

07

DESIGN AND ACCESS

Form of application

Land use and amount

Layout

Scale and massing

Density

Movement and access

Green Infrastructure

Blue Infrastructure

Management and maintenance

Well Being

Sustainability

Secured By Design

Building for Life



FIGURE 36. Illustration of how the proposed development might look.

07 DESIGN AND ACCESS



A well-designed place is unlikely to be achieved by focusing only on the appearance, materials and detailing of buildings. It comes about through making the right choices at all levels, including:

- *the layout (or masterplan);*
- *the form and scale of buildings;*
- *their appearance;*
- *landscape;*
- *materials; and*
- *their detailing.*

National Design Guide (2019) Para 21

Form of application

The application is submitted by Gleeson Strategic Land Ltd. It is an outline planning application with all matters reserved except access.

The proposals are illustrated by the application plans (see below) and described in this section of the document. They draw together specialist advice from a number of experts to ensure the proposals are both realistic and accurate in terms of their design and access.

This section of the document explains the technical design solutions which have adopted and how they work together to form a comprehensive development scheme. They include the following elements:

- landscape
- urban design
- movement and access
- ecology
- drainage
- heritage and archaeology
- noise

The following plans form part of the planning application:

01 Site location plan

The site location plan shows the proposed development in relation to its surrounding properties. It is based on an up-to-date Ordnance Survey map and at an identified standard metric scale.

The site of the proposed development is outlined in red.

02 Site survey plan

The site survey plan is a topographical survey which was undertaken in August 2020. It shows the physical elements of the site as existing and its topography.

03 Illustrative site layout plan

The illustrative site layout plan is shown at Figure 40. It has been prepared to satisfy the technical requirements of residential layout, access, ecology, landscape and hydrology in detail and demonstrate how the site can accommodate the various elements described by the application.

The layout is for illustrative purposes only and the detailed layout will be subject to subsequent reserved matters or detailed planning applications.

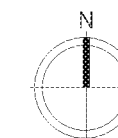
04 Parameter plan

The Parameter plan (Figure 39) defines the key elements of the proposal which will be established by any planning approval for the site. These include the land use and access.

Design and access

In accordance with the criteria for well designed places as set out in the National Design Guide, para 21, the document breaks the proposals down into the following areas:

- Land use and amount
- Scale and massing
- Movement and Access
- Density
- Character
- Landscape
- Drainage
- Ecology



Site boundary

DEVELOPMENT AREAS AND SCALE

Maximum 2 storey development (up to 10m)

Maximum 2.5 storey development (up to 11.5m)

Residential Development area to include C3 residential uses, roads, parking, open space, Sustainable Urban Drainage System and landscaping

GREEN INFRASTRUCTURE AND OPEN SPACE

Green Infrastructure including landscape buffers, public open space including areas of natural play, allotments, community orchards, landscape planting and Sustainable Urban Drainage System

ACCESS AND MOVEMENT

Existing public right of way retained and upgraded

Proposed vehicular access

FIGURE 33: Paraphrase: site

Land use and amount

The total area of the site measures 13.9 ha / 34.4 acres. The parameter plan at Figure 37 shows the primary components as follows:

- ✧ A net residential area of 5.7 ha / 14.1 acres with 200 new homes at a medium density (14 dph gross density / 35 dph net density)
- ✧ A mix of residential accommodation comprising 1,2,3 and 4 bedroom dwellings including a percentage of affordable housing with a focus towards provision of smaller units.
- ✧ Circa 8.2 ha / 20.3 acres of public open space including:
 - ✧ Circa 7.4 ha / 18.3 acres (approximately 53% of the total site area) of informal public open space / natural greenspace incorporating landscape planting and sustainable urban drainage features
 - ✧ 0.54ha / 1.3 acres of amenity open space with potential to incorporate natural areas of play
 - ✧ 0.3ha / 0.74 acres of allotments with car parking
- ✧ A new vehicular and pedestrian access from the Marshall Close with emergency access, including pedestrian and cycle access to Church Lane
- ✧ New planting within the development area and on the boundaries of the site to visually contain the development, enhance it's landscape character, improve biodiversity and safeguard the amenity of existing properties.

Mix of proposed dwellings

The exact mix of dwellings will be determined at the reserved matters stages. To demonstrate that the application site can provide a mix of housing the masterplan includes a variety of dwelling types and sizes with a mix of market, affordable rental and intermediate housing.

The overall mix of units shown on the illustrative layout plan is as follows:

Unit type	Approx size (sqm)	No. units	%
1 bed flat	50	19	50%
2 bed flat	70	20	
2 bed house	79	61	
3 bed house	88-93	68	34%
4 bed house	120	32	16%
		200	100

Affordable housing

The indicative site layout plan shows how the application site could accommodate up to 30% affordable housing including a mix of units which responds to current housing need as identified by Arun District Council.

The proposed mix of units includes a wide range of unit types and sizes including 1 and 2 bedroom apartments together with 2,3 and 4 bedroom houses. The tenure of the affordable housing is to be agreed with the Council but a split of 75% rented and 25% intermediate housing is initially sought.

Unit type	Approx size (sqm)	No. units	%
1 bed flat	50	19	32
2 bed flat	70	11	18
2 bed house	79	14	23
3 bed house	88-93	13	22
4 bed house	120	3	5
		62	100

The approach will be to “pepper pot” the affordable housing in small clusters of up to 15 dwellings across the application site. The design and use of materials for the affordable units will not be discernible from the private dwellings.

The size of all affordable housing units will meet the minimum floor areas as defined in the DCLG document, Technical housing Standards - nationally described space standards (March 2015).

Market housing

The illustrative site layout plan shows a mix of housing sizes for the market element.

The proposed mix of units includes a wide range of unit types and sizes including and 1, 2 bedroom apartments and 2,3 and 4 bedroom houses.

Unit type	Approx size (sqm)	No. units	%
2 bed flat	70	9	6
2 bed house	79	47	34
3 bed house	88-93	55	39
4 bed house	120	29	21
		138	100



FIGURE 40. Illustrative site layout plan

Layout

The illustrative layout (Figure 40.) has been prepared to demonstrate how the development could be laid out to respond to the opportunities of the site, taking into account the vision and the outcomes of the engagement process. The layout is not for approval as part of the outline planning application but demonstrates the sites ability to deliver a scheme as described by the application.

The arrangement of buildings is based on simple perimeter blocks to ensure that open spaces and streets are overlooked. This also provides distinction between public and private realm.

The layout shows the following key elements:

- ✧ Retention of important trees and hedgerows within the site and on its boundaries with enhanced landscape planting to reinforce the boundaries of the site.
- ✧ New soft landscape features within the development including a number of trees and hedgerows which will replicate the distinct character of the town edge.
- ✧ Strategic landscape planting on the southeastern edge of the site to visually contain the development and protect the amenity of residents in Church Lane.
- ✧ A new Sustainable Urban Drainage System (SUDS) which manages the surface water run-off within the site
- ✧ A new vehicular access from Marshall Close
- ✧ Provision of new links through and from the site which have potential to provide cycle and pedestrian links to the surrounding area and town centre
- ✧ A hierarchy of streets, shared surfaces and footpaths which aim to reduce traffic speeds and encourage pedestrian / cycle priority in certain areas.
- ✧ The frontages of buildings lie parallel to the line of the street in order to reinforce the definition of the street.

