



RESIDENTIAL CARE HOME, HAVANT
LAND TO THE SOUTH OF BARTONS ROAD, PO9 2NY

AUGUST 2020
DESIGN & ACCESS STATEMENT

hunters

 BRACKLEY

DESIGN AND ACCESS STATEMENT

Prepared by Hunters
 Planning Authority Havant Borough Council

Application Team

Applicant	Brackley Investments Ltd
Architect	Hunters Architects and Building Consultants
Landscape	Hunters Architects and Building Consultants
Civil Engineering	Infrastruct CS Ltd
Ecology/Biodiversity	FPCR
Arboriculture	CBA Consultants
BREEAM Assessor	RPS Group
Transport Consultant	The Richard Parker Consultancy

Site Area

Gross site area	0.6306 hectares
No. of proposed rooms	64
Gross int. area proposed	3,354.00 m ²
Gross ext. area proposed	3,599.00 m ²
No of Standard Parking spaces	29
No of Disabled Parking spaces	3
No of Cycle Parking spaces	18

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1. VISION

1.0 VISION

DESIGN BRIEF

Create a world class facility for the care and support of local people with 24 hour residential care needs.

The building will be design to achieve best practice environments, both internally and externally, where scheme staff can deliver the highest quality of care in a professional and compassionate ethos.

The scheme will be sustainable economically, socially, and environmentally.

ACCOMMODATION: 64 Bed Residential Care Centre

Design of a specialist residential care centre that offers current best practice in layout and space standards using the concepts of The Stirling of University DSDC Dementia Design Toolkit. The design will provide ensuite bedroom accommodation using the smaller cluster of bedrooms in a "Household Model" design concept. The scheme will exceed the minimum standards expected by the Care Quality Commission.

The scheme promotes the concept of "inclusive design" which aims to develop a built environment that supports creative functional space, this empowers residents to be active, whilst supporting the operation of the care workers in their vital work to keep residents safe and happy during the final years of their lives.

The building layout is specifically designed to optimise staffing ratios to ensure the delivery of care and services are efficient.

The elevational design will be high quality, sympathetic to its location, and endeavour to adopt materials reflective of the local vernacular.

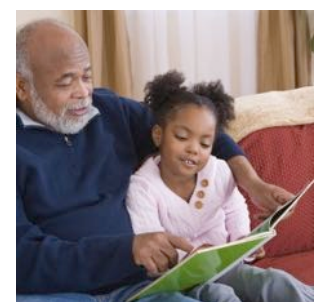
The building will achieve a domestic scale and massing, set within vibrant landscaping to filter views from Helmsley House and Leigh Hurst Cottage, and provide residents with a safe and engaging amenity landscape.



1.1 VISION

DESIGN OBJECTIVES

- A sustainable development with good access for local services
- A scheme with a sense of place and character
- A scheme that adheres to the local desired aesthetic
- Attractively designed buildings using high quality local materials
- Legibility – the proposal is easy to read and navigate
- The scheme is built around good quality amenity & landscaped spaces
- The scheme is designed to minimize its impact on the adjacent buildings, and the open field to the east of the proposed site.
- To minimise dependence on the private car with good access to public transport and proximity to local services.
- A scheme with high quality resident communal areas with a range of facilities including hair dressing, cinema, treatment room, dinning rooms, and themed lounges
- Generous space standards both inside and out, including private gardens
- Flexible layout with, exemplar accessibility and support for high levels of disability
- Barrier free access throughout (Light Reflective Levels considered for all materials, high levels artificial lighting, visual access for staff and residents, clear wayfinding signage)
- Secure, with both natural and CCTV surveillance of parking and the public realm. Secure private gardens for residents
- On site car parking for staff, visitors and servicing
- Provision of cycle parking and changing facilities
- Retain trees and vegetation to a high quality and develop a strong landscape strategy to further improve the environment as a place to live and blend in its specific location



2. CONTEXT

2.0 CONTEXT

SITE LOCATION

SITE LOCATION

- The site is located off Barton's Road, Havant, in the South East corner of Hampshire, roughly midway between Portsmouth and Chichester.
- It is south of Leigh Hurst Cottage and east of Helmsley House and East Leigh House.
- East Leigh House is a grade II listed building however, substantial wooded areas between the proposed site and the listed building act as a buffer to minimise visual impact and connectivity.
- The area is semi-rural in character with agricultural fields to the east, and a mix of local buildings – Residential estates to the south and west, with housing development planned to take place north of Barton's road.
- To the south-west of the site is a recently completed housing development.

CONNECTIVITY

- Normandy Way forms the access route from the site to Barton's Road.
- The A27 running through Havant forms a link to adjacent towns and cities.
- The closest train station is Havant (15-20 minutes by bus).
- There are several bus stops along Barton's road within walking distance (8 minutes).
- The Southern line connects the town centre of Havant and Portsmouth (6 minute journey)
- Bus stops are within walking distance of the site and a lit pedestrian footpath to link to them.

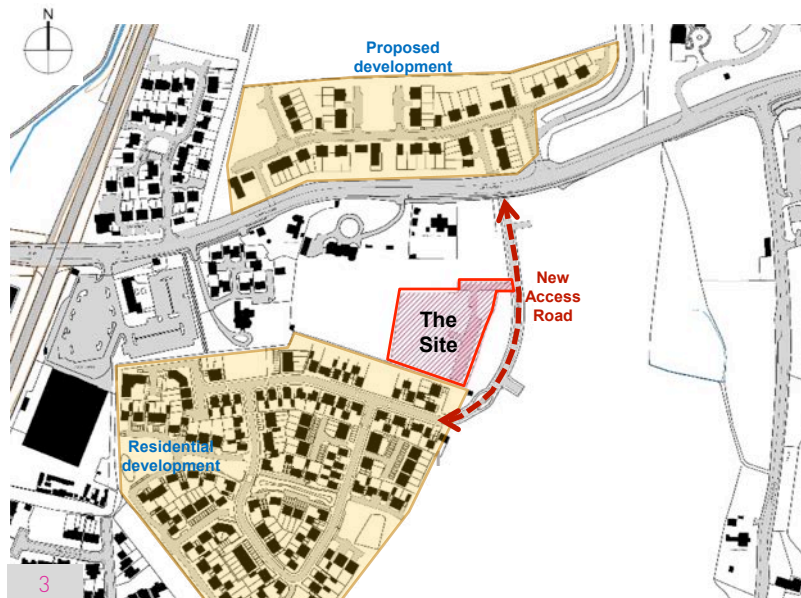
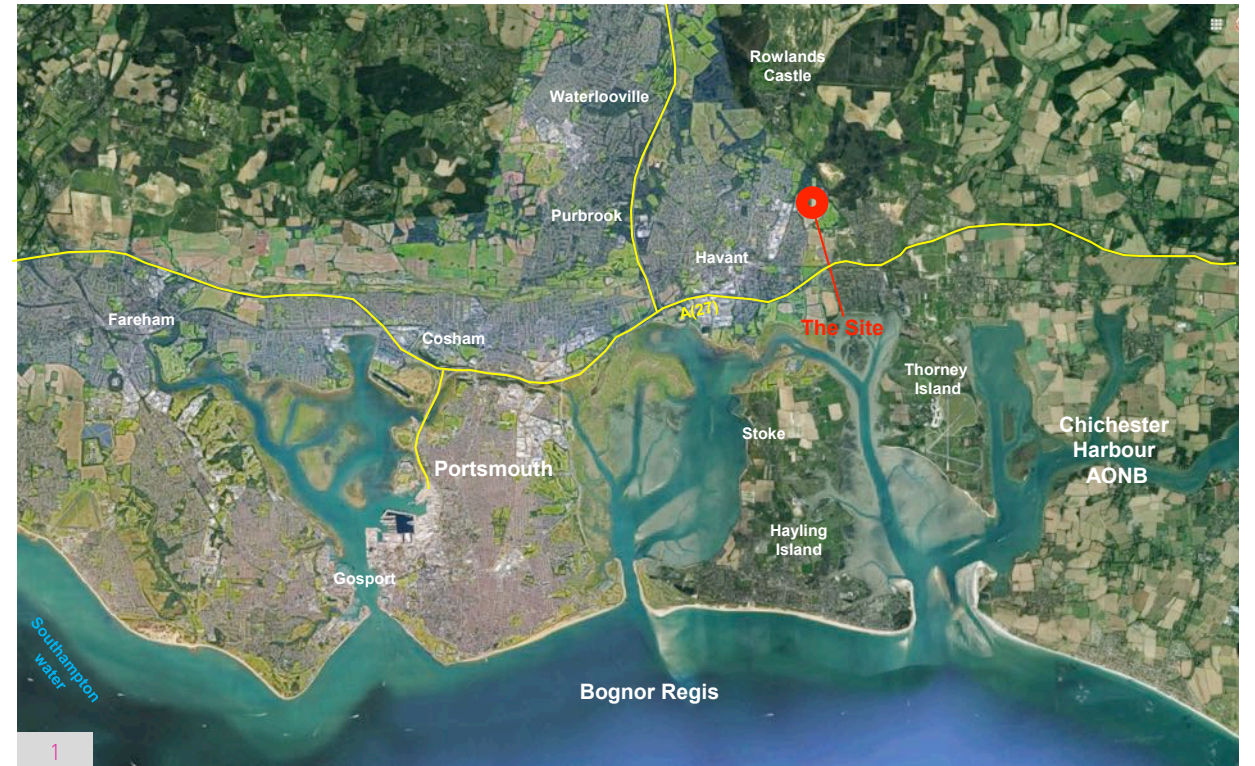


