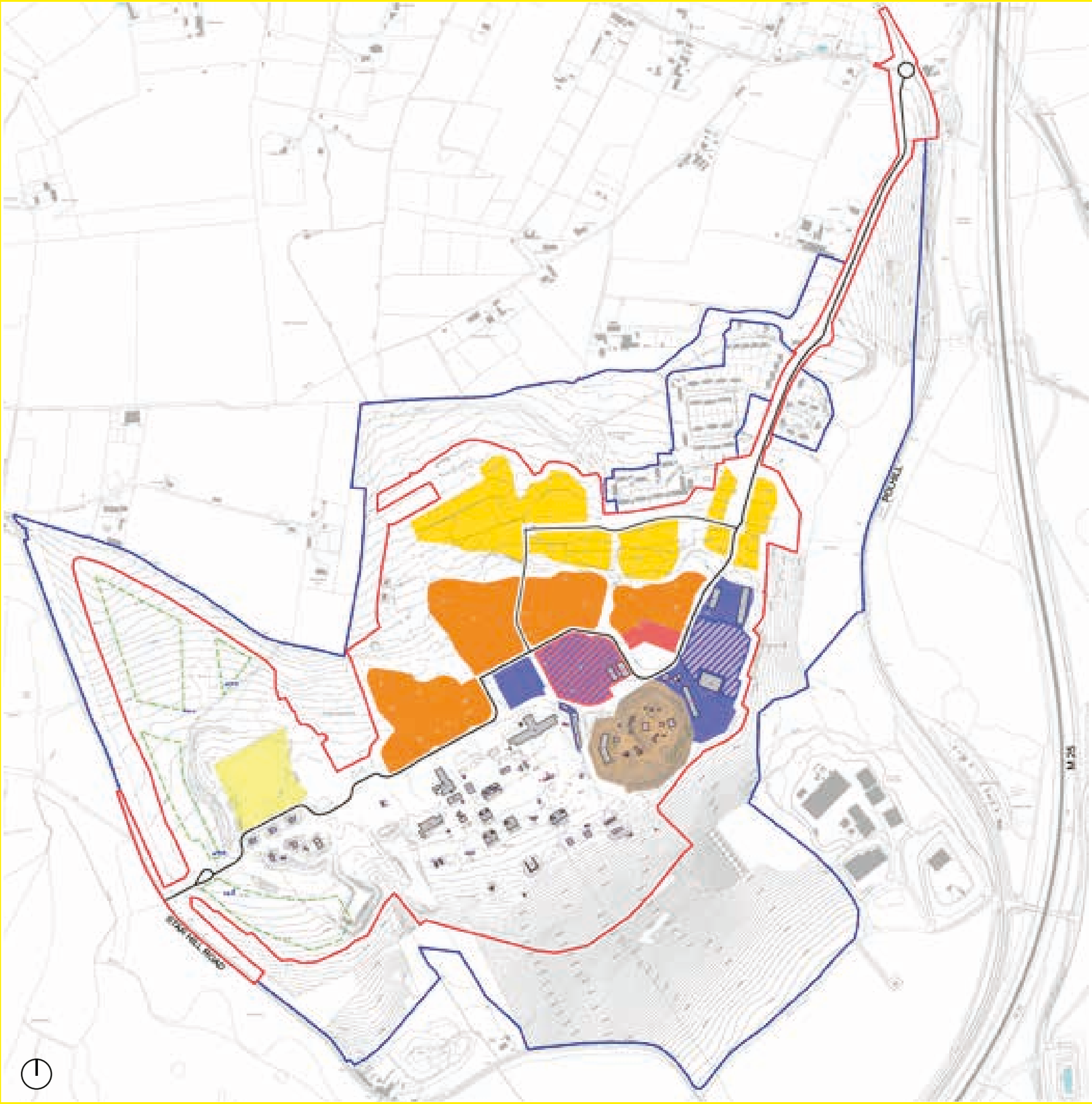


Key

- Application boundary
- Applicant's land ownership boundary
- Proposed vehicular routes
- Scheduled monument
- Proposed contours
- Proposed stockpile
- Highest point of proposed stockpile

- Residential: up to 2 storeys (Up to 11m to top of ridgeline)
- Residential: Up to 2 storeys with occasional 2.5 storeys (Up to 12.5m to top of ridgeline for 2.5 storeys)
- Residential: Up to 2.5 storeys with occasional 3 storeys (Up to 13.5m to top of ridgeline for 3 storeys)
- Mixed Use: Up to 3 storeys (Up to 16m to top of ridgeline)
- Employment: Up to 3 storeys (Up to 15m to top of ridgeline)
- Primary school/Employment: Up to 3 storeys (Up to 15m to top of ridgeline)
- Employment/Mixed Use: 3 storeys with occasional landmark buildings up to 4 storeys (Up to 15m to top of ridgeline for 3 storeys and up to 16m to top of ridgeline for 4 storeys)

Notes:

The height parameters set out in the Building Height Parameter Plan are to maximum ridge heights. The heights are set from existing ground levels, not a proposed Finish Floor Level and therefore account for any ground works that may need to be undertaken. Each of the parameter levels has been set at such a level to allow for flexibility to be introduced in roof line and the steepness of roof pitches in order to create variety and interest.