- ✧ The built form includes a mix of terraces, semi-detached, detached and apartment buildings. Buildings on the western edges of the site and on the southern boundary of the northern development area comprise detached and semi-detached properties to allow for additional planting to soften the visual impact of these areas.
- ✧ Corner buildings have been shown to maintain active frontages. Some of the apartment buildings have also been shown in “gateway” locations to assist in the legibility of the site
- ✧ The layout and arrangements of plots has sought to make efficient use of the land to achieve 200 homes.
- ✧ Although the individual units have not been specified at this stage, the layout and design of the affordable housing will be the same as the market housing providing a tenure blind approach
- ✧ Buildings which are up to two and a half storeys in height with the potential for landmark buildings at key locations within the site to assist in providing legibility. Landmarks would be provided by the arrangement of buildings and will use material and detailed design to enhance their legibility.
- ✧ The size and shape of plots varies from one plot to another. This means that detached, semi-detached and terraced housing are distributed throughout the site. Plots also vary in shape and size for each type of house.
- ✧ There is a variety of setbacks of houses from the pavement or highway between plots as one moves along a street. In other words there is a varied building line with a strong definition of the street maintained through boundary hedges and walls. In some cases the houses are set back quite far back on the plot whereas in other cases the house would be very close to the back of the footway or a shared surface.

Detailed layout considerations

Whilst layout is not for consideration as part of the outline application, an illustrative layout has been prepared to show that the site has capacity to accommodate the proposed quantum of development and the associated detailed design requirements.

With regards the detailed layout of the individual dwellings and open spaces, the houses are generally arranged in a conventional block structure with gardens to gardens and many of the houses have a generous set back from the roads and shared surfaces.

The layout of dwellings provides garden sizes which are generally between 10m and 15m which allow for adequate private amenity space. This reflects the character of existing development in the vicinity of the site and the need to maximise the effective use of the site for housing.

The arrangement of buildings will ensure that all new dwellings will have a suitable outlook and level of natural light.

Refuse collection arrangements will be considered at reserved matters stage. A statement of intent on this issue is provided at page x. However, in all cases properties have a separate access to their rear gardens to allow bins to be stored to the rear of properties.

Scale and massing

The scale and massing of the proposed development would be designed to respond to the site characteristics and to create a variety in the built form, typical of Barnham.

Buildings shown are predominantly rectangular or 'L' shaped with occasional articulation in the form of projections and porches. A range of detached (large and small), semi-detached and short terraces would be provided across the site. The building and roof typologies are set out later in this document as part of the definition of the character areas.

The proposed housing development shown would be predominantly 2 storeys with potential for a small number of 2.5 storeys (2 storey with accommodation in the roofspace).

The 2.5 storey dwellings, as indicated on the plan are located on the northern side of the main access road. As explained later in this document they are not in the lower density / more rural character area closest to Church Lane. They are generally located at key junctions within the development to assist in providing legibility within the site and the variety of scale across the site will also enhance the townscape value of the development.

The pink shade also highlights the most sensitive parts of the site in terms of scale and massing due to their relationship with Church Lane and the Conservation Area. Development in this area will be limited to a maximum of 2 storeys and massing will be limited to detached and semi detached built forms.

Potential locations for key buildings have been shown in locations which will assist in the legibility of the scheme. Their "key" will be defined by a mix of architectural design, materials and scale.

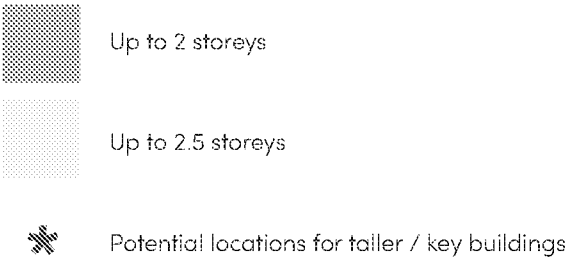


FIGURE 41. Scale strategy plan

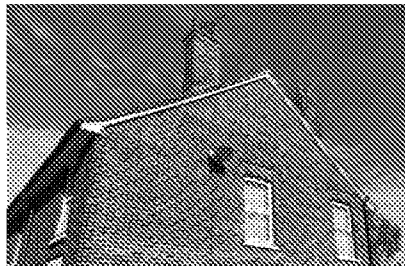
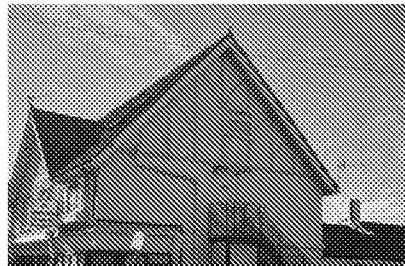
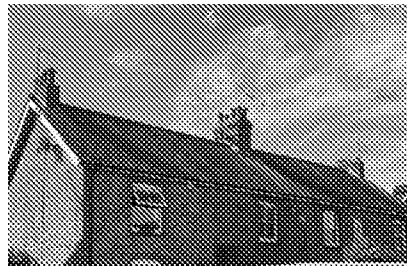
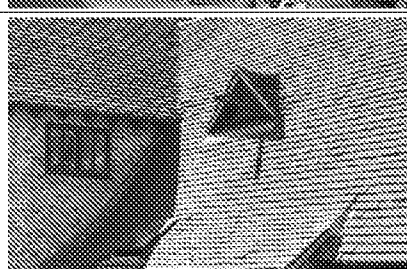
Scale	Maximum ridge height	Roof types			
2 storey	10m	Gable ends			
					
2.5 storey	11.5m	Hipped roofs			
					
		Dormers			

FIGURE 42. Scale strategy table

Density

Based on the site area (13.9ha) the average gross density for the scheme is 14 dwellings per hectare (dph). This takes into account all of the land uses within the site.

The average net density, which only includes the areas for development excluding public open space and landscape (5.7ha), is 35 dph.

The density will not be uniform across the site and has regard to the sites context and proposed character. The density has therefore been broken down into three broad areas as follows:

 Lower density (20-30 dph)

The lower density development is located on the southeastern side of the primary access road into the site. The reduction in density responds to the lower density of development in Church Lane and allows for additional spacing between built form and additional soft landscape planting to soften the development.

 Medium density (30-40 dph)

The medium density housing area is in the central part of the site and replicates the scale and density of housing in the wider Barnham village area including developments in Marshall Close, Yapton Road and Garden Crescent.

 Higher density (40-50 dph)

The higher density areas are located on the northern edges of the site which face the proposed development at BEW. The more compact form of development will assist in mitigating noise from the railway.

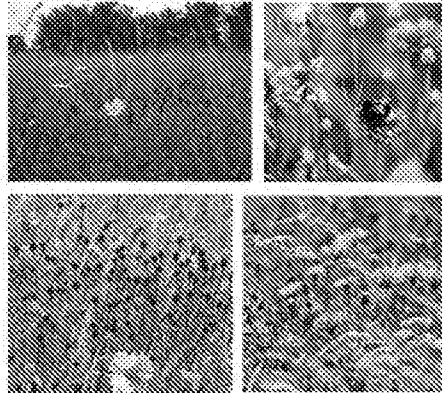


FIGURE 43. Density strategy plan

Density	Average dph	Building types				Examples		
		Apartments	Terraces	Semi detached	Detached			
Lower	20-30	Small scale, 2 storey in blocks of no more than 4 units. Designed to appear like semi detached or detached house	Limited to terraces of 3 dwellings	Yes	Yes			
Medium	30-40	Small scale, Up to 2.5 storeys in blocks of no more than 6 units	Yes	Yes	Yes			
Higher	40-50	Up to 2.5 storeys in blocks of no more than 9 units	Yes	Yes	Yes			

FIGURE 44. Density strategy table

Emorsgate EM2
General Purpose Meadow Mix, EH1
Emorsgate EL1 Flowering lawn mix
Emorsgate EM8 meadow mixture for
wetlands
Emorsgate EM1F Wild Flower for pond