Fig. 1:: Site context

Fig. 2:: Site location

Fig. 3:: Built form

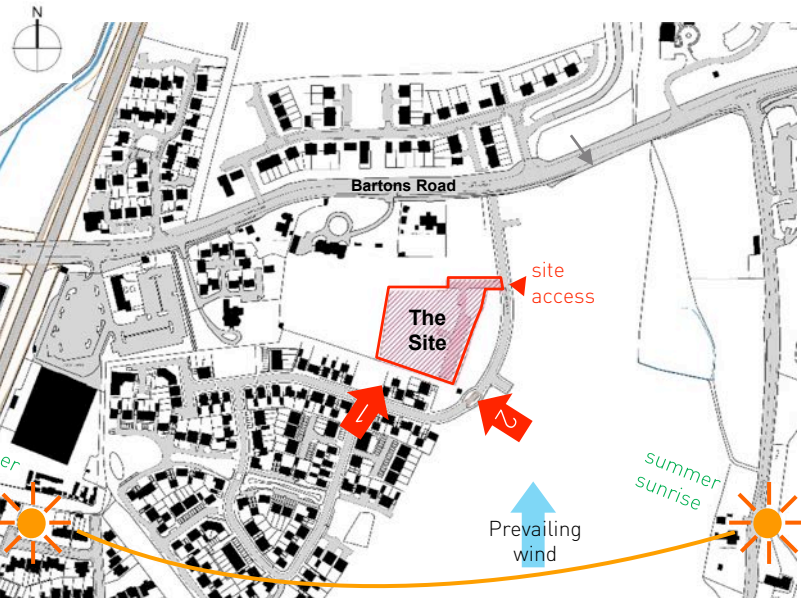


2.1 CONTEXT

ABOUT THE SITE

SITE DESCRIPTION

- The site is currently undeveloped.
- The boundaries of the site consist of mature planting and trees to the South-West, shielding it from view along Barton's Road and the adjacent Leigh Hurst Cottage. This offers an opportunity to retain trees and provide an established setting to the proposed building.
- To the East and south east the site is separated from the housing development and access road (Normandy Way) with mature trees, creating a natural buffer.
- The site has a gradual level change of approximately 2m from north to south.



21 August, 2020



2.2 CONTEXT

ACCESS

- The site utilises the new access road, Normandy Way to the (Brookvale) Bellway housing development located south of the site.

DESCRIPTION OF LOCALITY

- The area is semi-rural in character
- The nearest existing buildings to the site are Leigh Hurst Cottage, Helmsley House and the Bellway housing development to the south consisting of a variety of 1,2,3 and 4 bedroom properties.
- Further along Barton’s road to the west is Spire Hospital/Clinic.
- Shops such as the Wyevale Garden Centre can be found further west of site.

