 space
3 Bed Unit	2 spaces	Max 1 space	1-2 spaces
4+ Bed Unit	3 spaces	Max 2 spaces	1-2 spaces

Figure 8: Parking Provision Table: Extract from HBC Vehicle and Cycle storage requirements SPD³

5.3.5 Current plans show that the following parking strategy has been proposed for the site:

- All Flats: min. 1 space per unit
- 3 bed Houses: 2 spaces per unit
- 4 bed Houses: 2/3 spaces per unit

5.3.6 The above parking provisions are within the boundaries outlined within the SPD, and are therefore deemed acceptable to the site.

Transport Infrastructure

5.3.7 The Proposed Development benefits from the following transport services/facilities:

- Within max. 550 metre walking distance from bus stops which provide services to Havant, the local Leisure Centre, Bedhampton, as well as the wider area via changing routes. Buses from the Town Centre reach all parts of the town, and have a regular timetable.
- Within 20 minutes walking distance (c. 0.9 miles) from Havant Train Station which offers services to London, Portsmouth, Southampton, Brighton, and the wider rail network.
- Access to the site is from Blendworth Crescent. This, in turn, links to Petersfield Road and Park Road North, which gives access to the A27 and in turn the A3(M), M27, M3 and wider Motorway network

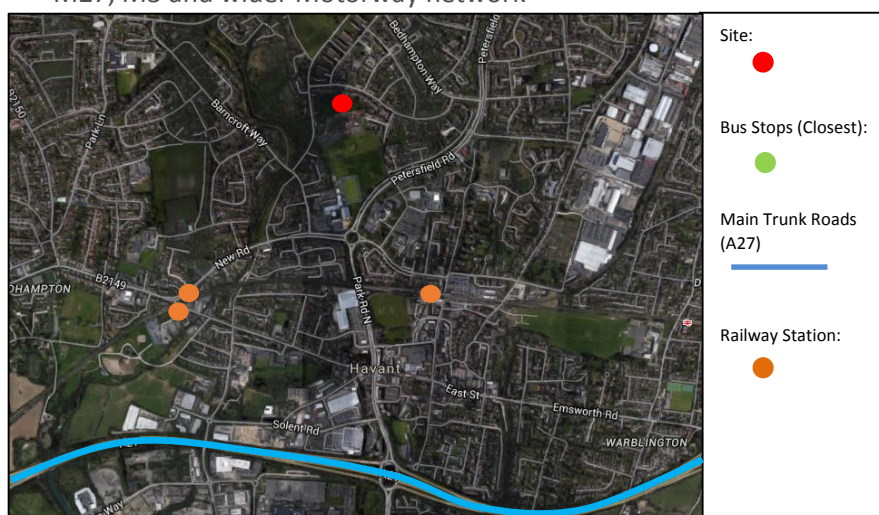


Figure 9: Summary of Transport Accessibility within the Hitchin area

³ Havant Borough Residential Parking and Cycle Provision Supplementary Planning Document (March 2010)

- 5.3.8 The Havant Borough Council Residential Car Parking and Cycle Provision Supplementary Planning Document offers guidance on the required cycle storage within new development in the area as follows:

Size of dwelling	Long stay	Short Stay
1 Bed Unit	1 space per unit	1 loop/hoop per unit
2 Bed Unit	2 spaces per unit	1 loop/hoop per unit
3 Bed Unit	2 spaces per unit	1 loop/hoop per unit
4+ Bed Unit	2 spaces per unit	1 loop/hoop per unit

Figure 10: excerpt from HBC: Residential Car Parking and Cycle Provision Supplementary Planning Document⁴

- 5.3.9 The use of cycles is proven to reduce traffic congestion and the associated pollution of motor vehicles for shorter journeys, and provides a healthy alternative to conventional transport methods. It has been assumed that the above requirements will be met in full by the Proposed Development.
- 5.3.10 In line with the SPD, secure and weather proof cycle storage will be provided for within the flats, with visitor spaces also provided.
- 5.3.11 Cycling within Havant is highly encouraged and many of the roads lend themselves to use by both motorists and cyclists, being wide enough for both vehicle types. Inner town routes are clearly designated and provide priority access in some locations for cyclists.