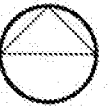


Open Space Trees

Quercus robur
Aesculus hippocastanum
Tilia x europaea
Fagus sylvatica
Sorbus aria
Prunus avium



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0m 20m 40m 80m

	Application Site Boundary
	Proposed Trees
	Proposed Shrub Planting
	Wildflower Grass Mix
	Proposed Watercourse Fence
	Existing Public Right of Way Retained
	Proposed Community Orchard & Allotments
	Proposed Wet Woodland Planting
	Proposed Area of Informal Play
	Bat bricks integrated into south/south west facing cable ends positioned 3-5m above ground
	Proposed bird boxes located on existing and proposed trees
	Proposed log pile
	Proposed Hedgehog nest boxes/domes
	Barn Owl Pole Mounted Nest Box
	Little Owl Tree Mounted Nest Box

Existing vegetation structure retained and strengthened to north where there are current gaps

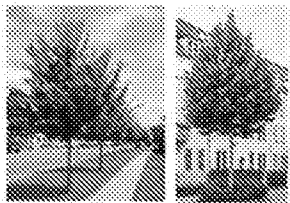
Woodland offset from watercourse
to provide a 8m water vole buffer
zone

Enhanced boundary with wet woodland planted along the south eastern site boundary.

Substantial new native tree and shrub planting providing ecological benefit and habitat corridors for wildlife

Wildflower grassland across the open space to enhance biodiversity and visual amenity from the public open space and existing footpath

Tillia Rancho
Ulmus new horizon
Acer campestre 'Streetwise'
Prunus spire
Tillia tomentosa Brabant



Attenuation features and wildflower meadow:



Green Infrastructure

Figure 45 shows the Green Infrastructure (GI) strategy which combines both the landscape, public open space and drainage strategies.

The development proposals and Green Infrastructure Strategy has been informed by the landscape and visual assessment. The proposals have been developed to ensure that a carefully considered and sensitive approach is achieved. The existing hedgerows and hedgerow trees which define the south eastern and south western site boundaries will be largely be retained as part of the proposals, with additional planting gapping up any breaks in the existing boundary, in accordance with the guidelines within Strategy for the West Sussex Landscape, and the Policies set out in the existing and emerging Barnham and Eastergate Neighbourhood Plan as set out within the Landscape and Visual Assessment (LVIA).

The proposals have sought to substantially enhance the site boundaries with additional tree, hedge and shrub planting in order to provide an enhanced degree of amenity to the surroundings, and to ensure that the proposals can be integrated into the setting without harm. The north eastern and north western site boundaries will be redefined with extensive tree, shrub and hedgerow planting, which will assist in integrating the proposals and the existing settlement edge of Barnham into the localised landscape fabric. The proposed planting strategy will consist of native species typical of the wider character area, and provide links between the existing vegetation structure on site, within the immediate and local setting

The extensive area of POS, that includes notable areas of native tree, shrub planting and wildflower grassland effectively wraps around the development and would form a community park and is an integral part of the proposals. This not only provides a breathing space for proposed residents and appropriate development setback from the south eastern and south western boundaries, it ensures that an appropriate green buffer is retained to the watercourse and immediate setting to the south.

The proposals seek to incorporate a robust landscape strategy that will provide structure to the proposed residential development and tie in with the surrounding existing vegetation along within the Site's immediate context and wider green infrastructure within the setting. This green strategy will not only contribute to the sustainability of the Site, but also assists in creating a high quality development which sits well within its landscaped context and is conducive to happy and healthy family life. Street tree planting and incidental open space within the proposed layout will assist in breaking up and softening the perceived built environment.

The creation of the community park also presents a range of opportunities to enhance and create new varied habitats. At present, the Site comprises of agricultural fields, which are considered to be of limited ecological merit. The creation of new open space as part of the Proposed Development presents opportunities for the establishment of areas of native wildflower grassland, shrub, tree planting and wetland features. The landscape strategy within the open spaces seeks to draw in the surrounding countryside character into the development, further incorporating the development within its locality.

Green Infrastructure components

The GI Strategy proposes a number of different spaces within the site which work together to provide an integrated solution for all users.

The individual character and design of each component responds to their context and the character of the site and the surrounding area and their function within the new development.

-  Community Park (Natural and semi natural open space)
-  Tars Park (Amenity green space)
-  Tars Green (Amenity green space)
-  Green Edges (Natural and semi natural open space)
-  Allotments and community orchard
-  Locally Equipped Area of Play (LEAP) (Provision for children and young people)



FIGURE 46. Green Infrastructure components and open space strategy

Public open space

The public open space has been designed to meet the standards as set out in the Arun District Council Final Open Space Standards Paper (2020). Figure 77 and the table below shows the requirements and provision of public open space within the application site.

Open space category	Requirement for provision population	Requirement for 100 dwellings	Provision in development
Allotments and community gardens	0.25	0.13	0.3
Amenity green space	1.07	0.54	0.54
Natural and semi natural open space	0.5	0.25	7.00
Parks and gardens	0.2	0.1	
Provision for children and young people	0.04	0.02	0.04**

*Population = 500 based on 200 dwellings and 2.5 persons per household
** Based on provision of 1 x LAP + natural areas of play within community park

Design and layout

The following principles have been adopted in relation to the design and layout of the public open space

- The retention of existing landscape and drainage features within open spaces and ecological improvement where possible with native planting;
- The open space is to be inclusive in that it promotes a feeling of safety and security. It is to address the needs of the whole community;
- Wildflower margins and native mix buffers will create ecological edges to areas of open spaces. Habitat features such as log piles, hibernaculums, bird boxes and gaps within fencing (for hedgehogs) will be incorporated.
- The introduction of a dedicated play area (LEAP) within the central green area, which serves the development site;
- The provision of other natural elements for play within the community park area;
- The inclusion of native trees and shrubs for biodiversity benefits;
- Connectivity through the application site will be increased offering safe access for pedestrians to local facilities and the wider landscape beyond.
- Providing passive surveillance to routes and open spaces with habitable rooms / active frontages providing overlooking

The detailed design and layout of the equipped play space and natural play facilities will be developed in liaison with Arun District Council.

It is envisaged that all play features will be naturalistic in their design, to reflect the character and context of the application site. The spaces will utilise natural materials and landscape features to provide the opportunities for children to create their own play spaces and encourage social interaction with other children.

Natural play areas will comprise well chosen items of equipment, connected by mounds of grass, bridges, boulders, logs and so on. These natural areas provide less structure than a traditional playground. Therefore, when well designed, they can encourage more physical and creative challenges such as climbing, rolling, hiding and den building.

They may also include elements which can provide opportunities for seating by both adults and children alike.



Movement and access

The movement and access strategy has been designed to provide a permeable layout which supports ease and safety of movement for all users. The layout and design of spaces and buildings takes into account the needs for both vehicular and transport links, and inclusive access.

The movement access is defined by the following routes and connections:

- Public right of way maintained as existing
- Proposed informal footpaths
- Cycle / pedestrian only access
- Shared surface drives
- Shared surface residential access
- Residential streets
- Primary street



FIGURE 47 Movement strategy

Vehicular and transport access

The proposed access arrangement into the site is shown at Figure 46.

Access to the site is to be provided via an extension to Marshall Close, provided in accordance with Manual for Streets design guidance. The arrangements have been informed by pre-application advice from the local highway authority, and proposes measures to regularise parking along Marshall Close. A review of the Personal Injury Accident database identifies that there are no pre-existing safety concerns that would be exacerbated by the proposed development.

