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Design and Access Statement

In support of the following application

Redevelopment of former sports centre site to provide a new residential development with 44 Passivhaus dwellings including car parking, amenity spaces and access.

Clifton Hill Sports Centre Site, Exeter

Rev 01/May 2020

CITY LIVING

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1.0 The Project

This statement was prepared in support of a planning application for the redevelopment of the Clifton Hill Sports Centre site to provide 44 new dwellings including car parking, changes to highway access and amenity space

1.1 The Project Summary

Following the closure of Clifton Hill Leisure Centre and subsequent Council resolutions regarding the sale of the site, Exeter City Living is bringing forward proposals for a mixed development of 44 modern houses and apartments on this site at Clifton Hill. These new homes will be constructed to the highest quality and environmental standards to reduce energy costs and create attractive, healthy family homes.

1.2 The Project Team

The client's aspiration to deliver high quality, exemplar homes designed to the highest standards of sustainable, low carbon design, led to the appointment of multidisciplinary team of consultants.

The Applicant

The applicant, Exeter City Living, was created in June 2018 by Exeter City Council as a development delivery company to deliver market sale and affordable new homes for the residents of Exeter. Working alongside the Council Housing Team, Exeter City Living will boost the council's response to the city's housing needs, by

- building and managing more and better homes for Exeter
- helping to reduce pressure on the council's housing waiting list, and
- improving the lives of residents by building homes that are low energy, healthy and climate-resilient.

The Design Team

The client employed the following consultants to develop the vision and designs submitted with this application:

Agent, Architecture and Passivhaus Design, **SE3Design**

Master planning and Landscape, **CliftonEmerydesign**

Highways and Drainage Engineer , **AWP**

Ecologist, **Devon Wildlife Consultants**

Geotechnical Engineers, **South West Geotechnical**

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1.3 The Primary Design Objectives

The design philosophy for the development was based on five key elements to deliver healthy, sustainable, low carbon family homes in the centre of Exeter:

Low Carbon

The designs focussed on a solar design paired with a fabric first approach based on Passivhaus principles to first reduce the energy demand of a building and thus reducing its carbon emissions before applying renewable energy technologies to create low carbon homes which will help defeat fuel poverty and tackle climate change at the same time.

Healthy and Wellbeing

Healthy design principles incorporated from the outset provide an uplifting and life enhancing environment.

Flexible and Adaptable

Thoughtfully designed and incorporating lifetime homes standards to create and encourage better living environments for everyone - from raising small children to coping with illness or dealing with reduced mobility in later life.

Climate Resilient

Considering the likely effects form predicted climate change and designing in adaptation strategies to future proof the development against increases in storm severity, changes in rainfall and increased risk from overheating without adding costs to a project.

Integrated Landscape

Evidence suggest that access to nature can provide multiple benefits for health and wellbeing. These benefits from nature include improvements to physical health (through increased physical activity) and improvements to psychological and social wellbeing, including reductions in stress and anxiety, increased positive mood, self-esteem and resilience, improvements in social functioning and in social inclusion. Environments rich in wildlife are also associated with improved wellbeing, through emotional, social and psychological benefits.

2.0 Background and Local Policy

The following local policies and planning considerations have informed the design of the scheme.

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2.1 Planning policies

The following planning policies are relevant to the project:

National Planning Policy

National Planning Policy Framework
The National Design Guide 2019

Local Planning Policy Documents

The development plan comprises the Exeter Local Development Framework Core Strategy 2012 and the Exeter Local Plan First Review 1995-2011 (saved policies). The Development Delivery DPD 2015 (publication Draft) also carries limited weight in decision making.

Exeter Local Development Framework Core Strategy

CP3	Housing
CP4	Housing Density
CP5	Meeting Housing Needs
CP7	Affordable Housing
CP9	Transport
CP12	Flood Risk
CP14	Renewable & Low Carbon Energy
CP15	Sustainable Construction
CP17	Design and Local Distinctiveness

Exeter Local Plan First Review 1995-2011

AP1	Design and Location of Development
AP2	Sequential Approach
H1	Housing land search sequence
H2	Location Priorities
H5	Diversity of Housing
H7	Housing for Disabled People
L3	Protection of open space
L4	Provision of playing pitches
L7	Local Sporting Facilities
T1	Hierarchy of modes of transport
T2	Accessibility criteria
T3	Encouraging use of sustainable modes of transport
T10	Parking Standards
EN4	Flood Risk
DG1	Objectives of Urban Design
DG2	Energy conservation
DG4	Residential Layout & Amenity
DG6	Vehicle Circulation & Car Parking in Residential Developments
DG7	Crime prevention and safety

Exeter Development Delivery Document - Publication Version 2015

DD1	Sustainable Development
DD7	Allocated Housing Sites
DD12	Purpose Built Student Accommodation

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DD13 Residential Amenity
DD20 Sustainable Movement
DD21 Parking
DD25 Design Principles
DD26 Designing out Crime

The following supplementary planning documents are relevant:

Belmont Conservation Area and Management Plan May 2007.
Sustainable Transport SPD March 2013
Affordable Housing SPD April 2014
Planning Obligations SPD April 2014
Public Open Space SPD September 2005
Residential Design Guide SPD September 2010
Trees and Development SPD September 2009

2.2 Net Zero Exeter 2030: A Roadmap to Carbon Neutrality

In July 2019, Exeter City Council declared a climate emergency and committed to making Exeter a carbon-neutral (or net zero carbon) city by 2030.