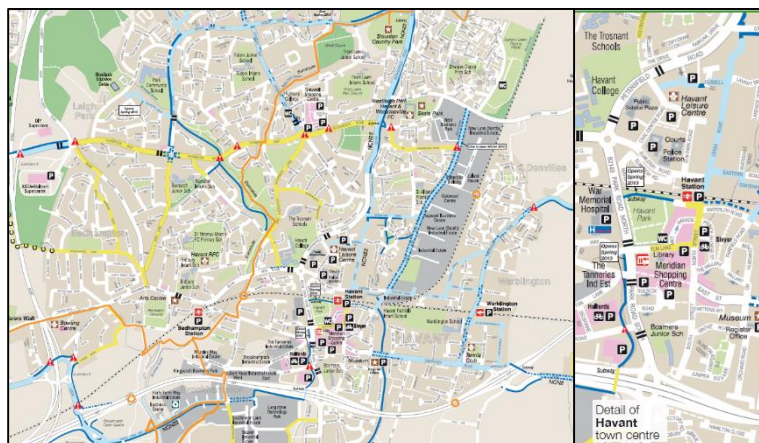


Figure 11: Havant Cycle Route map

- 5.3.12 Similar to the current site conditions, pedestrian access is to be provided to the site, with the north and south boundaries allowing access to both pedestrian and cycle users with vehicles only permitted through the northern entrance.

Pedestrian Routes and Access

- 5.3.13 Access to the site and the pathways surrounding it are to be unchanged by the Proposed Development with road access to the north of the site being added in lieu of the current footpath.

⁴ Havant Borough Residential Parking and Cycle Provision Supplementary Planning Document (March 2010)

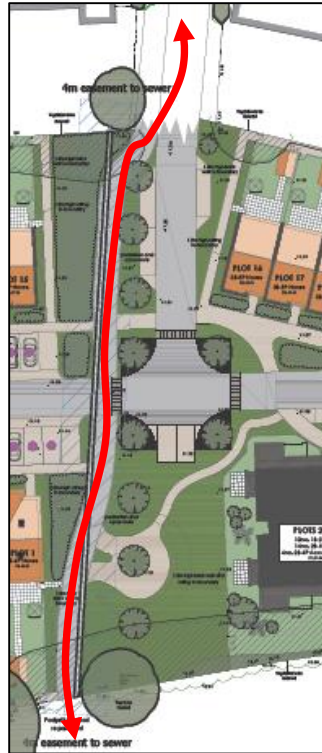


Figure 12: Partial site plan showing pedestrian and cycle permeability

5.4 Flooding and Surface Water

- 5.4.1 A Flood Risk analysis has been undertaken through the Environment Agency's flood mapping service and has been deemed to be in an area of Low Flood Risk (from Rivers, Sea and Surface Water).

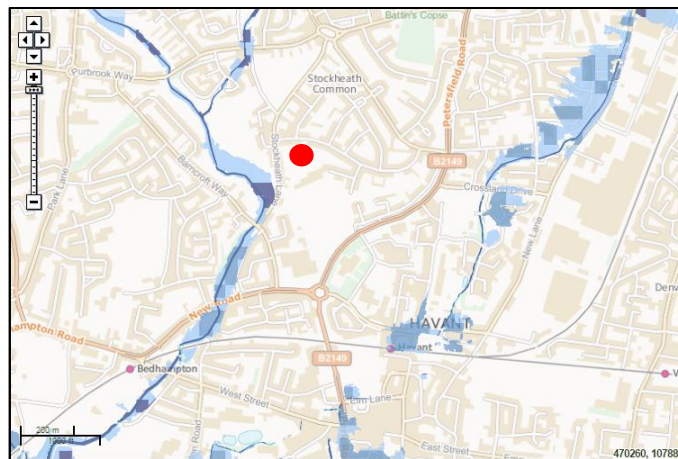


Figure 13: Flood Map (rivers and sea) – Environment Agency Flood Mapping Service

- 5.4.2 Please note that the Environment Agency's Flood Risk Mapping Service is only indicative and does not take into account the possibility of flooding from local sources and flash flooding potential.