Pedestrian and Cyclist Access

The existing footway situated on the eastern side of Marshall Close is to be extended into the site to provide a 2m wide pedestrian route into the site. A second 2m footway is to be provided within the site on the northern side of the access road, with a dropped kerb and tactile paving crossing to facilitate transition to the footway on the southern side of the carriageway. The extension of the footway will provide continuous pedestrian infrastructure between the site and Barnham via Marshall Close on the key pedestrian desire line.

The lightly trafficked, low speed nature of local roads are conducive to on-road cycling and the Barnham link is located at the southern end of Church Lane, providing residents with a connection through to Felpham and Bognor.

Public Transport

Barnham Railway Station is located approximately 500m north of the site access, a 5 minute walk from the site. Barnham Station is on the West Coastway line between Brighton and Southampton and provides frequent and direct services to key urban destinations such as Chichester, Bognor, Portsmouth, Southampton, Brighton and London.

Bus stops are located 350m to the north of the site on Barnham Road. The stops provide access to the 66 and 85 bus services, offering residents opportunity to utilise public transport for journeys to Bognor, Chichester and neighbouring villages.

Cycle and car parking

Car parking will be provided either on plot or within defined parking areas within the application site. Car parking meets the maximum standards as defined in the Supplementary Planning Guidance adopted by West Sussex County Council (November 2003).

- ✧ 1 bedroom dwelling – 1 space
- ✧ 2 bedroom dwelling – 2 spaces
- ✧ 3 bedroom dwelling – 2 spaces
- ✧ 4 bedroom dwelling – 3/4 spaces

The principal design considerations for car parking is as follows:

- ✧ All homes to be provided with allocated car parking spaces
- ✧ Dimensions of parking spaces and garages to be provided in accordance with guidance
- ✧ Parking to be provided within curtilage of individual dwellings and within communal parking areas for apartments
- ✧ Well-designed on-street visitor parking in dedicated lay-bys will be provided and dispersed throughout the application site

For most car parking situations parking spaces will meet the national standards of 4.8m long by 2.4m wide. Where provided on plot there is a gap of 1.1m at the side of the parking space to allow for access to the rear gardens and refuse bins to be moved to the rear of the property.

Where a space is located in front of a garage, the space will be 5.5m long from the back of the highway to allow the garage door to be opened without the vehicle overhanging the highway.

Garages are 6m long by 3m (single) or 6m (double) wide internally to allow a vehicle to gain access/egress and there to be some space for the occupiers of the vehicle to get out. In addition, this provides some space for storage, such as bicycles, which are normally kept in garages. As with all parking on the application site, there are not more than one space outside a garage (i.e. a maximum of two cars in tandem).

Visitor car parking is also provided within the application site on the ratio of 1 space per 5 dwellings. (40 spaces in total). Visitor parking is distributed evenly around the site and close the areas of open space to allow access from the wider area.

In addition to the provision of car parking on site, improvements are proposed to Marshall Close to provide visitor parking as shown at Figure 49.

Whilst cycle parking is not required as part of the County standards, there is capacity for cycle parking for the proposed houses in garages and in back gardens. The design of the apartment buildings allows for a ground floor cycle storage area if required.

Refuse collection

The illustrative site layout has been designed to accommodate refuse vehicles. Street widths will provide for refuse collection vehicles and are sufficiently wide that cars parked on-street can be passed by the refuse vehicle. Swept path analysis has been undertaken for the site access and the site layout to ensure a refuse vehicle and emergency vehicles will be able to manoeuvre safely within the site and leave in forward gear.

The illustrative layout will comply with the following criteria that are set on the Manual for Streets and based on Building Regulations and British Standards:

- ✧ 30m maximum distance from each dwelling to the bin collection point;
- ✧ 15m maximum distance from the back of the refuse vehicle to the bin collection point (for two wheel bins; 10m for four wheel bins for any apartment blocks); and
- ✧ Maximum of three steps for containers up to 250 litres (e.g. two wheel domestic bin), and none for larger containers.

Inclusive access

The layout of spaces and buildings ensures that disabled people will not be segregated and will be able to access all aspects of the place with without inconvenience or detours. The design of buildings will take this into account at either reserved matters or in future detailed applications.

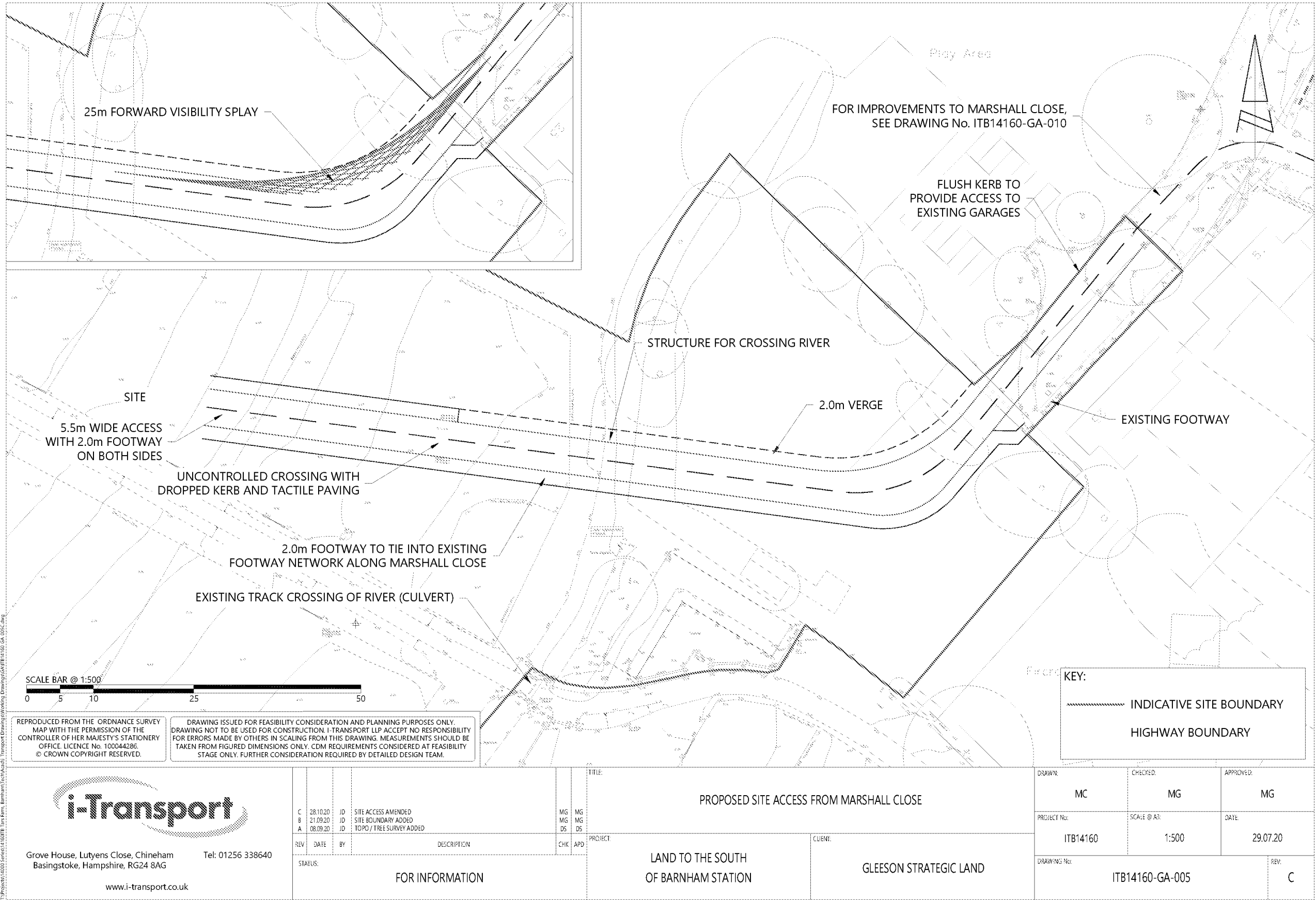


FIGURE 48. Plan showing the main access to the site from Marshall Close (i-transport)