The council developed a road map on how it is intended to achieve this ambitious target which included four themes and twelve goals. The proposals support Exeter's ambitions and in particular the following aspects have been addressed by the designs submitted with this application:

Theme One : Energy

- Reduced Energy Consumption
- Access to Renewable Energy
- Affordable Healthy Homes
-

Theme Two : Mobility

- Reliable Journeys and Resilient Roads
- Reduced Dominance of Cars
-

Theme Three: Sustainability

- Green Spaces and Local Produce
- Clean Air
- Efficient Resource Management
- Regenerative Design

2.3 The Liveable Exeter Housing Delivery Programme

The vision document Liveable Exeter outlines the potential for delivering a transformational housing programme in Exeter . To support the delivery of new sustainable, healthy, homes and communities The Future Places Toolkit has been developed.
The future place toolkit set out 12 ingredients for future placemaking and these have been carefully considered when developing the proposals:

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- Prioritise Healthy Travel
- Less Cars- More Trees
- Park and Move
- Less Parking-More People
- Reclaim Roads
- Diversify Uses
- Future Building Interfaces
- Physically Connected
- Future Building typologies
- Digitally Responsive
- City landmarking
- Distinct Identities.

3.0 Pre-application Consultations

Consultations with key stakeholders, the public, the local planning authority, Devon Highways, utility providers and local interest groups have been undertaken during the design development and their views have informed the designs.

3.1 Local Planning Authority

A pre-application consultation was undertaken 27/02/2020 with the Local Planning Authority prior to the submission of this application. The LPA's detailed feedback was considered within the proposals.

3.2 Local Community

A 2 day public consultation event was held in early March to inform about the development. Plans and illustrations of the vision for the site as well as proposed development density, massing and relationships were presented.

Further consultation was carried out via a website (Cliftonhilldevelopment.co.uk) and social media.

Please refer to ABC's statement of community involvement submitted with this application for further details.

3.3 Design Review Panel

In April 2020 the proposals were presented to the SW Design review panel. The Panel recognised the quality, of work that has been undertaken. Based upon the information available at the time the Panel confirmed that they were supportive of the design proposals. Generally, it was felt that the site organization is well considered. Furthermore, the Panel noted that the unit sizes and types have been informed by and complement other developments being proposed for nearby sites, and this consideration is welcomed and supported.

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The Panel is supportive of the proposed materials palette and feels that this will result in a calm architecture that acknowledges the surrounding historical palette in an appropriately contemporary manner. The Panel acknowledges the design team's assertion that it is no longer possible to locally source bricks that would match the historic brick used in the neighbouring properties. It is therefore considered that it would be a folly to source bricks from much further afield to appear as if they are local; it is considered more appropriate to create an architecture that more honestly reflects the contemporary economic reality regarding the supply of materials. Aesthetically, the Panel supports the use of a material palette that is reflective of the tone and range of materials used historically in the surrounding area, whilst providing a contemporary juxtaposition. It is considered that this juxtaposition between the existing historic buildings and the new development is more respectful to the existing, resulting a clear visual distinction between the different periods of architecture within the street scene.

A copy of the panel's report has been submitted with this application.

3.4 Other Stakeholders

The team started to engage with the RNIB before the lockdown and in relation to the 'Green Street' and it is intended that this engagement will be continued / intensified during the detailed design stage.

4.0 The Site

The site known as 'Clifton Hill', comprises the existing leisure centre facility, associated car parking area and adjacent rifle range building.

The site is bounded by residential properties along Portland Street on the south eastern boundary, Belmont Park to the North west, and a green space, golf range and ski slope at the rear of the site to the East.

4.1 Topography and levels

The natural levels of the site generally incline from Belmont Road towards the existing green space on its south eastern edge - there is broadly a 7m level change.
When the leisure centre was built during the 1980's, the land was engineered and re-profiled to provide a flat platform for the building. This included the building of a retaining wall running from east to west. Access material was used as fill behind the leisure centre.