Surface Water Run-off

- 5.4.3 In line with best practice, it has been assumed that where possible permeable paving will be installed where this is practicable in order to reduce the overall load on the sewerage and drainage system. The use of attenuation techniques and soakaways will also be investigated as part of Detailed Design in order to reduce the overall flow and volume of surface water off the site.
- 5.4.4 The Application Site currently consists of an area of open, public grass/park land. Whilst buildings are to be added to the site, some aspects of open public space are to be added to the site in order to maintain and encourage public access.
- 5.4.5 As a result of the Proposed Development there will be an effect on the overall permeability of the site, however the current scheme shows that 47% of the site is to remain as green, permeable area. This, combined with the potential use of SUDs techniques will ensure that the risk of flooding for the site remains as low as practicable.

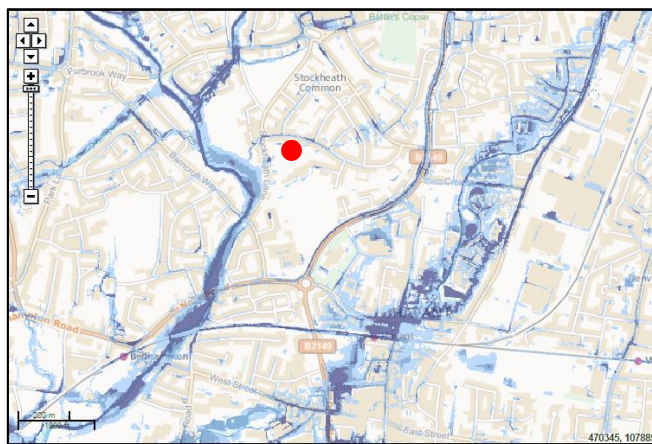


Figure 14: Flood Map (surface water) – Environment Agency Flood Mapping Service

- 5.4.6 Figure 14 above shows that the site is at a low risk from surface water flooding at present, with little evidence of previous incidences of a flooding evident.

5.5 Construction Management

Construction Waste

- 5.5.1 The construction waste generated as part of the site works and construction process will be segregated and monitored as per best practice, with suitable materials being recycled as part of this process, either to be reused on site or introduced back into the supply chain through recycling by a Licensed Contractor – minimising the amount of waste being disposed of in land fill sites.
- 5.5.2 During the Demolition Phase, the main contractor will comply with the key recommendations in the ICE Demolition Protocol⁵. Either all waste will be separated before removal from the site, and all recyclable materials recycled, be utilised on site or dealt with via a licenced waste carrier for sorting and recycling off site.
- 5.5.3 All licenced waste carriers are required to dispose of waste in line with the Waste Hierarchy, with as much as practicable being recycled. Nominal construction waste should be sent to landfill or for incineration unless this is unavoidable due to the materials found on the existing site.

⁵ Institution of Civil Engineers – Demolition Protocol 2008

- 5.5.4 The Main Contractor will initiate a Construction Management Plan from the outset of works, with an aim to ensure that a minimum of 85% of site waste is diverted from landfill as part of best practice procedures.

Construction Site Impacts

- 5.5.5 In order to monitor, record and review site performance in relation to the environmental impacts of construction the following will be implemented on the site:
- Monitor, record and set targets for water use from site activities in line with best practice
 - Monitor, record and set targets for energy use from site activities in line with best practice
 - Set appropriate site policies for water (ground and surface) pollution and air (dust) pollution.
- 5.5.6 The principal contractor will sign up to the Considerate Constructors Scheme in order to best manage site activities and community cooperation. A target will be set for the scheme of at least 25 (min. 5 in each section) and will aspire to a score of 35 (7 in each section) in line with best practice.
- 5.5.7 The Considerate Constructors Scheme is a national, voluntary scheme, which is adopted by participating construction companies and everyone involved on the construction site. The scheme aims to assist and encourage contractors to carry out their operations in a safe and considerate manner, with due regard and causing minimum disturbance to local residents, businesses, passing pedestrians and road users.
- 5.5.8 The Scheme looks at the various aspects of construction work and sets appropriate standards in a number of categories relevant during the construction phase of a project, such as:
- Considerate
 - Environment
 - Cleanliness
 - Good Neighbour
 - Respectful
 - Safe
 - Responsible
 - Accountable