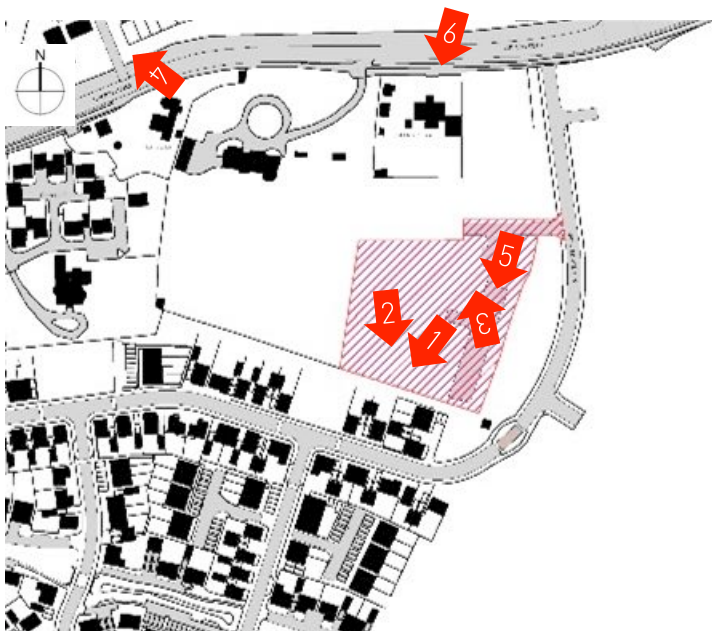


Fig. 1: Drone shot of site – Aerial view

Fig. 2: View South from within Site toward Bellway Housing

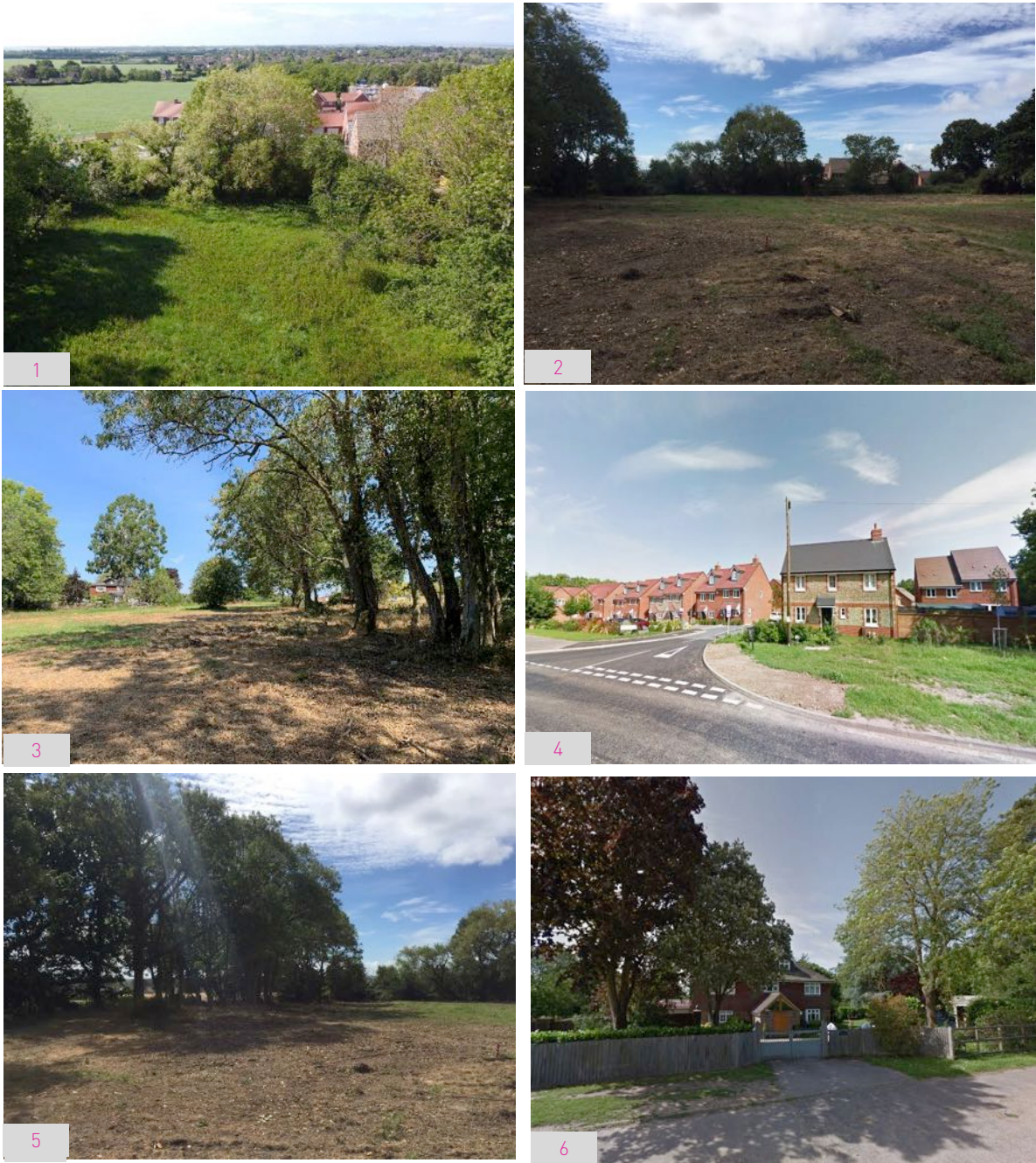
Fig. 3: View North from within Site to Helmsley House

Fig. 4: Housing development north of Barton’s Road

Fig. 5: View of Site’s East Boundary – taken from within site

Fig. 6: View of Leigh Hurst Cottage from Bartons Road

SITE PHOTOS



2.3 CONTEXT

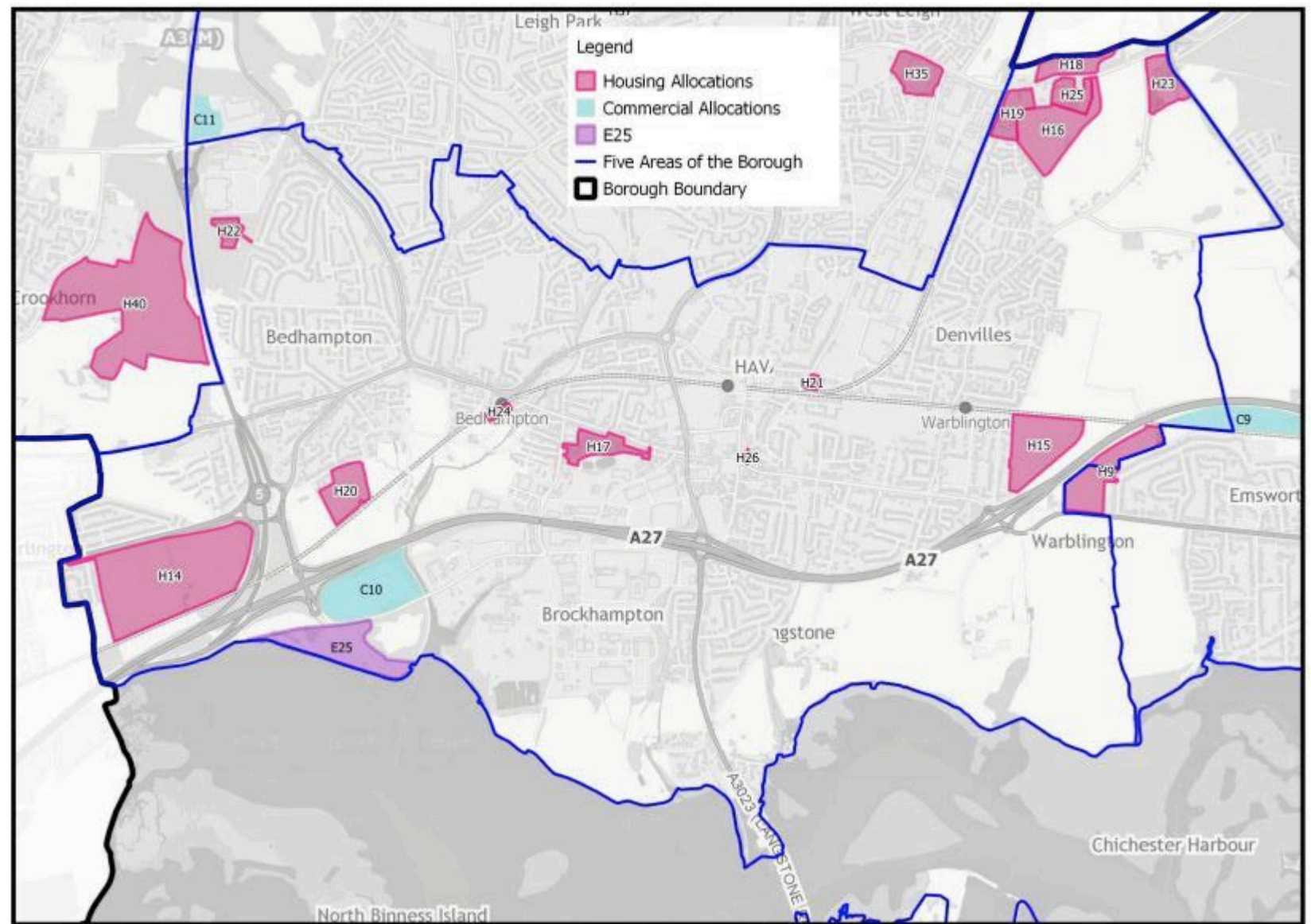
PROPOSED H25 ALLOCATION

2036 – PROPOSED DEVELOPMENT ALLOCATIONS

- Several areas are earmarked for development by Havant & Bedhampton Borough council in the 2036 Local Plan.
- The application site lies within the proposed housing allocation area H25 – Helmsley House
- The H25 allocation represents a 2.2 ha area located south of Bartons Road in close proximity to the Southleigh Strategic Site.