Maximum Building Heights (MBH)

A further 1m has been added to parameter plan residential and mixed use heights and 1.5m has been added to employments heights to allow tolerance for ground level slopes across the building footprint.

5.3 ACCESS & MOVEMENT

This plan identifies the principles of vehicular and pedestrian access to the site and through it.

It shows the proposed main strategic route, junctions and primary vehicular access points into the site, for which approval is sought as part of this application.

Access and movements proposals include:

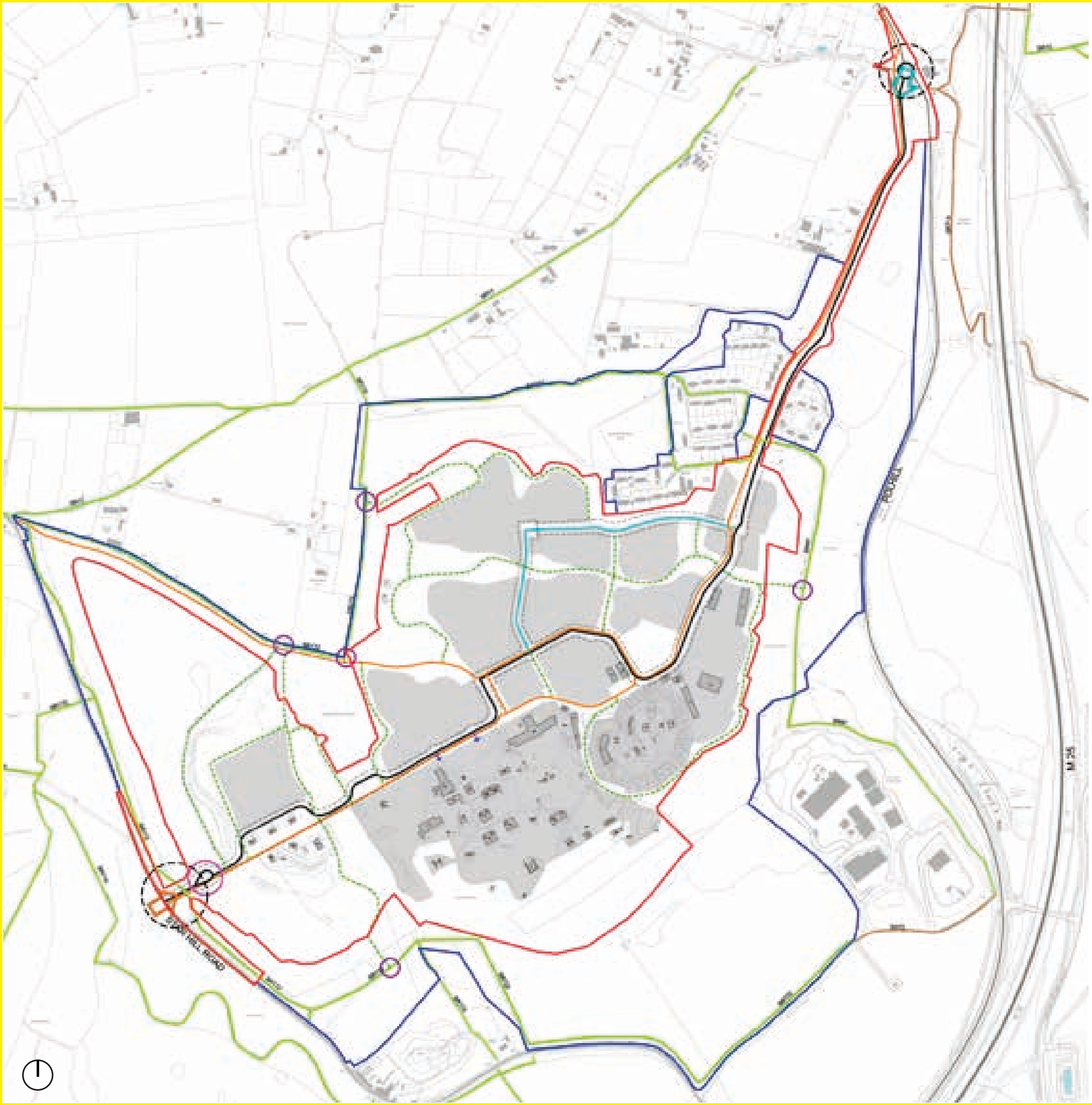
- Provide two vehicular access points for the site (Primary access at Polhill and secondary access at Star Hill);
- Retain the alignment of Crow Drive and propose appropriate traffic calming measures for the straight sections of the road;
- Downgrade the section of Crow Drive between QinetiQ, Employment areas and Village Centre to a pedestrian/cycle only route;
- Divert the primary route onto Penney Drive;
- Narrow the width of Crow Drive between the Village Square and the Fort—have shared surface treatment to reinforce the link between the Fort and the listed Q14 building;
- Secondary route proposed along the existing road infrastructure, to serve surrounding the residential parcels;
- A proposed bus route (route to be confirmed);
- A strategic east-west cycle link provided with an off-road route between the village centre and Polhill;
- Pedestrian/cycle routes proposed along the primary, secondary roads and through the green infrastructure;
- Secondary pedestrian links proposed within the woodland buffers providing circular routes around the site.
- Upgrade of footpath SR172 to a strategic shared footway / cyclepath.
- Creation of a permissive strategic cycleway alongside existing footpath SR172.