4.2 Existing buildings

The site is occupied by the redundant Clifton Hill Leisure Centre and associated car park, 'The Brick Office' building (which is locally listed for it's historic interest) and the Rifle Range, both currently used for storage.
The ski slope, golf driving range and several neighbouring properties have rights of way over the site and the development has been designed to maintain access to these and to the rear

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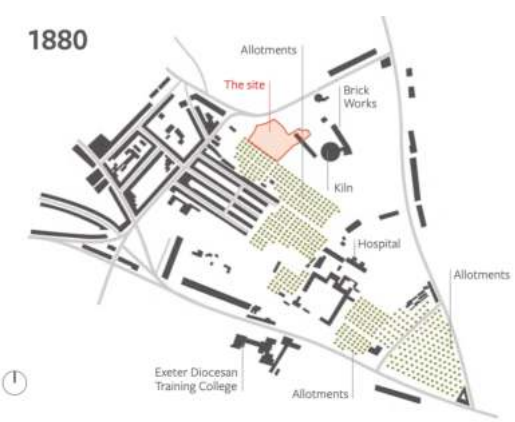
of properties on Clifton Hill and Portland Street. Existing access arrangements currently exist near the rifle range.

4.3 Site history

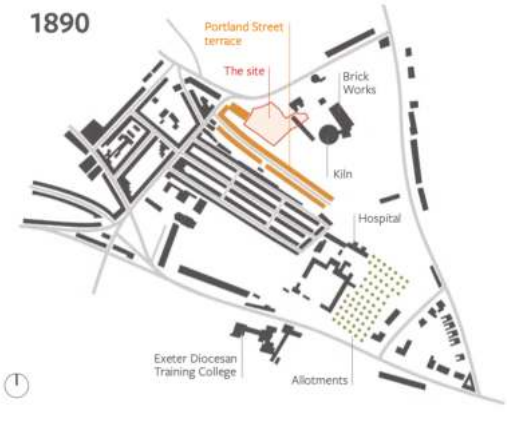
In the 19th-century there were four brickworks in the Newtown area, among them the 'Workhouse' which was situated on the Clifton Hill Sports Centre and golf driving range site. It was first mentioned in April 1825 as the City Brickfield.

Historical maps from 1880 indicate that the northern part of the sports centre site was occupied by a kiln, with the clay pits and brickwork located on the nearby golf driving range.

The brickwork office, a locally listed building, is the only surviving original structure and features a wide range of ornamental bricks produced on site.



Above: Historic map of Exeter (1880)



Above: Historic map of Exeter (1890)

The southern part of the site was used as allotment gardens until 1905, when an extension of the brickwork replaced them. By the early 1950s the brickwork had been closed and the claypits on the golf driving range were turned into a landfill. In the 1960s the landfill site had been covered and sport changing rooms had been erected on the site. The area was used as an athletic running track during the 1970's, before the Exeter Arena was opened.

In 1984 the Clifton Hill Sports Centre was built. It was part of 21 low cost leisure centres commissioned by the British Sports Council across the country.

4.4 Tress on site

There are a number of trees within the site and also close to the site boundaries on adjacent sites. Please refer to the Arboricultural Consultant's Report submitted as part of the application.

4.5 Ecology

Devon Wildlife Consultants have carried out an ecological survey of the site and their feedback and recommendations have informed the designs. Their report has been included in the submission documentation.

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4.6 Contamination

Site investigations including a contamination assessment has been carried out due to part of the site being used as car park and the proximity of a nearby historical landfill site on the golf driving range. A detailed survey of contamination and an Unexploded Ordnance assessment has been provided by SW Geotechnical and their report has been submitted in support of the application.

The assessment found the site suitable for residential development and all their recommendation have and will be incorporated into the detailed design of the scheme.

4.7 Air Quality Assessment

An air quality/ground gas assessment was carried out be SW Geotech and details have been included within their report submitted with this application. The report concluded the following:

The site is in an area where <1% of properties are above the action level for radon. Therefore, no radon protective measures are necessary.

The site itself and land immediately to the east of the site is registered as a historical landfill known to produce ground gasses.

Monitoring wells were installed along the eastern boundary to determine whether any gasses are migrating on to the development site.

Gas monitoring data confirms the gas concentrations recorded in their boreholes within the development area are generally low with no methane recorded and no flow associated with carbon dioxide.

The development would be classified a Type A building in accordance with BS8485 (2015) and so the minimum gas protection score required is 0, which would ordinarily not require specific gas protection measures. However, given the close proximity to the landfill, it was recommended by the specialist consultant that the site is upgraded to CS2 – low hazard potential- which increases the required score to 3.5

To achieve adequate protection, a suspended block and beam floor slab has been recommended with a clear void beneath the slab along with a gas resistant membrane with a methane gas transmission rate <40.0 ml/day/m^2/atm (average) for sheet and joints (tested in accordance with BS ISO 15105-1 manometric method).

This will be adopted and implemented within the details and construction of the scheme.

4.8 Flooding

A risk of surface water flooding has been identified near the site and an FRA (flood risk assessment) and sustainable surface water drainage strategy has been prepared by AWP in support of the application.