SITE OPPORTUNITIES AND CONSTRAINTS

- This site consists of a large house and outbuildings in substantial grounds.
- The site is in close proximity to East Leigh House which is a Grade II listed building.
- Helmsley House may be worthy of retention and incorporation into any new development for the site.
- There is potential for previously unidentified archaeological deposits.
- There is a possibility that bats (including the protected Bechstein's bat) forage on the site and/or roost in the site's mature trees and buildings.
- Two trees on the site are protected by a TPO.
- The north-east of the site (which includes the current access) is in the Minerals Safeguarding Area as defined by the Hampshire Minerals and Waste Plan, because it is likely to be underlain by sand and gravel.
- The site is adjacent to the proposed access road (Normandy Way) for the site known as "Land south of Bartons Road" (under planning permission APP/15/01435 and Policy H16) which forms the eastern and southern boundaries.
- Infrastructure provision should be addressed in conjunction with other development sites in the area as far as possible.
- The site is situated within Groundwater Source Protection Zone 1c and underlain by a Principal Aquifer.



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Fig. 1: Development allocations in Havant & Bedhampton – Extract from the Havant Borough Local plan 2036

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3. DESIGN ANALYSIS

3.0 DESIGN ANALYSIS

THE PROPOSAL

KEY SITE FEATURES

The proposal has been developed in layout to achieve a modern facility of residential care that combines the needs to preserve the environmental context of the site with the modern standards expected in such a facility. This includes features such as; car parking, servicing, progressive privacy and access, private amenity & landscaping, and the need for small clusters of bedrooms within a household living design concept.

The retention of trees along the western, southern and eastern boundary-line screens the proposed development from the approach road on Normandy Way and the new residential dwellings adjacent to the south.

It is noted that retaining existing trees, including two TPO trees, will preserve the natural habitats for local wildlife, whilst new planting will further enrich the ecological value of the site.

The proposed building is sited to minimise cut and fill across the plot with a 2m level change occurring from the northern boundary down to the southern boundary.

The access road off Normandy Way provides a viable entrance to the development for car parking, service vehicles, pedestrian access and cyclists.

The proposed development draws upon the local vernacular of surrounding buildings and uses a material pallet and form which does not detract from the characteristics of the local area.



Fig. 1:: Aerial view from South-East

Fig. 2:: Street Elevation – Along New Estate Road

3.1 DESIGN ANALYSIS

SITE CONSTRAINTS

ORIENTATION

- Site orientated from north west to south east.
- Prevailing wind from south west boundary.
- The main communal lounge areas have a westerly aspect

TOPOGRAPHY

- The site has a gradual fall of 2 metres from north – south
- Existing trees and shrubs line three of the boundaries of the site providing significant screening from nearby housing.

NOISE SOURCES

- Vehicular noise from Barton's Road is likely to be minimal, with both distances of 40m separation and significant vegetation screening.

ENVIRONMENTAL CHARACTERISTICS

- The existing site has potential for bats roosting in mature trees or foraging on site.
- There are two TPO trees on site which are retained.
- An ecology assessment has been submitted in support of this application with the landscaped plan adopting both the fauna and planting strategies proposed to enhance the ecological value of the site.

FLOOD RISK

- The site is located within Flood Zone 1 – Low probability. Flood Zone 1 is defined by the UK Government as Land having a less than 1 in 1,000 annual probability of river or sea flooding.
- The proposed building use is considered a 'more vulnerable' use, and in combination with it's location within Zone 1 an 'appropriate development'.

ARCHAEOLOGY & HERITAGE

- This site has not be identified as a site with significant archaeological value.
- The site is not in a historically significant area. However, Helmsley House, located c.125m north west from the proposed site boundary, is a grade II listed building.

MINERALS

- Opportunities have been explored for the prior extraction of minerals to the satisfaction of Hampshire County Council.



Proposed site plan

3.2 DESIGN ANALYSIS

DESIGN DEVELOPMENT

SITE LAYOUT PROPOSAL

Adapting the site to meet key criteria, a layout has been evolved for the building proposed on this site. Key Criteria Includes;

- Use of the existing surrounding hedges and trees to reduce the schemes perceived size and mass and shelter it from the road and surrounding properties.
- Addition of an enhanced landscape buffer, using trees and hedges along the boundaries to provide extensive screening both visually and acoustically.
- Creation of an access road into the site providing pedestrian and vehicle access to the proposed building.
- Creation of two private and secured household amenity gardens, designed as specialist sensory gardens with southern and westerly aspects. These are to be sensitively landscaped to create a haven for ecology and wildlife. These gardens have also been located to provide focal points for residents.
- Formed using a 2 storey household concept with 4 household wings comprising 64 beds of specialist residential care (all ensuite) with associated living spaces, and a communal / service area which accommodates the communal facilities, circulation core, and back of house facilities.
- The main building entrance fronts the site access with good legibility. The service entrance is located to the side of the main entrance providing a central distribution.
- The refuse store is provided at the lower-ground level and is externally accessible with sufficient space for commercial collection.
- The main, rear resident garden is accessed off the central hub and links each household.
- 29 car parking spaces (including 3 disabled spaces) and 3 Sheffield stands, with capacity for 6 bicycles, are located near the main entrance. An additional provision of 6 Sheffield stands is located to the south of the site in a location with enhanced visibility to discourage crime.

Illustrative site plan



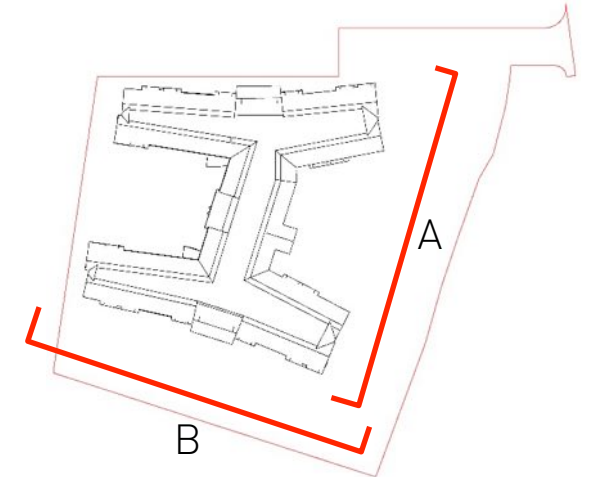
3.3 DESIGN ANALYSIS

DESIGN DEVELOPMENT

SCALE

The scheme is a 2-storey building with a similar height to the adjacent buildings in the residential development to the south and the Helmsley House and Leigh Hurst Cottage to the north. Various design techniques to reduce the perceived floorplan scale have been used;

- Fragmentation of the elevational form and alternating material treatments intentionally breaks up the façade into diminished proportions.
- Pitched roofs that have a domestic scale and form.
- Elevations with a high level of design detail in the brickwork application.
- Varied fenestration design to provide architectural character and deliver high levels of natural daylight.
- Domestically recognised materials help to blend the scheme into the locality.
- Creation of a landscaping scheme and boundary treatments that filter the views, thus reducing the impact of building scale.
- Finally, the building is surrounded by mature trees and planting which screens the true mass and scale of the proposal.



A: Front/ East Elevation



B: South Elevation

3.4 DESIGN ANALYSIS

LANDSCAPING

LANDSCAPING: The landscape strategy seeks to achieve three broad objectives:

- To maximise ecological & biodiverse value through carefully considered landscaping and retention of existing vegetation and trees.
- Create a landscape that is accessible for its users and promotes active wellbeing.
- Embed functional security and privacy features without diluting the quality of the landscape design.