5.6 Community

Housing Provision

- 5.6.1 As with many areas of the South East of England, housing demand is high with new properties in short supply and prices therefor remain high.
- 5.6.2 The Proposed Development is aiming to increase the housing supply for the area – specifically within the small family home and social/affordable housing sectors, where demand is high, and supply is low.
- 5.6.3 The Proposed Development therefore falls within the scope of the existing development plan in providing additional housing within the town, with a proposed 6,300 new dwellings needed within the Borough between 2006 and 2016.
- 5.6.4 In line with the Core Strategy Policy CS9, all of the dwellings will be Affordable in line with national Government Standards – providing suitable and cost effective accommodation for those on lower incomes.

Community Enhancement

- 5.6.5 The Application Site previously had community value as an area of accessible public land. However, the initial perception of this space is that it is under used and poorly maintained. Prominent uses are anticipated to be dog walking and as a thoroughfare to/from the School to the south. There are currently no amenities on site however, there is some evidence that there had previously been a play area located on the site.
- 5.6.6 The Proposed Development is not proposing to significantly change the access routes onto, off or through the site and this, coupled with the replication of the existing street scene throughout the Application Site forms a continuation of the surrounding land uses and still retains elements of public access and open space whilst better utilising the full extent of the site.
- 5.6.7 The proposed future use is responding to local needs in respect of housing and the Proposed Development is to retain and enhance the existing features which benefit the community, such as trees, green space and general planting whilst utilising a previously underused site.

Employment

- 5.6.8 No additional employment land is proposed – or indeed, would be appropriate – within this area however, local trades will be used where possible within the construction phases to boost the local economy where practicable.
- 5.6.9 As part of the overall management of the site some areas may require regular maintenance by the client, and therefore further opportunities may arise for employment on the site, albeit at low, infrequent levels.

Health and Well-being

- 5.6.10 The Proposed Development is to limit sound transmittance through Party Walls and Party Floors in order to minimise disturbance to neighbouring dwellings – which is a common cause for complaints in residential dwellings. The proposed units will aim to exceed Building Regulations standards for sound transmittance.
- 5.6.11 All units have private or communal gardens, allowing residence access to an external space which is a key part of a healthy lifestyle.
- 5.6.12 The majority of the units are a minimum of dual aspect, allowing for natural cross ventilation within the summer months to avoid overheating. This also allows good levels of natural daylight to enter the home throughout the day. Where this is not possible, sufficient openings have been designed into the dwellings to allow adequate ventilation in summer months.
- 5.6.13 If overheating is an issues within the final design, appropriate security fixings will be fitted to ground floor (and other accessible) windows to allow adequate ventilation where needed.

5.7 Materials

- 5.7.1 The application site will feature a mix of construction methods - including traditional construction - for different tenure types. Therefore, in order to minimise the overall environmental impact of the site supply chains will be monitored to ensure that materials are sourced responsibly where it is possible and practical to do so.
- 5.7.2 Timber materials will be sourced from FSC and/or PEFC sources and all other materials sourced from suppliers who have an accredited Environmental Management System (EMS) (ISO14001, BS8555 or BES6001), ensuring that any environmental impact caused by the building materials is analysed and mitigated where possible.

- 5.7.3 The use of ‘virgin’ aggregates and concrete will be reduced as much as possible, with recycled aggregates being selected where there is nominal cost or structural impact.