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The appraisal concluded that the development will be safe from flooding throughout its life time and will actively reduce flood risk to properties within the downstream catchment.

4.9 Site appraisal

The proposed development for residential use will involve the demolition of the existing leisure facility and rifle range. New facilities for both of these uses have been proposed within the city when the city council decided in June 2018 to close the Clifton Hill Leisure centre. The leisure centre is being replaced with Exeter City Council's St Sidwells Point leisure centre, a new modern facility currently under construction on the former bus station site.

Other sports facilities in the area like the ski slope and golf driving range as well as Belmont Park will not be affected by the development.

In addition, the proposals submitted with this application have been developed with a strong focus on providing new quality public open space and also enhancing existing open space on adjacent sites. Please also refer to landscape proposals below.

The site as a whole is considered to be an unallocated brownfield urban site, and as such should be considered favourably in the search sequence set out in Exeter Local Plan Policy H1. Being a city centre site, it should be developed at the highest density that can be achieved, whilst meeting criteria set out in policies H2 and DG4 of the Local Plan and Policy CP4 of the Core Strategy.

5.0 Design proposals

The local context, the site's location between two open green spaces and the Belmont Area Conservation area were key considerations when developing the urban design concepts.

5.1 Conservation Area

The site is within Belmont Conservation Area and the Conservation Area Appraisal has informed the design

The planning authority's area appraisal prepared in 2007 identifies the following key features contributing to the particular character of the area:

- Historic suburb converging on an important route into the East Gate of the city.
- A 15th century chapel and more recent alms houses stand at a focal point where the historic routes form a junction.
- Many terraces display strong architectural features, giving presence and character to the street scene.
- A large number of listed and other historic buildings with some good modern infill.
- A mix of development from modern multi storey buildings to large formal properties and small terraced cottages.

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- Attractive public park, other areas of green space and trees soften the urban character and appearance.
- High brick boundary walls, railings and small, enclosed front gardens are particular features throughout the area.
-

Figure : Belmont Conservation Area Extent

The appraisal includes reference to the 'Brick office', a locally listed building on the site, which is to be retained and which has a positive contribution to the Conservation Area. The Leisure Centre was considered to make a neutral impact on the CA and the LPA's pre-application report confirmed no objection to its demolition on conservation grounds.

5.2 Local Context

The area around Belmont Park is dominated by 3 storey Georgian terraced town houses with strong frontages onto public open spaces, mixed with Victorian terraces that face the open space with their gable ends. Front gardens with railings and low brick walls create defensible spaces and large, generous glazing provide surveillance and a feel of security.

The architectural approach has been informed by the local context in order to feel 'of Newtown.' The proposals draw upon the height and proportions of existing neighbouring Georgian and Victorian town houses surrounding Belmont Park ensuring the final development will be both of its time and in keeping with the existing context.

Local Context and examples of residential dwellings in the surrounding area

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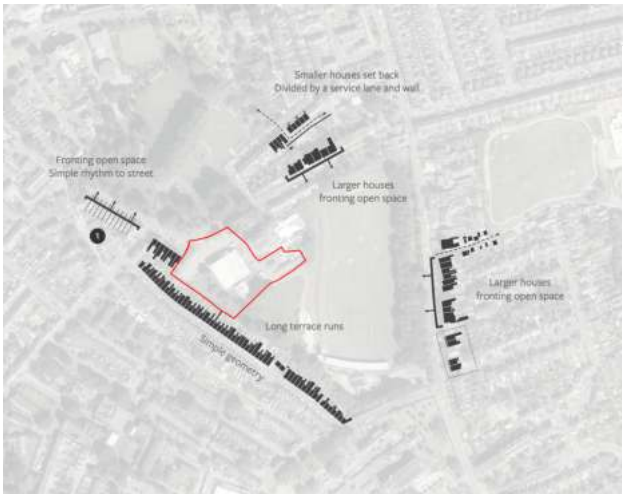

Figure: Terraces facing open spaces

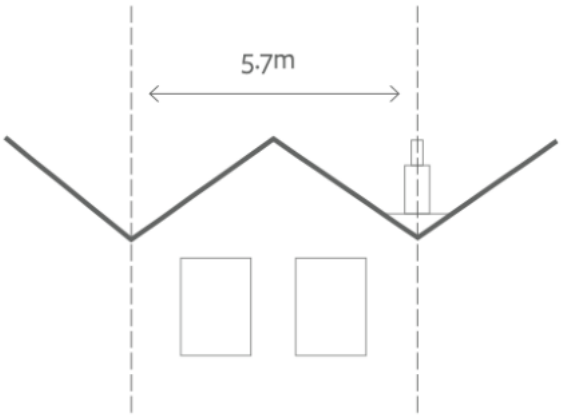

Figure: existing façade principles

The proposed massing, scale, rhythm and orientation follows this urban grain. The homes have been designed to create attractive, green, well-lit public streets whilst also providing private garden and courtyard spaces for amenity.