To achieve these objectives, the landscape strategy firstly seeks to conserve valuable existing trees to the east, south and west boundaries within the development.

The existing tree structure provides an immediate charismatic setting for the development whilst maintaining valuable habitat.

Introduce a new landscape that enhances the attractive nature of the site and retains the character resided within the area. New trees are carefully selected to supplement local species, plants and hedges are used to stimulate the sensory nature of a garden. Design features, such as water features, raised planters, vegetable gardens all promote active resident involvement with their amenity. Seasonal plant choices will retain colour and smells throughout the year.

To further manage the views from Helmsley House, Leigh Hurst Cottage to the north, and from the recently completed Bellway housing development to the south, a landscape buffer of new trees and mixed species hedgerows are being incorporated. This will create filtered views of the development and add interest to the setting of the development and reinforce habitat for wildlife. Proposed planting will include a sedum green roof and there is opportunity for new trees/habitat to deliver a net gain and support the particular priority/protected species found in and around site.



Sensory garden flowers and grasses

4. DESIGN PROPOSALS

4.0 DESIGN PROPOSALS

Communal Gardens provide functional activity, visual amenity and promotes wellbeing. Security must be maintain to protect the vulnerable residents.



COMMUNAL GARDEN

4.1 DESIGN PROPOSALS

Communal Garden has looped pathways for residents to enjoy and exercise with benches to allow resting places.



COMMUNAL GARDEN

4.2 DESIGN PROPOSALS

Household gardens are private to the cluster of residents and include raised planters for activity and private terraces.



HOUSEHOLD GARDEN AND VEGETABLE PLOTS

4.3 DESIGN PROPOSALS

The main entrance is a public space and completely separated from resident secure garden areas. All visitors and staff access the scheme from the front door reception.



MAIN ENTRANCE

4.4 DESIGN PROPOSALS

Boundary fencing needs to be secure with either railings or closed boarded timber fencing with a trellis over to prevent climbing.



HOUSEHOLD GARDEN – EAST-FACING

4.5 DESIGN PROPOSALS

Disabled parking is located adjacent to the main entrance, along with Sheffield stands for cycle parking. Secure private front gardens abut the



MAIN ENTRANCE – SOUTH-FACING

4.6 DESIGN PROPOSALS

INTERNAL LAYOUT – HOUSEHOLD AREA

The household layout has been developed by Hunters as part of the *Stepcare Concept* and makes use of both the architect's expertise in care design and the care operator's knowledge from experience.

It is also designed in accordance with the Stirling University Dementia Centre Design Services' toolkit guidance on best practice dementia design.

- The household on each floor contains 16 bedrooms. It is divided into two smaller clusters of 8 bedrooms each with their own lounge and dining space. This creates a domestic living arrangement which can be efficiently managed by care staff.
- A communal "hub" centred on the servery kitchen is located at the heart of each household. This provides a focus for staff and residents to engage during meal times and from which residents are able to access secure garden spaces.
- Short corridors encourage residents to progress independently to living quarters with good visual access.
- Attractive outdoor spaces (garden/ terraces) can be enjoyed in a safe and secure environment.
- Supporting facilities (administrative and service spaces) arranged along household wings enable discrete servicing that is easily accessible.
- Sitting rooms located at each end of the bedsit corridors create a destination for residents to explore and enjoy. These are quiet tranquil spaces.
- The central communal space between households offers residents a destination for active engagement. Residents are able to have their hair cut, receive treatment from a treatment room, be involved in communal activities.
- Private ground floor gardens are accessed through residents bedrooms and offer private space for their use with families and carers.
- Central services are separated from resident areas and accessed via a service corridor and lift.



4.7 DESIGN PROPOSALS

BUILDING AND FAÇADE DESIGN

FAÇADE TREATMENT PRINCIPLES

Main building material palette:

- Multi-Red brick, and grey hung tiles are the primary building materials, taking precedent from the buildings nearby.
- Material textures alternate to create in places to create a feature vertical brick band, taking cues from neighbouring developments.
- Window design and position is well proportioned, maximising light to the internal spaces but in keeping with surrounding buildings.
- The building presents a scheme that meets well with the surrounding buildings due to a similar approach to façade development and material use.
- Features such as balconies and terraces are a function of the building type. The location of these provides activity and relief to the facade.
- The use of pitched roofs and dormers in the first floor allow to reduce the scale and predominance of the building in the area.

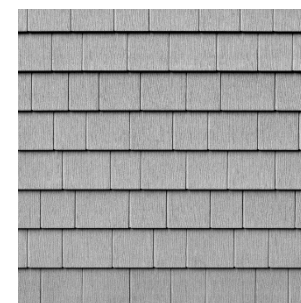
H25 ALLOCATION

The design and layout:

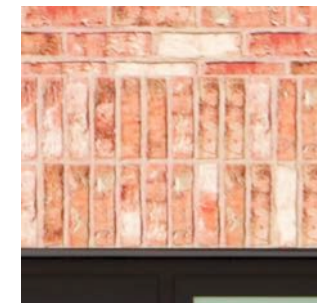
- Retains Helmsley House and integrates measure to minimise the proposal's impact on surrounding buildings.
- Integrates the existing open space on site and improves its value
- Integrates the protected TPO trees on site
- Enables easy access for pedestrians and cyclists to existing and planned routes.
- Respects the setting of listed buildings adjacent to the site (East Leigh House).
- Does not undermine the future development potential of nearby development sites.
- Maintains and enriches wooded habitat at site boundaries to encourage the presence of bats and birds on site.



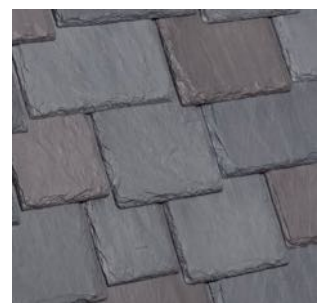
Facing brick: Multi - Red



Vertical Hung Tile - Grey



Vertical feature brick band



Composite slate roof tiles

5. SUSTAINABILITY

5.0 SUSTAINABILITY

SUSTAINABILITY & ENERGY IN CONSTRUCTION

The applicant takes a holistic approach to sustainability considering not only environmental, but also social and economic sustainability. This approach is taken in both corporate governance and strategy, and in the design of residential care schemes. The key aim is to achieve BREEAM Very Good that provides real sustainable benefits to the legacy of this scheme. A BREEAM pre-assessment is submitted in support of the full planning application to demonstrate those credits we are going to achieve to obtain this standard.

SUSTAINABLE REPUTATION: In light of the increasing urgency to address climate change, the depletion of non-renewable fossil fuels and material resources, the applicant has a remit to look beyond the pure environmental issues and a responsibility to integrate holistic sustainable strategies into the business decision-making processes to better the scheme.

SUSTAINABILITY STRATEGY: Building construction and the use of buildings, especially their space heating, is one of the main contributors to CO2 emissions in the UK. Energy conservation, introduction of sustainable transport strategies and incorporation of energy efficient strategies can be one way to play a part in reaching targets set for CO2 emission reductions set in the Kyoto agreement while reducing other adverse impacts on the environment.