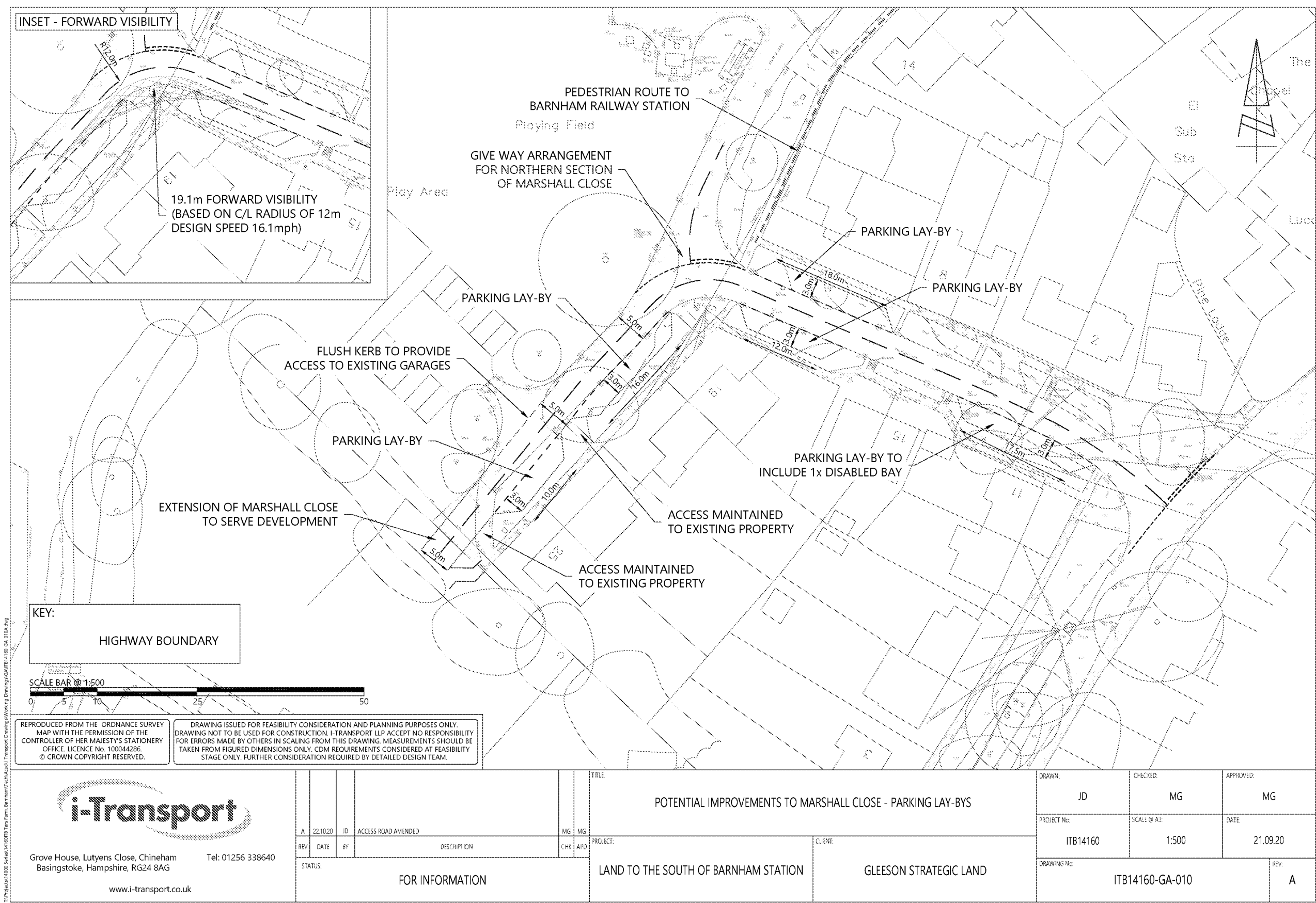


FIGURE 49. Plan showing proposed highway improvements to Marshall Close (i-transport)

Blue infrastructure

Working together with the Green Infrastructure Strategy a Sustainable Urban Drainage Strategy (or Blue Infrastructure) strategy has been developed.

The strategy will to manage surface water taking into account of water quantity (flooding), water quality (pollution) biodiversity (wildlife and plants) and amenity.

The SuDS strategy will mimic nature and managing rainfall close to where it falls. The strategy has been designed to transport (convey) surface water, slow runoff down (attenuate) before it enters watercourses, providing areas to store water in natural contours and in some parts used to allow water to soak (infiltrate) into the ground or evaporated from surface water and lost or transpired from vegetation (known as evapotranspiration).

The SuDS systems is considered to be environmentally beneficial, causing minimal or no long-term detrimental damage.

The aim of the strategy is to achieve the following:

- Manage runoff volumes and flow rates from hard surfaces, reducing the impact of urbanisation on flooding
- Provide opportunities for using runoff where it falls
- Protect or enhance water quality (reducing pollution from runoff)
- Protect natural flow regimes in watercourses
- Are sympathetic to the environment and the needs of the local community
- Provide an attractive habitat for wildlife in urban watercourses
- Provide opportunities for evapotranspiration from vegetation and surface water
- Encourage natural groundwater/aquifer recharge (where appropriate)
- Create better places to live, work and play



FIGURE 59. Drainage strategy

Surface Water

The proposed drainage strategy is shown at Figure 48, and includes a number of sustainable urban drainage systems including:

- Open balancing features
- Permeable surfaces with cellular attenuation
- Roadside swales
- Swales incorporated into the landscaped areas

The images (right) illustrates the type of features which are envisaged.

The surface water drainage strategy proposals are for development runoff to discharge to the watercourses within the site via a series of Sustainable Drainage Systems (SuDS) consisting of permeable paving, swales and detention basins. Discharging surface water runoff via the SuDS devices will afford some improvement in water quality whilst allowing the post development flows to be restricted to the 1 year greenfield runoff rate. All SuDS features will be designed in accordance with best practice (National Policy, EA and CIRIA guidance) and cater for the 1 in 100 year flood event plus 40% to allow for the predicted impacts of climate change over the lifetime of the development. Therefore the development will not increase flood risk to existing development off site for flood events up to an including the 1 in 100 year plus 30% climate change.

Foul Water

The foul water drainage strategy proposals are for foul water flows from the development to connect, by gravity, into the existing Southern Water network in the adjoining pumping station area under the provisions of the Water Industry Act 1991.



Open balancing features



Permeable surfaces with cellular attenuation



Roadside swales



Swales incorporated into the landscaped areas

Management and maintenance

The maintenance of the scheme as it progresses both on site and following completion will be critical to its success.

At this outline masterplan stage it is key to establish the principles of maintenance and the review procedures that the chosen Landscape Contractor will be required to undertake. Detailed landscape maintenance specifications and a landscape management plan are envisaged to be submitted to clear conditions and are envisaged to encompass the following:

Timing and responsibility of reviews and method of reporting to ensure the correct communication channels are set up at the start of the project.