To respond to the local character, proposed buildings have been designed as ‘families’ of three storey terraces which in themselves respond to their different location on the site and in doing so reflect the architectural variety of Newtown. The scheme is tied together through the use of common materials (facing brick with colours inspired by the wide range of local historic bricks), a common theme of strong frontages with generous windows facing a pedestrianised public realm with front gardens, and boundary treatments (brick walls and railings) in keeping with the local context.

The houses and apartments have been individually designed to respond to their specific location on the site and provide a mixture of property types.

The vision for the project, a high quality architecturally designed residential development, was furthermore informed by award winning housing design principles.

The proposals take inspiration from surrounding buildings as well as exemplar UK residential schemes to blend in with the existing neighbourhood and at the same time create a distinct sense of place.

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5.3 Urban Design Concept

The site is located between two large open green spaces. Whilst Belmont Park to the north is a well used formal park and playing field, the green space at the rear is blocked from views and hidden behind the existing leisure centre. This and the lack of surveillance has reportedly led to antisocial behaviour in the past and the green space being neglected.

It is proposed to deconstruct the existing sports centre, car parking and rifle range whilst the Brick office is to be retained. This will open up the site and offer the wider Newtown community the opportunity for better access and inclusion of the green space to the rear.

Short terraces of 4-6 3 storey townhouses of similar height and width as the Georgian houses on Belmont Road are proposed along Clifton Hill, facing Belmont Park to continue the existing street scene and 'mend' the gap created by the leisure centre development.

A similar principle is proposed for the rear facing the 'green space' and driving range. This will help create an active frontage providing natural surveillance over both green spaces and contributing to the feeling of safety.

Both parks will be linked with a 'green street' which forms the heart of the new development. It crosses the site and provides a direct pedestrian and cycle link to the rear of the site. The green street will be designed to create a wildlife corridor connecting both Belmont Park and the green space and to draw the public into and through the site.

It has been generously sized to provide the feel and width of a usable open space, allowing for socialising, play activity as well as for generous planting and mature native trees. The green street will be the heart of the scheme and lined by terraced townhouses, continuing the principles of the existing Victorian townhouses along Belmont Road into the scheme.

Left: Concept diagram

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5.4 Residential Design

The Residential Design Guide SPD, National Design Guide and Local Plan Policies DG1, DG2 and DG4 6 and DG7 set out ECC's requirements to residential design.

The scheme has been designed in compliance with Exeter City Council's Residential Design Guidance. At the same time best practice with regards to Passivhaus has been adopted including optimising the solar orientation and massing to ensure the standard will be met.

5.5 Building Positions on the Site

The development has been split into 9 residential blocks. All blocks have been positioned on the site in line with the urban design principles developed for the project. All blocks feature front gardens and defensible space, fronting onto pedestrianised open realm with private gardens on the rear.

The blocks have been located with sufficient distance from existing neighbouring dwellings to avoid issues around overlooking and impacts on privacy.

To meet the Passivhaus standard it is good practice to seek a good solar orientation. This is typically achieved with a south facing orientation and as long as the deviation from due south is less than 30 degrees then this offers the opportunity to cover 30% of the final heating demand by 'free' solar gains from windows.

For the Clifton Hill development all dwellings benefit from an optimum solar orientation to maximise free energy savings.

5.6 Building Form and Massing

Independent from the dwelling size or type, similar proportions, heights and window apertures have been applied to create a sense of place and identity and result in a tenure blind development. The resulting form is sympathetic to the immediate surrounding in scale, massing and detail.

The elevational treatment of carefully scaled windows allows for optimum daylight and solar gain levels for excellent environmental performance without compromising privacy to or from other nearby dwellings.

All units have been designed with reference to National described space standards and ECC residential design guide for room areas and overall unit sizes.

The quality of materials, distinctive fenestration and proportions will offer residents a sense of a place with a strong character that they can take pride in over the long term.

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5.7 Proposed unit mix

Exeter City Living are currently involved with a range of residential developments throughout Exeter. These include a wide mix ranging from 1 and 2 bed apartment blocks and 2 and 3 bed housing developments.

For this particular site a mix of 1 and 2 bed flats and larger 4-5 bed family town houses are being proposed, in total 44 homes including 33 townhouses and 11 flats.

The town houses reflect the character of the Newtown area in particular the area surrounding Belmont Park and offer much needed family living space in the heart of Exeter.

5.8 Affordable Housing Provision

The current housing need for affordable homes has been confirmed to be greatest for 1 and 2 bed accommodation and the proposals address this need.

The 1 and 2 bed apartments located in the centre of the southern boundary facing the green space, will be affordable housing units for over-55s to create a demographic mix and to provide affordable homes in the city centre for a more diverse community in the area. 5% of these have been designed to wheelchair accessible standards including car parking facilities.