Sustainability measures the project is designed to adopt as part of the wider strategy include:

- Electric heating
- PV's
- LED lighting
- Natural Ventilation
- Low VOC content finishes
- Major energy uses to be sub metered
- Energy efficient lifts
- Energy efficient white goods
- Sustainable Transport measures including secure and covered cycle storage, electric vehicle charging points, public transport information system
- Water efficient sanitary fittings
- Water leak detection system and sanitary supply shut-off
- Materials specification to include EPD's (Environmental Product Declarations) where possible
- Materials to be responsibly sourced
- Specification of durable and robust materials
- Extensive landscaping proposals
- Sedum green roof

PROJECT DETAILS: Residential care home with 64 ensuite bedrooms, communal spaces, and care services.

SITE LOCATION AND AMENITIES: The site is located close to Barton's Road and bus stops. The scheme has a local demand for care, as such residents are likely to have families within close proximity. This proximity helps to reduce dependence on the private car for staff and visiting family members, thereby reducing pollution.

TRANSPORTATION: The site is located near to public transport (bus) routes 20/21 from Wakefords Way, which run into Havant town centre and Gunwharf Quay in Portsmouth.

LAND USE: The proposed scheme is located on undeveloped land adjacent to Brookvale housing estate to the south.

SOCIO ECONOMIC IMPACT: The location and the nature of the proposed development will add to the range of accommodation available to elderly people in the area, and provide over 60 local jobs.

ENERGY EFFICIENCY: Each separate room within the accommodation will be designed with independent thermal controls as standard. Communal lighting will be LED and linked to daylight and/or movement sensors.

The scheme will include PV solar panels and adopt an all electric approach to heating with air source heat pumps, as part of the BREEAM renewable energy requirement.

HCFC (Hydro-chloro-fluro Carbon) Emissions: HCFC's (ozone depleting substances) within the building will be reduced and where possible these products will not be included in the specification. The standard specification already includes zero ozone depleting insulation types such as 2L2 super class 0 for external walls, Birtley for window lintels, zero ODP and low GWP insulations are used within the ground floor construction, Rockwool mineral fibre for roofs, Pulsar coil for the hot water tank and Armaflex from the pipe work.

DISABILITY ACCESS: The proposal is designed to allow for ease of access and movement for people with disabilities. (See access statement)

WASTE RECYCLING MANAGEMENT: The proposed development will include communal refuse and recycling storage facilities.

All demolition contracts, where required, will be awarded on an "all risk clear site" basis, meaning that the contractors will reuse salvageable materials where possible (bricks and blocks being converted to hardcore, roofing materials and undamaged timber being resold for construction and renovation purposes).

In addition, the applicant encourages suppliers to reduce surplus packaging for materials, fixtures and fittings and seek to minimise the number and effect of deliveries. Wherever feasible, natural raw materials and products will be used in the construction process. Any packaging such as MDF, wood or plastic wrapping will be reused to protect fragile building element during the building process such as metallic sinks, porcelain products etc.

CONSTRUCTION STATEMENT: It is company policy that a comprehensive pre-contract construction management plan is to be developed by the future contractor well in advance of any work on site.

AIR QUALITY ASSESSMENT: A traffic management plan is not yet completed but we can confirm that it will be a requirement of our orders for all our suppliers that deliveries are routed via an agreed route, avoiding if at all possible heavily trafficked areas in order to minimise impact.



5.1 SUSTAINABILITY

NOISE AND VIBRATION IMPACT ASSESSMENT: The applicant is very sensitive about this issue. The scheme is built under a carefully considered Construction Management Plan. The normal day-to-day noise making activities are usually proscribed by the use of noise suppressed equipment. Silo mixers (electric) silenced compressors and generators etc. A newsletter is sent to the nearby residents on a regular basis keeping them informed of the site activities.

Further to preliminary site investigations, it is anticipated that conventional foundations will be suitable on this site, rather than a piled solution, thus reducing noise and vibration caused by below ground works.

SITE WASTE MANAGEMENT: The contractor will be required to be a member of WRAP. (Waste Resources Action Programme)

WATER RESOURCES: The proposed scheme has been designated to achieve a 110L of Water per person, per day reducing the impact on water resources as well as limit nitrate discharge into the Solent Maritime SAC.

PUBLIC REALM: The proposal has been designed to respect and enhance its setting as described earlier in this statement. The scale, height, mass and disposition of the proposal are appropriate to the wider locality relevant to the context in which the site is set. The layout of the connecting roads, pavements and spaces achieve a balance between good accesses into the development and secure private amenity for its residents.

SOCIAL NEEDS: A handover pack will be provided for the future care provider operating the home, detailing information about their new accommodation including advice on the energy efficient appliances installed, addresses and telephone numbers for essential local services, clubs and organisations.

ENVIRONMENTAL SUSTAINABILITY: The proposed development will include communal refuse and recycling storage facilities. Pre-fabricated concrete products and, most probably, mortar silos, will be used to further reduce on site water use.

Fuel use will be minimised during construction by arranging for mains power to be installed as soon as possible.

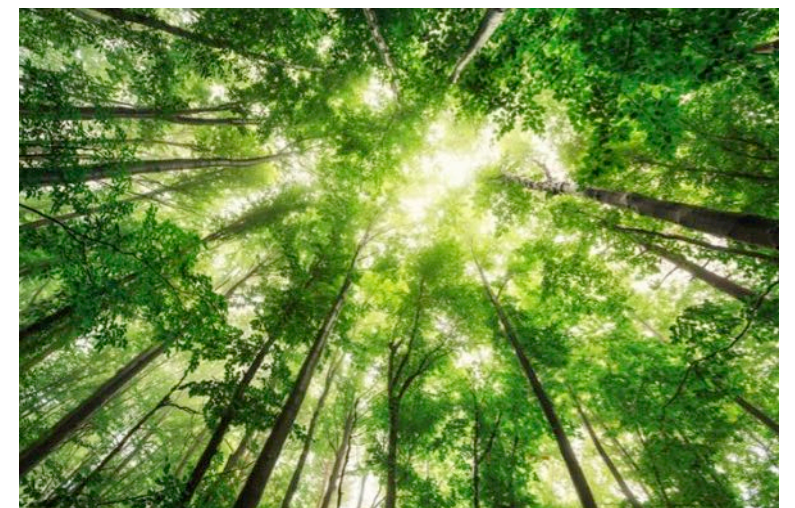
The applicant will issue Best Practice Guidelines to site staff on minimising and managing waste together with a system for assessing our waste contractors to emphasise environmental issues as well as regulatory, performance and cost aspects.

SOCIAL SUSTAINABILITY: The applicant will be a good neighbour during the construction process and have a Considerate Construction Policy. This involves minimising noise at unsociable hours and a constant focus on site presentation.

Site operatives will be given a health and safety induction before starting construction on site. The applicant has a Health and Safety Policy that ensures that issues are addressed on a regular basis at all levels, and has signed up to the newly established Health & Safety Charter, which promotes industry wide improvement.

Health and Safety issues are on the agenda at all Board meetings.

ECONOMIC SUSTAINABILITY: The emphasis on local sourcing of effective contractors and sub-contractors who can deliver their services to the construction site on time provides an opportunity for the applicant to contribute to the economic viability of the local and surrounding areas.



5.2 SUSTAINABILITY

BREEAM & LZC TECHNOLOGIES IN DESIGN

BREEAM: The proposed development is designed to achieve a BREEAM 'very good' standard. A BREEAM pre-assessment will be submitted in support of the full planning application to demonstrate this standard.