The following principles will need to be established:
Working notice, reinstatement procedures, the use of any specialist firms/methods for the control of mammalian pests in line with the environmental health policy of the Local Authority and the use rain water for irrigation means, depths required, watering times and removal of arisings as part of any operation on site. The protection of areas affected by maintenance operations and the safety of operatives and members of the general public will need to be explained in a method statement.

The Landscape Maintenance Contractor shall give notice to the Client before the application of herbicide, the application of fertilizer, watering and each site maintenance visit. The Landscape Maintenance Contractor shall reinstate to its original condition any damage or disturbance to soil structure, planting, grass, fencing, hard landscaping, structures or buildings. The Landscape Maintenance Contractor shall employ specialist firms/methods for the control of mammalian pests in line with the environmental health policy of the Local Authority.

The Landscape Maintenance Contractor shall use portable mains water when watering and will ensure that the plant is wet to the full depth of topsoil, will not damage or loosen plants. With compacted soil loosen or scoop out, to direct water to root zone. Watering is to be carried out as necessary for the continued thriving of all planting. Unless specified otherwise the Landscape Maintenance Contractor will dispose of arisings as follows; biodegradable arisings to an approved tip, grass cuttings to an approved tip, tree roots and stumps to an approved tip, shrub and tree prunings to an approved tip and litter

and non-biodegradable arisings to an approved tip. Extraneous rubbish not arising from the contract work will be collected and removed from site. The Landscape Maintenance Contractor is to protect areas affected by maintenance operations using boards/ tarpaulins. Do not place excavated or imported materials directly on grass.

Remove dead, diseased, decaying and damaged wood. Major pruning only to be undertaken after discussion with the Client. Note that permission will be required to carry out any tree surgery works to the trees that are subject to a Tree Preservation Order. This permission is to be obtained from the Local Authority Tree Officer prior to any works being carried out. Replacement planting, if requested by the Local Authority, is to be with species of local provenance.

The planting, establishment, pruning and ongoing maintenance of these trees will need to be clearly specified. Prune to remove dead, dying, diseased branches. The Maintenance Contractor is to advise the Landscape Architect of any major works required and if necessary obtain an assessment from an approved arboriculturalist. Remove suckers from base. Check condition of stakes and ties. Adjust as necessary to prevent rubbing of bark and to ensure tree is upright. Firm up trees which have suffered frost heave or are affected by strong winds. Ensure that sufficient water is applied to maintain



Wellbeing

The National Design Guide highlights the importance for developments to deliver thoughtful and inclusive wellbeing principles that meet the needs of a diverse range of users. Each of the ten characteristics explore how good design can result in wellbeing for communities and have been incorporated into the proposals for the site. These include;

- The creation of a positive sense of place that people can identify with;
- The provision of compact and walkable spaces, where possible;
- The delivery of strategic patterns of movement that promote activity and social interaction;
- The provision of attractive open spaces in locations that are easy to access, with activities for all to enjoy;
- The delivery of well-located public spaces that promote health, well-being, social and civic inclusion; and,
- The provision of excellent quality internal and external environments for users



Sustainability

Sustainability targets and objectives have been set for the proposed development based on the applicant's aspirations and a review of government guidance, the latter of which has recently embedded energy efficiency targets within Building Regulations in lieu of the Code for Sustainable Homes. The applicants are committed to ensuring the proposed development meets national requirements for energy efficiency prevailing at the construction stage.

Key sustainability features would include the following:

- ✧ Sustainable Urban Drainage Systems (SUDS) would be incorporated.
- ✧ Energy and water efficient fixtures and fittings would be incorporated within the design of new buildings.
- ✧ Provision would be made for cycle storage and safe walking routes to discourage the use of private cars for short journeys.
- ✧ Consideration would be given to responsible sourcing of materials and to their environmental impact throughout their lifecycle.
- ✧ Recycling space and composting would be provided for each dwelling.
- ✧ Private gardens, communal spaces and publicly accessible open spaces would be incorporated into the development, including informal open space.
- ✧ Existing trees and hedgerows would be retained and the ecology of the site enhanced through the creation of new wildlife habitats.

Overall, and whilst further detailed calculations and design work will continue as the development progresses, the proposals for the site aim to maximise the site's assets and layout in relation to sustainable design, creating an attractive, environmentally sound, development.

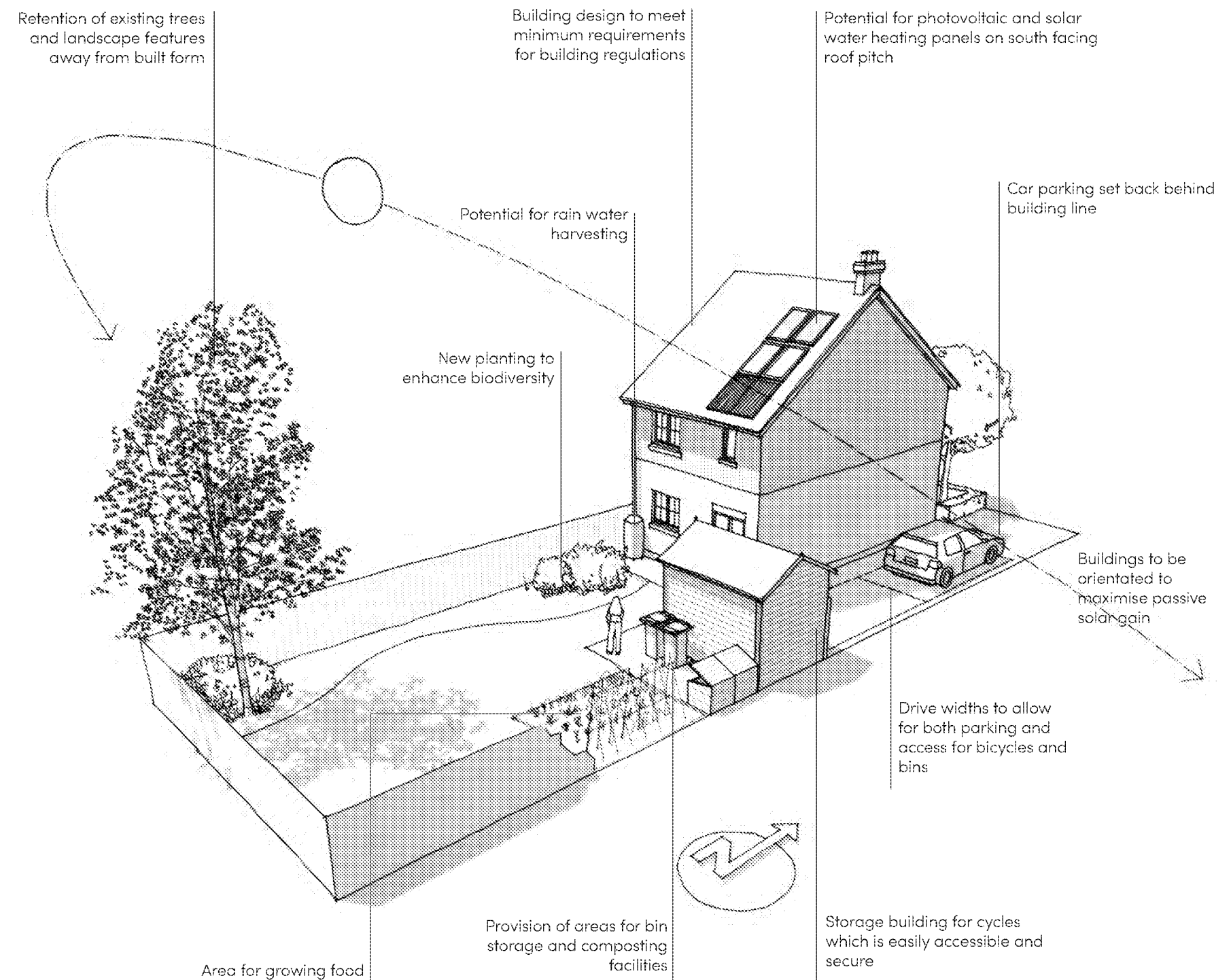
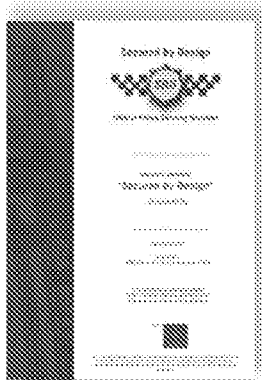


FIGURE 51. Plan showing Sustainable Design concepts



Secured By Design

The proposals have been designed to be as safe and crime free as possible and in particular has had regard to the following guidance:

'Safer Places – the Planning System and Crime Prevention'

Principles of 'Secured by Design'.