Housetype locations

Accommodation schedule

Type	No.	Size
1 Bed 2 Person	5	50 m2
2 Bed 3 Person	6	61 m2
4 Bed 5 Person	17	115 m2
4 Bed 6 Person	6	151 m2
5 Bed 6 Person	6	185 m2
5 Bed 6 Person	4	203 m2
Total	44 homes	

The client will be submitting a Viability Report to substantiate the affordable housing mix on the proposed development. It is the intention to provide 11 affordable homes (100% social rent) and the report will demonstrate that this number of new homes is policy compliant when the Vacant Building Credit is accounted for.

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5.9 Landscape proposals

The development benefits from generous, existing nearby open green space.

The green street will act as the principal open space within the development, forging a visual and ecological connection between Belmont Park and Newtown Park. It provides communal open space as required by Policy DG5 of the Local Plan and will include informal, safe and well overlooked play areas for children.

The street has been enclosed by high quality contemporary architecture on its edges. Its main role will be to enhance the environment for people and provide a signature for the new place.

Vegetation and material selection will ensure that ecology and biodiversity are at the forefront of the new environment, promoting wildlife in the heart of the city.

'Building with Nature' principles have been included where possible.

Housing frontages open onto the green street on both sides. Compact attractive front gardens, especially where homes are south facing, promote interaction amongst residents. The dwellings have been designed with doors, Juliet balconies windows and roof terraces opening out onto the green street, providing high levels of natural surveillance, ensuring social interaction, communal safety and ownership of the space.

The green street has been designed as a pedestrianised area with vehicle access restricted to the individual occupants and service vehicles only. The route will be absorbed into the scheme through use of materials to ensure a safe and attractive street is provided for pedestrians.

Figure: Proposed Development, entrance to Green Street

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The existing access along the Northern Boundary will be maintained as the main car access into the development. This route has been designed with a distinctively different character borrowing elements of a traditional 'mews street' with building integrated parking and access on lower level, directly fronting the highway and accommodation with roof terraces overlooking Belmont Park on the upper floors.

Private Amenity Space

Because of the site's city centre location and related high land values, the development density had to be optimised, to ensure the economic viability of the project. Land for buildings and access had to be carefully balanced with the provision of quality amenity space for both private and public use. A development density of 50 dwellings per hectare was aimed for which is generally considered sustainable for a city location.

As a first step, public open space which is accessible to all has been prioritised. Taking reference from traditional 'Garden City' design principles, all dwellings have been sited to face generous, central, quality public open spaces which are accessible to the wider community. These green spaces interlink with existing spaces maximising their benefits in terms of wildlife, biodiversity and amenity value.

Secondly, all homes have their own private gardens. Generally, these have been designed as courtyard gardens providing privacy and shielding from overlooking.

Whilst it was not always possible to adhere to ECC's ground floor private garden space requirements, additional amenity space has been provided in the form of good sized and well orientated balconies and roof terraces.

These have been carefully integrated into the scheme to achieve quality, usable outside spaces, granting views over open green space without causing overlooking or privacy issues. In particular considering the city centre location these elevated spaces add valuable amenity space to its residents, in line with the principles behind ECC's residential design guidance.

5.10 Building Structure and Materials

Quality building materials have been selected to reflect the local context, create a sense of place, be durable and attractive for the long term with minimal maintenance, as well as sustainably sourced.

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Figure: Proposed Development, View from Belmont Park

The main external materials are:

- Facing brick in in different shades reflecting the wide variety of historic bricks used in the area and wider Exeter and for a durable, long lasting appearance
- Roofing slates in keeping with neighbouring properties
- Metal cladding to entrance porches and the Mews roof storey to reference the sites past use
- Untreated timber cladding to the ground floor Mews Street for a naturally silvered soft aesthetic
- Powder-coated steel rainwater goods and balustrading
- Powder-coated aluminium-clad / timber-framed windows and doors

The proposed finishes were also discussed with the design review panel who was supportive of the proposed materials palette and felt that this will result in a calm architecture that acknowledges the surrounding historical palette in an appropriately contemporary manner.

‘Aesthetically, the Panel supported the use of a material palette that is reflective of the tone and range of materials used historically in the surrounding area, whilst providing a contemporary juxtaposition. It is considered that this juxtaposition between the existing historic buildings and the new development is more respectful to the existing, resulting a clear visual distinction between the different periods of architecture within the street scene.’

5.11 Passivhaus

The proposed development will be certified to Passivhaus standard. Passivhaus is a low energy standard and design methodology which evolved in Germany in the 1990ies under the leadership of the Passivhaus Institut in Darmstadt. To date more than 40,000 homes, offices, schools, leisure centres, shops and hospitals have been build using this tool. Exeter City

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Council has been leading the way in the UK and is home to the first dwellings, schools and also the first UK leisure centre developed to this standard.