5.8 Pollution

- 5.8.1 The energy approach for the Proposed Development in responding to the planning policies and guidance, is through minimising the buildings overall environmental impact and reducing their overall resource use in order to exceed the performance standards required by Building Regulations.
- 5.8.2 The approach adopts the following standard energy strategy (in-line with general national energy policy) by seeking to:
- Use Less Energy (Be Lean) – minimise the overall environmental impact and energy use through energy efficiency measures - e.g. improved insulation and glazing.
 - Use Clean Energy (Be Clean) – ensure that energy systems on-site (heat and power) are efficient and produce minimal CO₂ emissions - e.g. high efficiency boilers/heat pumps
 - Use Renewable Energy (Be Green) – implement the use of suitable technologies to provide renewable and emission free energy sources where required.
- 5.8.3 The CO₂ Conversion Factors have been taken from Building Regulations 2013:

Fuel Source	CO ₂ Conversion Factor (kgCO ₂ /kWh)
Electricity (mains)	0.519
Electricity (offset)	-0.519
Gas (mains)	0.216
Heating Oil	0.298
Wood Pellets	0.039
Wood Chip	0.016

Table 3: CO₂ Conversion Factors

- 5.8.4 Carbon Dioxide (CO₂) is the main greenhouse gas⁶ that is deemed responsible for anthropogenic climate change⁷. Although by mass it does not have as high radiative forcing effect as other gases (namely CH₄ – Methane), the sheer quantity released through combustion means that, overall, it has the most effect. It is also one of the more controllable – it can be directly controlled through reductions in fossil energy use.

Energy Conservation Measures

- 5.8.5 A number of energy conservation measures will be incorporated by the Client to reduce the overall energy load for the Proposed Development. This is in-line with both the Policies detailed in Section 3.0 as well as general national ‘Best Practice’ guidance for delivering energy efficient buildings.
- 5.8.6 An indicative specification has been provided within Section 4.0.

⁶ Joint Science Academies' statement, 2005: Global response to climate change

⁷ IPCC, 2007: Summary for Policymakers & Technical Summary. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*

Passive Solar Design

- 5.8.7 The majority of dwellings within the Proposed Scheme have a minimum of a dual aspect with large glazing in key habitable rooms. The majority of units also have south, east or west facing glazing, further increasing the ability for passive solar gain.
- 5.8.8 Units with south facing elevations have suitably large window apertures in order to maximise solar gain. This will have the effect of reducing annual heating loads in these units and maintaining suitable daylight levels.
- 5.8.9 Where traditional, brick and block construction has been specified. This further enhances the passive solar design of the dwellings allowing heat to be absorbed out of the dwelling during times of over-heating, stored within the thermal mass and then released back into the dwelling when internal temperatures drop on the evening. This process reduces the need for additional ventilation during the day and the requirement for heating in the evening – reducing the overall energy use within the dwellings.
- 5.8.10 Where timber construction is preferred, it should be ensured that either external thermal mass is supplied, or adequate ventilation is provided to avoid overheating, as this can be an issue within lightweight, heavily glazed dwellings.

Insulation and Air Tightness

- 5.8.11 All dwellings will incorporate high performance insulation in the building envelope (walls, roofs and windows) to ensure that the space heating load will be reduced to that of a Building Regulations (Part L) compliant design.
- 5.8.12 An indicative U-Value Specification can be seen in Section 4.0.
- 5.8.13 Air tightness within all residential units has been estimated as achieving a rate of <4m³/hr/m², and will be tested as part of Building Regulation compliance and to inform final As-Built SAP calculations.

High Efficiency Heating and Ventilation

- 5.8.14 In the Predicted Energy Baseline the residential units will be served by gas boilers (min 89% efficiency) – proposed as a system boilers and combination boilers, dependent on the size of the dwellings.
- 5.8.15 All residential units will be specified with Decentralised Whole House Extract ventilation, with trickle and boost settings to ensure background ventilation to wet rooms and kitchen spaces throughout the year.

Low Zero Carbon Technologies

- 5.8.16 There is currently no requirement for the installation of Low Zero Carbon (LZC) Technologies within the Proposed Development and therefore none have been proposed at this stage. However, as part of the overall strategy for the site it is suggested that the buildings be future-proofed to allow the future provision of renewable technologies should this be desired by the Client.
- 5.8.17 It is suggested that for houses where a domestic hot water cylinder is installed, this could be a dual coil cylinder to allow for the future installation of solar water heating. For units with combination boilers.

Other pollutants

- 5.8.18 All insulation on the site will have a Global Warming Potential of less than 5, and an Ozone Depletion Potential of Zero.