Seven attributes of designing out crime are outlined in 'Safer Places – The Planning System and Crime Prevention'. They are listed here, with an explanation of how the development addresses the points:

1. Access and movement

'Places with well defined routes, spaces and entrances that provide for convenient movement without compromising security.'

The layout provides a legible and permeable series of connected routes. These are overlooked and buildings are arranged to either front onto or have side aspect (with habitable rooms and windows) to these routes. Ground floor entrances are positioned for ease of access and will be clearly articulated in detail.

2. Structure

'Places that are laid out so that crime is discouraged and different uses do not cause conflict.'

A perimeter block structure is proposed for the development that enables all dwellings to face out and overlook the streets and spaces. Private and public domains are well defined by boundary treatments and clear definition of spaces.

3. Surveillance

'Places where all publicly accessible spaces are overlooked.'

Configuration of dwellings and public realm has been designed to avoid confined and secluded spaces. Streets and spaces are open

and have clear sight lines allowing easy monitoring and natural surveillance. All public open spaces are overlooked by development.

Dwellings on corners of blocks, or with a side elevation facing open spaces will have windows and other elevation features to ensure there are not any blank facades facing onto the public realm.

4. Ownership

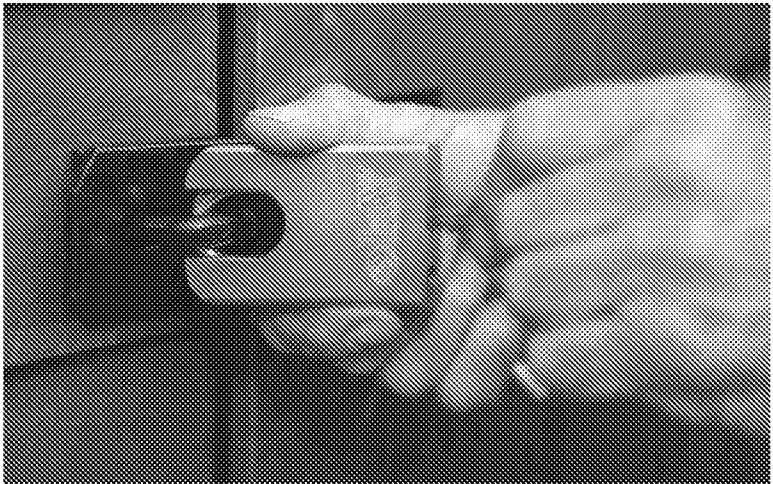
'Places that promote a sense of ownership, respect, territorial responsibility and community.'

The layout makes clear distinction between private and public spaces. The main public open space elements in the south eastern and western parts of the site and within the centre of the development have been designed as a focus of the development with many buildings looking into the space. There are also a number of opportunities for the use of this space for all aspects of the community including children's play, informal play and places to rest.

5. Physical protection

'Places that include necessary, well-designed security features.'

Physical protection measures will be incorporated into the scheme through the detailed design development.



6. Activity

'Places where the level of human activity is appropriate to the location and creates a reduced risk of crime and sense of safety at all times.'

Streets and spaces will be of high quality and have been designed with the aim of attracting activity in the form of recreation, social interaction and play which will help provide security.

7. Management and maintenance

'Places that are designed with management and maintenance in mind, to discourage crime in the present and the future.'

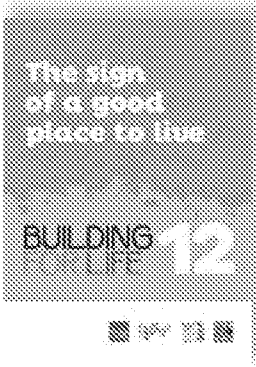
The detailed management strategies and solutions specific to these proposals will be developed at a later detailed stage.



KEY

-  Perimeter block structure
-  Active frontages overlooking streets and spaces
-  Open spaces overlooked
-  Equipped area of play for children (LEAP)

FIGURE 52. Plan showing how the principles of Secured by Design have been applied to the layout



Building for Life

Building for Life is the industry standard, endorsed by Government, for well designed homes and neighbourhoods that local communities, local authorities and developers are invited to use to stimulate conversations about creating good places to live.

Building for Life is run by a partnership of Cabi at the Design Council, the Home Builders Federation and Design for Homes,

who launched an updated version called Building for Life 12, in September 2012. The updated version is based upon the new National Planning Policy Framework and the Government's commitment to build more homes, better homes and involve local communities in planning.

The proposed development addresses all of the 12 criteria set out in the Building for Life. A table showing how each of the criteria will be met is shown at Figure 52 and explained in more detail below.

1. Connections

Does the scheme integrate into its surroundings by reinforcing existing connections and creating new ones; whilst also respecting existing buildings and land uses along the boundaries of the development site?

The layout has been designed to connect to the existing area via an extension to the existing highway at Marshall Close. The layout retains the existing public right of way through the site with it forming an integral part of the layout.

The land uses and layout respect the character and layout of the surrounding development and new buildings have been orientated and set back to respect their amenity where appropriate.

2. Facilities and services

Does the development provide (or is it close to) community facilities, such as shops, schools, workplaces, parks, play areas, pubs or cafes?

The scheme is well located to existing local facilities and services in Barnham Village as shown at Figure 4. It is also close to existing public transport routes including bus stops on Yapton Road and Barnham Station. These allow for access to a wide range of destinations which benefit from higher order services.

There are also a number of focal places within the site which could be used as meeting places or places for interaction including the amenity space at the entrance of the site and potential new children's play area in the central green area.



3. Public transport

Does the scheme have good access to public transport to help reduce car dependency?

The site is well served by public transport with bus stops at Barnham Community Hall, approximately 480m (approx 6 mins walk) and Barnham Railway Station 650m (approx 8 mins walk). These provide connections to the wider area including bus links to Yapton, Bognor Regis, Arundel and Chichester. Barnham Station provides frequent peak time trains to Southampton, Portsmouth, Chichester and Brighton. The site is therefore readily accessible by public transport.



4. Meeting local housing requirements

Does the development have a mix of housing types and tenures that suit local requirements?

The scheme includes a good mix of dwelling types and tenures including up to 30% affordable homes. The mix includes a small number of apartments, starter homes and larger family homes.

The mix of affordable housing has been developed in specific response to local housing need in consultation with the Council.