The Building Research Establishment's Environmental Assessment Method is a voluntary scheme that aims to quantify and reduce the environmental burdens of buildings on the environment. Projects that aspire to these BREEAM standards are rewarded for taking positive steps to minimise the environmental impacts of the development. Projects are assessed using a credit based system.

These credits are categorised as follows: Management, Health and Wellbeing, Energy, Transport, Water, Materials, Waste, Land use and Ecology, and Pollution.

LZC TECHNOLOGIES: Passive design and low zero carbon analyses have been conducted in order to assess the viability of certain LZC technologies and their impact on the level of CO2 emissions produced as a result of the proposed development. Those technologies which have been deemed viable are described below;

SOLAR PHOTOVOLTAIC PANELS: Solar PV panels convert solar radiation into electrical energy and should not be confused with 'solar panels' which use the sun's energy to heat water or air for the purposes of water and space heating. The panels are ideally integrated into the building's unshaded south façade or pitched roof space. PV panels at a 30 degree incline are proposed across the flat roof area of the development.

Other application of PV technology that have been considered include, solar glazing and PV solar shading devices. Solar glazing can be used wherever conventional glass would be specified.

Solar louvers utilise PV panels to form solar shading devices such as brise soleil and have the potential to be a highly effective method to control overheating and reduce glare.

SOLAR THERMAL: Solar thermal energy can be used to contribute towards space heating and hot water requirements. In the UK, there is a tendency to focus application on hot water installations due to the limited solar availability during the space heating season.

AIR SOURCE HEAT PUMPS: Electric driven air source heat pumps extract thermal energy from the surrounding air and transfer it to the working fluid. VRF technology provides an opportunity to heat and cool separate spaces and recover the heat between them. A downside to electric driven air source heat pumps is that they require a defrost cycle in extreme conditions which can effect the efficiency of the overall system. Similarly, heating capacity is reduced if ambient temperatures decrease below 5dC.

GAS FIRED COMBINED HEAT & POWER (CHP): A CHP installation is effectively an on-site mini power plant providing both electrical power and thermal heat. CHP is strictly an energy efficiency measure rather than a renewable energy technology.

A CHP system operates by burning a primary fuel (normally natural gas) by use of either a reciprocating engine or turbine, which in turn drive an alternator to generate electrical power. The heat emitted by the engine and exhaust gases is recovered and used to heat the building or to provide hot water.

CONCLUSIONS: The report has identified that three renewable / low zero carbon technologies (solar photovoltaic, air source heat pumps and mini CHP) would be suitable technology for the scheme.

A solar thermal solution has been discounted because in order to meet the 19% target, the system size would be circa twice that required and therefore further LZC technology would be required to make up the shortfall in energy targets once the solar thermal system is scaled down. This, alongside the calculated high payback period makes this technology unsuitable for this scheme.

It has been calculated that approximately 450m2 of solar photovoltaic (PV) mono crystalline roof panels are required to meet the local planning authorities energy generation targets of 19% of the buildings overall demand. It is however questionable whether the proposed building format and layout would support the required size of installation alone, and as such this will only form part of the overall solution.

A detailed analysis by specialists is a key part of the assessment in achieving the 19% energy generation

A full capex and opex study will be undertaken to confirm viability, possibly based upon expected rather than Part L output figures for heating and hot water demands.

In summary, the technologies boast attractive CO2 savings with current industry recognised carbon conversion factors. With the forthcoming expected changes to align gas and grid electricity carbon factors due to grid decarbonisation, the carbon savings will only increase (quite significantly) and therefore on this basis the technologies inclusion in the scheme are a positive step forward.

With a small scale CHP option, the technology is suitable due to the buildings large hot water and heating demands and although carbon savings are relatively low the report would again support inclusion due to the low capital installation cost.

However, it should be noted that the maintenance of CHP equipment although discounted from this study would likely push out the calculated payback period from 10 to circa 20 years.

To conclude, all technologies above would be suitable for inclusion within the scheme with the exception of solar thermal. It is calculated that a combination of two of the remaining three technologies would provide a suitable balance between capital expenditure and meeting the required energy targets once final calculations have been simulated through the next stages of design.



5.3 SUSTAINABILITY

BREEAM & PASSIVE DESIGN ANALYSIS

With the current emphasis placed on energy conservation, the client is keen to enhance the development's sustainable credentials both from an estates and public perspective, by delivering an environmentally responsible building. To this end, the proposed design will incorporate passive design and best-practice measures, so as to exceed the requirements of the current (2013 Edition) Part L Building Regulations.

In order to deliver an environmentally responsible building, an exemplar approach is being proposed based on low energy design principles. In summary, this approach involves energy demand minimisation through effective building form and orientation, good envelope design and proficient use of services; such that the building itself is being used as the primary environmental modifier.

Long term energy benefits are best realised by reducing the inherent energy demand of the building in the first instance. These benefits are described and quantified below:

BUILDING LOCATION: The proposed development is located at a low altitude and relatively close to the coast. As a result, these types of buildings will have a lower heating demand than those located at higher altitudes. Similarly, the semi-rural nature of the site means that the ambient air temperature is lower than those in more urban environments, allowing for increased cooling during hotter, summer months.

WEATHER AND MICROCLIMATE: The developments proximity to the coast often experience less extremes in weather conditions across the year, experiencing cooler summers and milder winters. Inland buildings will have a continental climate with increased need for cooling and heating systems. The building is located along the southern coast of the UK and will generally require further cooling than those located in the north as the average temperatures in the south will be higher due to warm winds blowing from the tropics.

LANDSCAPE: Proposed soft landscaping and retained trees/vegetation will provide shading during the summer months.

However, during the winter when trees lose their leaves, natural sunlight will be permitted to provide increased natural heating during colder months.

LAYOUT, ORIENTATION AND FORM: The layout, orientation and form of a building can influence many key features of the development. By orientating the building, so that the long sides of the building face north and south, glare arising from the low early morning and evening sun is designed out. Similarly, the articulated building form increases access to positive outlook for residents and natural daylight.

BUILDING FABRIC THERMAL PERFORMANCE: For the new residential care home development, significant improvements on the minimum values are proposed to minimise operational energy demand and further exceed Part L requirements.

AIR PERMEABILITY: The air tightness of a building impacts on its energy consumption and hence the CO2 emissions. The more air tight the building, the less energy is required to heat the building in winter.

Part L2 of the current (2013 Edition) Building Regulations states that air permeability must be less than 10m³/hr per m² @ 50Pa. Experience working with the new regulations has shown that it is usually necessary to make significant improvements on the statutory limit to achieve CO2 emission compliance. A new build development should target a value of 3-5m³/hr per m² @ 50Pa.

DAYLIGHT: Increasing daylight factors is achieved through careful design and consideration of the window size and position. Rooms with high window head heights enable daylight to penetrate deeper into the room, whereas full height windows to the floor encourage very high daylight factors adjacent to them, spoiling the uniformity across the room.

Too much or badly positioned glazing can also cause excessive glare and result in building users closing the blinds and turning on the artificial lights.

High levels of natural daylight will be provided, wherever possible, through effective window design, for example by utilising high floor to ceiling heights and high window heads. Day rooms, lounges and other communal spaces shall be targeted to have improved day light provision with high window head heights.

SOLAR SHADING: At this stage we do not expect to see much need for solar shading to the new residential care home development. The rooms facing south for a typical development of this type are normally provided with blinds for glare control and privacy. There is little glazing on east and west elevations in relation to the proportion of wall space and no risk of excessive gains to the north.