- 5.8.19 NOx emissions from the heating systems will be targeted to be $\leq 40\text{mg/kWh}$, in order to achieve best practice.

Light Pollution

- 5.8.20 Light Pollution will be minimised where possible through the careful specification and positioning of external lighting around the Proposed Development, ensuring that no lighting negatively impacts the surrounding residential units. Special attention should be given to security lighting (where fitted) to ensure it is appropriately focussed and controlled.
- 5.8.21 All external space lighting will be provided through low energy fittings, with security lighting being PIR and daylight/timer controlled and commercial space will comply with CIBSE and ICE Guidance.

Noise Pollution

- 5.8.22 Due to the type of activities on the site, it is not anticipated that the development will increase noise pollution above what would be associated with the surrounding areas and is therefore deemed to be of negligible impact.
- 5.8.23 As a common dispute between neighbours is often due to noise transmittance through party walls and floors, all dwellings will be constructed to improve on Building Regulations Standards in this regard by a minimum of 3dB.
- 5.8.24 During construction, regular consultations will take place with the surrounding residents and the Site Managers details will be provided should there be any complaints. Sound screening will be erected if needed and the use of heavy machinery limited to appropriate hours of the day. No work will be undertaken during night-time hours.

5.9 Biodiversity and Landscape

- 5.9.1 Biodiversity is generally considered to be the variety of life forms within a certain ecosystem. The Proposed Development will aim to minimise the reduction of biodiversity on the site due to site works, and encourage on-going future development of the habitat surrounding the structure which is protected.

Enhancement and Environmental Gain

- 5.9.2 The Application Site at present consists of a large area of open public land. There are little trees within the centre of the site, and the planting towards the boundaries will be retained and enhanced where possible to enhance the ecological value of the site, and provide security/privacy.
- 5.9.3 New trees are to be added to the site as part of the landscaping scheme to enhance the overall site aesthetic. Where possible, native species will be selected to enhance local wildlife support systems.
- 5.9.4 Surveys have been undertaken to ensure the existing vegetation is free from nesting birds and bats, prior to clearance.
- 5.9.5 All wildlife on the site will be dealt with in accordance with the appropriate UK and EU laws outlining their protection and conservation.
- 5.9.6 Where possible, grassed areas will be of a species rich grass (especially communal areas) in order to enhance insect and bird numbers on the site, and areas of wild flowers seed mix will also be added where this is deemed to be feasible.

Density and Massing

- 5.9.7 Density and massing address the architectural sustainability of a scheme. Developments which have a massing which is not in context with its surroundings will lead to a new development which is neither in-keeping nor consistent with its surroundings. This can often lead to aesthetic issues for surrounding residents and virtual barriers to the development, preventing social cohesion.
- 5.9.8 Below shows the Proposed Development site plan set within the wider context of the surrounding residential dwellings.



Figure 15: Showing Proposed Site Plan and Surrounding Context

- 5.9.9 By blocking out the areas where buildings are present, we can create a Figure-Ground Map of the area showing how the Proposed Plan fits in with the surrounding density, layout and massing of dwellings.

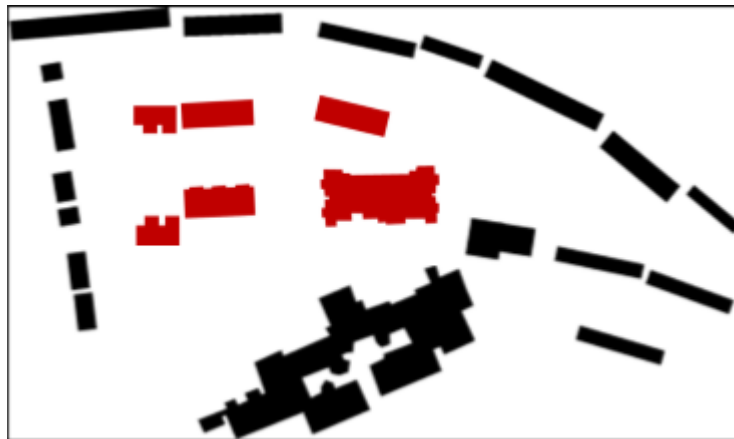


Figure 16: Figure-Ground diagram showing proposed (red) and existing (black) buildings.