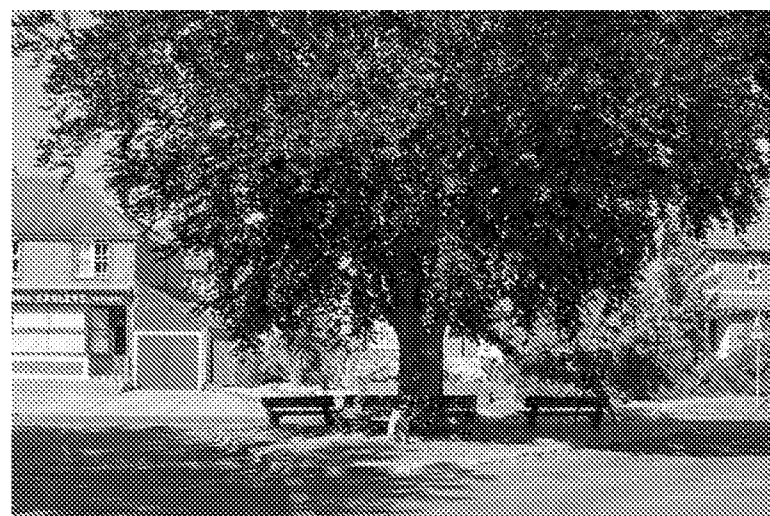
The scheme has been designed to provide a tenure blind approach so that it is not easy to differentiate between homes that are private and those that are rented or in shared ownership.

5. Character

Does the scheme create a place with a locally inspired or otherwise distinctive character?

The scheme has been designed to reflect the character of the local and wider area. Details of the approach are set out in section 2,4 and 5 of this document.

Further reinforcement of the character can be achieved at the reserved matters stage through the design of individual buildings.



6. Working with the site and it's context

Does the scheme take advantage of existing topography, landscape features (including water courses), trees and plants, wildlife habitats, existing buildings, site orientation and microclimate?

The scheme has been designed to respond to the character of the site with the arrangement of dwellings and intensity of development decreasing from the south east to the north west to maintain the low density village edge character of Church Lane and the Conservation Area.

Dwellings in the southern and eastern edges of the site have been set back from the boundary to provide a softer landscaped edge in this area. The existing hedgerows and large trees within the site have been retained and incorporated into the layout.

A large number of the buildings within the layout have been orientated to optimise the solar potential of the site by their orientation to south.

7. Creating well defined streets and spaces

Are buildings designed and positioned with landscaping to define and enhance streets and spaces and are buildings designed to turn street corners well?

The layout follows a traditional perimeter block approach with private gardens backing on to each other and dwellings fronting and enclosing the streets or pedestrian / cycle connections.

The layout uses a number of buildings which turn the corner and provide surveillance over two aspects as shown in Figure 53. All fronts of buildings face the street or public realm.

8. Easy to find your way around

Is the development designed to make it easy to find your way around?

The layout has been designed to allow people to create a mental map of the place by incorporating features that people will notice and remember. The layout follows a logical pattern of development using a hierarchy of streets and spaces which are permeable and allow people to find and navigate their way around easily.

Landmark buildings and views though the site make it easy for people to see in advance where they are going.



FIGURE 53. Illustration showing how buildings will turn corners

9. Streets for all

Are streets designed in a way that encourage low vehicle speeds and allow them to function as social spaces?

The layout of streets has been designed to reduce traffic speeds. There are no long stretches of wide road and the Green Drives and Courtyards will be shared surfaces. These are usually demarcated by a change of surface treatment which brings the attention of drivers to a change of environment and the need to slow down. This design approach thus gives priority to people over cars.

The shared surfaces also provide social spaces and together with the informal public open spaces in this area can be used for safe children’s play.

10. Car parking

Is resident and visitor parking sufficient and well integrated so that it does not dominate the street?

Car parking is a reserved matter and will be provided to meet the required standards of the highway authority. There area number of unallocated parking spaces spread across the site for visitors.

Parking is located close to people’s homes, generally on plot.

Car ports and car parking spaces are provided set back between buildings so they do not dominate the street scene. All car ports shown are detached from the dwelling so they are not easily converted to form additional living accommodation reducing the car parking provision.

11. Public & private spaces

Will public and private spaces be clearly defined and designed to have appropriate access and be able to be well managed and safe in use?

Due to the scale of the development it is considered only appropriate to provide informal recreation. Contributions will be made to ensure that existing facilities for formal recreation and play will be achieved.

Public and private spaces are well defined with all public spaces overlooked by neighbouring properties and located where they are accessible to a wide range of people including the new and existing residents.

12. External storage and amenity space

Is there adequate external storage space for bins and recycling, as well as vehicles and cycles?

Each of the properties has a private garden area which allows for sufficient space for the storage of bins and cycles. The majority of dwellings have a separate rear access to avoid having to go through the property for cycle storage.



Design element	Requirement	Response	Red	Amber	Green
Integrating into the neighbourhood					
Connections	Does the scheme integrate into its surroundings by reinforcing existing connections and creating new ones; whilst also respecting existing buildings and land uses along the boundaries of the development site?	Yes. The masterplan responds to both the site and the surrounding buildings and land uses. The layout makes connections to the wider area and integrates the development to the surrounding area, providing new links through the site which will improve accessibility to public open space and play facilities.			☒
Facilities and services	Does the development provide (or is it close to) community facilities, such as shops, schools, workplaces, parks, play areas, pubs or cafes?	Yes the new development is well located to existing facilities in the centre of the village with the central area approximately 700m / 8 mins walk.			☒
Public transport	Does the scheme have good access to public transport to help reduce car dependency?	Yes. The site is well served by public transport with regular bus services on Yapton/ Barnham Road within easy walking distance of the site and Barnham with 800m / 10 mins walk.			☒
Meeting local housing requirements	Does the development have a mix of housing types and tenures that suit local requirements?	Yes, the scheme provides a mix of market and affordable housing including a wide range of dwelling types which have been discussed with the LPA as part of the application.			☒
Creating a place					
Character	Does the scheme create a place with a locally inspired or otherwise distinctive character?	The scheme is in outline form at this stage but the illustrative site layout and information within the Design and Access Statement demonstrates a high quality, contextual approach to the new development.			☒
Working with the site and its context	Does the scheme take advantage of existing topography, landscape features (including water courses), wildlife habitats, existing buildings, site orientation and microclimates?	Yes, the layout retains all key landscape features including areas of new habitat and hedgerows which will be enhanced through implementation of long-term management and complementary planting.			☒
Creating well defined streets and spaces	Are buildings designed and positioned with landscaping to define and enhance streets and spaces and are buildings designed to turn street corners well?	Yes, the Illustrative site layout plan and Design and Access Statement show how this can be achieved within the site.			☒
Easy to find your way around	Is the scheme designed to make it easy to find your way around?	Yes, the Illustrative site layout plan and Design and Access Statement show how this can be achieved within the site including the provision of key buildings within the layout.			☒
Street & Home					
Streets for all	Are streets designed in a way that encourage low vehicle speeds and allow them to function as social spaces?	Yes, the illustrative layout shows a hierarchy of streets including roads and shared surfaces to ensure that people will have priority over cars.			☒
Car parking	Is resident and visitor parking sufficient and well integrated so that it does not dominate the street?	Yes, the illustrative layout plan shows how sufficient car parking will be provided on the site including both allocated and unallocated parking spaces.			☒
Public and private spaces	Will public and private spaces be clearly defined and designed to be attractive, well managed and safe?	Yes, the block structure shown in the illustrative layout shows a clear definition of fronts and backs with private and public spaces defined. The detailed design of these areas will ensure that they are attractive, well managed and safe.			☒
External storage and amenity space	Is there adequate external storage space for bins	Yes, the illustrative layout shows how refuse can be accommodated within the development and allow for their storage and collection with appropriate manoeuvring space for service vehicles.			☒

FIGURE 52. Preliminary Building for Life Assessment