Through continuous scientific research on completed projects the Passivhaus Institut has refined the design and modelling tools ensuring that, if the design methodology is adhered to, the actual energy performance of the building can reliably be reduced and predicted whilst at the same time providing optimal air quality and comfort in winter as well as in summer.

The rigorous Passivhaus design and certification methodology ensures that the heating demand and related carbon emissions of the completed development will be reduced by more than 75% when compared with current Building Regulations. Non-fossil fuel heating and the use of on-site renewable and low carbon technology will further reduce the environmental and carbon impact from this scheme.

The proposals for the Clifton Hill site have been modelled in the Passivhaus planning package (the Passivhaus assessment and verification tool) by a certified Passivhaus to ensure compliance with this standard can be achieved upon completion.

The proposed development adopting a Passivhaus approach to energy conservation will exceed the Core Strategy policy CP15 requirements for carbon emissions abatement.

5.12 Health and Wellbeing

When we consider health and wellbeing in residential design the sole focus is too often on outdoor spaces for exercise, when on average we spend about 90% of our time indoors and 30% of our time in bedrooms. With these exposure times even low concentrations of potentially harmful substances can affect our health in the long term and cause chronic diseases. More vulnerable inhabitants like children and elderly persons are particularly exposed to this risk.

Today, our living environment is defined by the spaces and buildings we create for ourselves. Most of us take great care when it comes to what we eat, where our food comes from, what we give to our children, how we keep fit, but when it comes to construction the focus is only very rarely on the human being, their health or well-being..

The Clifton Hill development has been designed with ‘Bau Biology’ principles in mind. By minimising the potential health risks from construction materials and methods without affecting quality or comfort, Bau biology seeks to create healthy living environments that are free from pollutants, dusts, particles, fungi, bacteria and radiation. The buildings will provide optimum daylight and views of nature throughout and will be constructed with minimal plastic or petrochemical products by maximising recycled and natural materials and using a monolithic clay block construction as already successfully used on some of ECL’s previous developments.

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Building materials and components have been carefully chosen to meet the performance requirements of a low energy building. This includes considering materials according to the following principles:

- Natural / recycled materials where practical
- Specification of timber from sustainably managed woodlands (e.g. FSC certified)
- Reduction of the use of composite timber panel products
- Use of sustainably sourced materials to ISO 14001
- Use of materials with low embodied energy, where appropriate
- Locally sourced materials, wherever possible
- Reduction of dust build-up and mite infestation by specification of easily cleanable surfaces

5.13 Climate resilience

The climate is changing. Governments are struggling to find a consensus and are running out of time to deliver on strategies to prevent climate change. 80% of our homes existing today will still be in use in 2050 and new homes build today will have to perform under very different future conditions than they evolved under. Heat Waves and droughts like we experienced in 2018 are predicted to become the norm with a 50% likelihood – on average every second year.

The Passivhaus approach ensures the home stays cooler and more comfortable throughout the year. It simply keeps the heat out for longer very similar to a fridge. On hot summer days, Passivhaus buildings can be noticeably cooler than conventional buildings. The excellent level of thermal insulation keeps the heat out, coupled with effective strategies such as “passive night cooling” ensure excellent comfort in the summer months. Providing proof of a pleasant indoor climate in summer is one of the requirements for quality assurance for Passive House certification.

In addition, the design has been tested using future probabilistic climate data developed by Exeter University. This data was used to simulate worst case emission scenarios and temperature rise until 2080, futureproofing the homes and making them climate ready.

6.0 Access

The below provides in introduction to the design teams access considerations and design approach.

Please refer to AWP’s detailed transport assessment and drawings submitted in support of the application for further details on site access, parking provision and sustainable transport considerations.

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6.1 Site Access and Local Facilities