- 5.9.10 As can be seen by Figure 16 above, the Proposed Development blends well with the surrounding urban context and continues many trends in the area with regards to street layout, meaning a consistent theme and therefore understandable urban language. This will further help the community and physical integration of the site into the town at large – preventing the ‘gated community’ impression which can sometimes be prevalent in new-build, infill developments.

5.10 Design and Continuity

Overall Design and Impacts

- 5.10.1 The Proposed Development is aiming to improve and enhance the existing site appearance through the continuation of the residential landscape of the surrounding area.
- 5.10.2 The mix of fenestration and external finishes will reduce the massing of the building, with the dwellings being an appropriate scale for the surrounding environment.
- 5.10.3 Brick, render and cladding finishes have been chosen to enhance and complement the surrounding building styles with staggered elevations breaking up the overall building massing.

Boundaries

- 5.10.4 The boundaries to the Applications Site are to be maintained and enhanced as part of the overall development process. With additional planting and walkways being added.
- 5.10.5 Open space has been retained within the development at appropriate locations in order to provide amenity access to the residents and general public. In this way, the site is still accessible to local residents, who can enjoy the open spaces generated.

Daylight, Sunlight and Privacy

- 5.10.6 The blocks of flats are of a max. 5 stories, and where this is the case they are distanced away from any residential dwellings and the associated private garden space. Therefore, the impact on visual and daylight amenity to the surrounding dwellings is expected to be minimal. The existing primary access to the site is to be retained, therefore changes for the existing community as a whole are to be minimal.
- 5.10.7 Dwellings have been stepped back from the site boundary where these are close to existing buildings on the site periphery, to avoid overlooking and any impacts on daylighting that may occur.

Design Security

- 5.10.8 All dwellings will be provided with PAS 24 certified locks to all external doors with a view to minimising the potential for criminal access to the buildings – as per the National Technical Standard itemised under Section 1.0.
- 5.10.9 Where there is potential to do so, the Design Team may seek guidance from an Architectural Liaison Officer/Crime Prevention Design Advisor in order to ensure that the dwellings have adequate physical security.
- 5.10.10 The Proposed Development aims to increase the pedestrian movement through the site and therefore increasing natural, positive surveillance. It is therefore assumed that active security measures – such as CCTV – will be kept to a minimum and only installed by the Client where this is deemed applicable on communal entrances etc.
- 5.10.11 External lighting for residential units will be of an energy efficient type with daylight cut-off switches and PIR sensors where appropriate. Security lighting will be PIR and Daylight controlled with a maximum output of 150 watts.
- 5.10.12 All lighting will be appropriately installed to prevent light pollution caused by inappropriately focused or positioned lights.

6.0 Summary

- 6.0.1 The Proposed Development utilises an existing site which has not met its full potential as an area of public land, and has run into disrepair. Through redeveloping the site the scheme can provide much needed housing within the area, in a manner which enhances the local environment and opens up the site to the community.
- 6.0.2 By considering the aspects the Havant Borough Council Core Strategy, the Proposed Development assists in meeting the core aims of improved housing quality and quantity in the area.
- 6.0.3 The Proposed Development will exceed Building Regulations 2013 Compliance and address the emerging National Technical Standards.
- 6.0.4 A total of 51 high quality, low impact residential units are proposed for the Application Site, and it has been demonstrated that the Proposed Development goes as far as is reasonably practicable in meeting the requirements outlined by the Planning Authority.
- 6.0.5 In summary, the main sustainability feature of the development are:
- Exceeding requirements of Part L1a of the Building Regulations 2013
 - Building made accessible in line with Building Regulations Part M
 - Reduced water use to <110l/p/d for residential dwellings
 - Provision of secure cycle storage for each residential unit in line with Planning Policy
 - Potential for future installation of LZC technologies
 - Provision of family homes which are in-keeping with the surrounding aesthetic which are sensitive to the local community.