VENTILLATION STRATEGY: Residential ensuite bedrooms are proposed as naturally ventilated rooms. Living room areas, tea rooms and garden lounges are proposed as using a hybrid ventilation system.

ARTIFICIAL LIGHTING: It is imperative that the lighting design philosophy for the new residential care home development provides the correct quality of lighting with minimum energy input and hence reduce internal heat gains. High light output luminaires combined with low energy lamps, will be used throughout the project. Lighting control systems will include daylight sensing and absence detection to ensure that the electrical energy and associated carbon emissions of the building lighting installation are kept to a minimum. Output performance or Light Output Ratios (LORs) will exceed 80%.

BMS: For the new residential care home development, as well as being used to control services, the BMS could be utilised to collate metering data and identify irregularities in energy consumption (effectively a Building Energy Management System [BEMS]). This information could then be used to provide a meaningful input for the purposes of energy management for energy/CO2 savings.

CONCLUSIONS: In order to deliver an environmentally responsible building, an innovative approach is being proposed, based on low energy design principles.

In summary, this approach involves energy demand minimisation through effective building form and orientation, good envelope design and proficient use of services; such that the building itself is being used as the primary environmental modifier.

6. ACCESS STATEMENT

6.0 ACCESS STATEMENT

GENERAL PRINCIPLES

The scheme is designed for full accessibility, is barrier free throughout, and is fully inclusive. This is of fundamental importance to the occupants, staff and visitors. Access into the building from the access road will be barrier free despite the level changes.

The design for accessibility extends beyond mobility issues and accommodates guidance derived from RNIB on, for example, colour contrast, and the principles of designing for dementia, as set out in design guidance from the Dementia Services Development Centre, University of Stirling, which is recognised as an authority in the field.

INTERNAL SUMMARY

The scheme achieves full accessibility, with the internal environment meeting the highest possible level designed to create a dementia enabled space, that meets the operational demands for a dementia care centre.

EXTERNAL SUMMARY

External access is level from the public highway, and the main doors are automatic opening. Level access is provided to private terraces. The site has a gradual slope from north to south. Adequate car and cycle parking is provided in parking courts adjacent to the scheme, with disabled parking spaces close to the main entrance doors and passenger lifts internally. A drop off zone has been provided close to the entrance allowing for easy delivery of service items, as well as making it easier for residents and their families to access the scheme.

Access to and around the buildings is fully accessible for people with disabilities. A variety of surfaces have been used, which reflect the usage, such as resin bonded bound gravel, concrete paving slabs and tarmac. Throughout the site, the pedestrian has the right of way. Vehicles are restricted to the designated access and parking zones. Cyclists access the cycle stands adjacent to the main entrance and secure storage to the side access.

10% of the parking spaces have been designed to accessible standards and are located as close as possible to the entrances and access lifts for wheelchair accessible buildings. The size of these spaces is 2.4m x 4.8m, with 1.2m transfer strips to both sides and rear.

The gardens are designed to accord with best practice dementia designs including sensory landscaping principles.

All external pathways are a minimum of 1800mm wide and have a suitable surface for wheelchairs. Surfaces are indicated on the landscape architect's drawings. All planting arrangements ensure that 2.1m clear headroom is provided to pathways.

EXTERNAL FINISHES

Contrast in colour will be used to denote hazards and aid comprehension. Where tactile surfaces are used, care will be taken to ensure that the surfaces are appropriate and to recognized national standards. There will be a clear demarcation between pedestrian and vehicular routes.

EXTERNAL LIGHTING

An external lighting design strategy will be developed to ensure that it meets the needs of disabled people. This will take into account the working day and climatic conditions. Light will be graded between these areas to avoid sudden changes in lighting levels.

ENTRANCES

All entrances will provide an appropriate sense of arrival and accessibility. All entrance/exit doors will provide a clear width opening of 1000mm, with the main entrance doors automatically opening. A minimum width of 800mm clear will be provided to all non entry doors, such as fire exits, store rooms or plant rooms. Manifestation will be provided to all glazed screens and doors at two levels in a solid colour to be confirmed.



6.1 ACCESS STATEMENT

CIRCULATION

Internal circulation will provide a sense of location and direction to assist people with sight impairments. Colour will be used to assist this provision. Circulation areas will not be less than 1200mm in width.

There are two wheelchair accessible lifts within the buildings, one of the lifts is designed to stretcher standards (for 13 persons), the other is an 8-person lifts.

STAIRS

Stairs will meet the requirements in Part M 2015 with the preferred dimensions of maximum 170mm rise and 280mm going. The detail design of stairs will be developed in accordance with the Part M requirements for internal stepped access as set out in the Building Regulations. Tonal contrast is provided to the riser and going of all the internal stairs.

DOORS

All internal doors will meet current Building Regulation requirements, including 800mm clear opening widths, having a 300mm leading edge, vision panels, manifestation and tonal contrast other than any doors in folding partitions, non rooms would be left without suitable doors. Accessible toilet doors will be a 1026mm leaf to ensure the correct opening width, with wide grab rails attached to the back of the door.

WINDOWS

Low level windows will be provided to ensure access for disabled people. The height will be suitable for wheelchair users and the mechanism will be usable by occupants with reduced manual dexterity.

EVACUATION

Appropriate fire zones, refuge spaces, fire exit points will be developed and agreed with statutory authorities as the detailed design develops. A fire risk assessment will be undertaken and a fire evacuation strategy developed in conjunction with the care provider to ensure detection and safe evacuation of all residents.

Fig. 1: Figurative and Picture Signage

Fig. 2: WCs door tone uniform across scheme

Fig. 3: Blind to mirror for dementia

Fig. 4: Glass fronted kitchen units

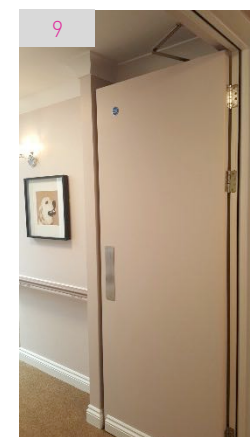
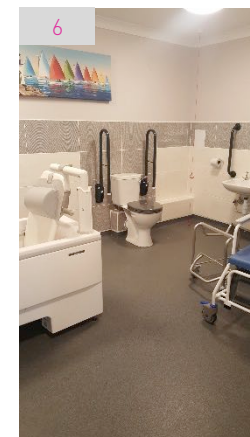
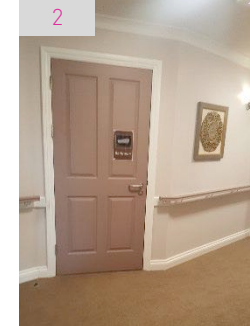
Fig. 5: Spatial visual access

Fig. 6: Assisted accessible bathrooms

Fig. 7: Good access improves wellbeing

Fig. 8: no resident doors "blind" to residents

Fig. 9: Recessed doors aid access



Wellbeing is promoted through exemplar access

THE PROPOSED DEVELOPMENT OFFERS AN OPPORTUNITY TO
BRING HIGH QUALITY CARE AND SUPPORT SERVICES FOR
THOSE IN NEED TO THE LOCAL COMMUNITY. IN ADDITION, THE
RE-INVIGORATION OF THE SITE PROVIDES AN OPPORTUNITY TO
PROVIDE A DIVERSE LANDSCAPE FOR BOTH RESIDENTS,
VISITORS AND THE ENVIRONMENT.

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