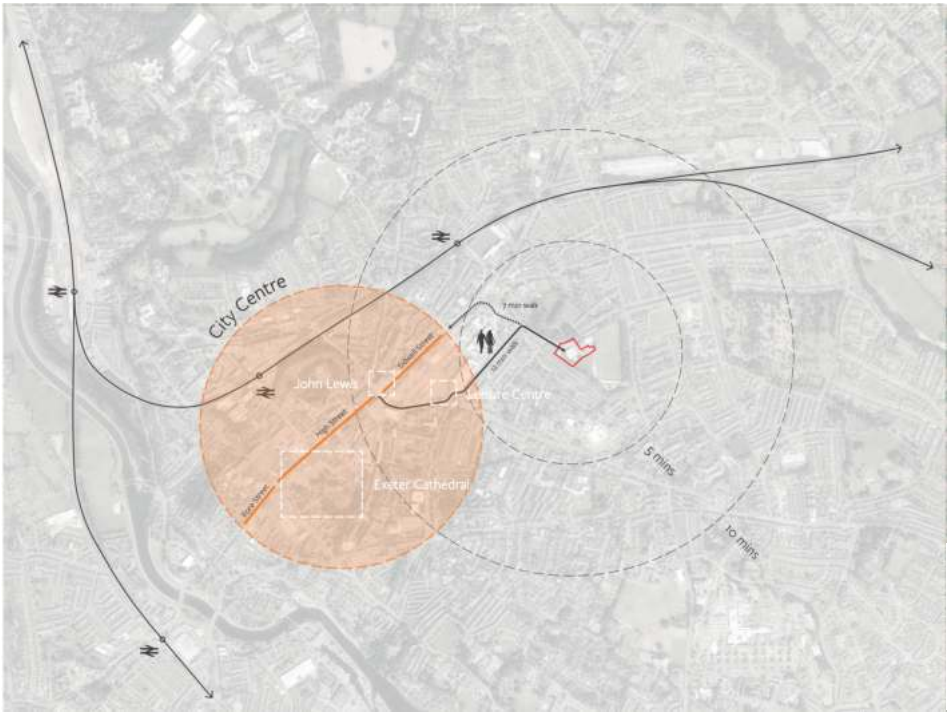
The site is in a highly sustainable location close to the city centre and considered to be very accessible with a range of key services within walking and cycling distance of the site including the City Centre and key employment areas. Local public transport facilities provide opportunities for travel to destinations further afield without using a private car. The site is therefore considered to provide the opportunity for sustainable development in transport terms as required by the NPPF.

The site benefits from being located within a short walking distance of a wide range of local facilities and public transport options. In addition, the city centre is approximately 1.3km from the development site, equating to approximately 15 minutes of walking or 5 minutes of cycling.

Further key employment areas are easily accessible for cyclists. Marsh Barton trading estate is approximately 4.8km, a 16 minute cycle ride from the site. Pynes Hill and Digby can also be reached in a similar time.

The site is served by bus stops on Blackboy Road approximately a 4 minute walk (300m) from the development site through Belmont Park. Further services are available from the St Luke's Campus bus stop, approximately a ten-minute walk (800m) south of the site on Heavytree Road. Both stops provide access to an extensive range of bus services providing access across the majority of Exeter and other towns further afield.

St James Park Railway Station is approximately 800m, 10 minutes' walk north west of the site. Trains from here run on the Avocet and Riviera lines to destinations including Exmouth and Exeter St David's. From Exeter St David's, further destinations such as Bristol, Plymouth, Penzance and London can be reached.



The site is in walking distance to the city centre, local shops, public open space and leisure facilities

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6.2 Site Access

The site currently benefits from two access points off Clifton Hill. It is proposed to widen and amend these points to serve as pedestrian and vehicular access to the proposed development.

The Northern access will be the main access for cars and service vehicles for the entire site. This access will be designed to DCC Highways adoptable standards.

The Southern Access is via the green street. This access has been designed to predominantly serve pedestrians and cyclists. Whilst it provides car access to block 1 there will no through access for cars to the wider site.

All access roads within the site have been designed using 'homezone' principles, including a shared surface for pedestrians, cyclists and vehicles. The access road has no through-access therefore speeds will be low with a minimal number of users and additional traffic calming features have been included.

Parking and Transport Links

Because of the highly sustainable location and excellent transport connections, reduced levels of on-site car parking are being proposed and instead the proposals focussed on improved sustainable transport provisions for the site including the provision of cycling facilities and co-car spaces.

The site will not be eligible for car parking permits in the surrounding streets and some dedicated onsite parking spaces for disabled and a car club have been included. Please refer to AWP drawings, the landscape proposals and site plan for details.

In total 37 car parking spaces have been provided and please refer to the landscape and car parking allocation drawing submitted with the application.

6.3 Accessibility – Overview

Access to the buildings and between the external elements of the scheme will be achieved in accordance with the requirements of Building Regulations Approved Documents.

All dwellings have been designed to comply with lifetime homes standard and Building Regulation Part M – Category 2. A Wheelchair accessible flat is provided as part of the proposed apartments on the basis of Building Regulations Part M - Category 3 and in accordance with Exeter's Wheelchair Access design Guide.

The design and specification of internal and external finishes will make due consideration to the requirements of people with all levels and types of disability, in accordance with inclusive design principles, the relevant statutory provisions and professional recommendations.

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7.0 Reference Sources

BS8300:2009 Design of buildings and their approaches to meet the needs of disabled people. Code of practice

Building Regulations Approved Document M1

Commission for Architecture and the Built Environment (CABE) "*Design and access statements*" (CABE, 2006)

Belmont Conservation Area and Management Plan (May 2007)

Sustainable Transport SPD (March 2013)

Affordable Housing SPD (April 2014)

Planning Obligations SPD (April 2014)

Public Open Space SPD (September 2005)

Residential Design Guide SPD (September 2010)

Trees and Development SPD (September 2009)