2015 EXTANT PERMISSION

Key

- Application boundary
- Applicant's land ownership boundary
- Development footprint
- Buildings to be retained
- Primary access
- Secondary access
- Proposed access to QinetiQ employment site
- Junction improvement
- Indicative alignment corridor for proposed Primary vehicular route
- Indicative proposed secondary vehicular route
- Indicative proposed bus route
- Indicative proposed pedestrian and cycle routes
- Existing public rights of way (PROW)
- Existing bridleways
- North Downs Way
- Section of footpath (SR172) between the site and Knockholt Pound upgraded to cycle/bridleway

- Single access from Polhill
- Rerouted Crow Drive around the Cricket Green
- Created new secondary and tertiary routes around the site
- Separate access into QinetiQ site from Crow Drive
- Circular cycle and pedestrian routes around the edges of the site



Key

- Application boundary
- Applicant's land ownership boundary
- Development parcels
- Existing building for retention
- Existing footpaths
- Existing bridleway
- Existing road
- Main access – all modes
- Secondary access – all modes
- Indicative QinetiQ Ltd. access point
- Junction improvement (Refer to Stantec's drawing 41290_5501_044 and 41290_5501_044)
- Primary road (Crow Road/Penney Road)*
- Corridor for Primary road
- Indicative location of bus loop
- Secondary road*
- Indicative strategic shared footway/cycleway^
- Indicative secondary shared footway/ cycleway^
- Connection to existing footway network

Notes:
*The primary and secondary road alignment may deviate within the road corridor, subject to on-site constraints. The adjacent land parcels will be adjusted accordingly.

^Alignment of footways/cycleways are subject to detailed landscape/road design

5.4 DEMOLITION

The Demolition Parameter Plan identifies buildings and structures proposed for demolition within the application boundary.

2015 EXTANT PERMISSION

Key

- Application boundary
- Applicant's land ownership boundary
- Buildings to be demolished
- Buildings to be retained

Retained buildings

- Q1, Q13 and Q14
- A1, A3, A11, A14 and A13
- M6, M5 and M4
- All structures in the Fort
- Some structures in the QinetiQ enclave (to be confirmed)

Key

- Application boundary
- Applicant's land ownership boundary
- Buildings to be demolished
- Buildings to be retained

6. MASTERPLAN

6.1 ILLUSTRATIVE MASTERPLAN

SUMMARY

The plan on the facing page has been developed from the vision and design principles. It illustrates how the site could be developed in the context of the Parameter Plans to create an attractive residential neighbourhood including a range of amenities and open spaces.

Key aspects of the plan are explained in more detail on the following pages and in subsequent chapters, but in summary it will deliver:

- Up to 635 mixed-tenure homes in a variety of sizes;
- Six distinct residential neighbourhoods;
- The retention and consolidation of existing employer QinetiQ on site;
- A new employment area for a range of businesses uses and sizes;
- A new village centre serving new and existing residents and including a range of mixed uses such as a shop, café, community use and nursery;
- A potential new primary school site with dedicated sport pitches;
- A new village green, creating a community focus and connecting the different uses within the village;
- A village square linking the retained and refurbished listed building and scheduled monument;
- Extensive areas of open space and green infrastructure.

INDICATIVE HOUSING MIX

The illustrative masterplan demonstrates that the site can accommodate 635 units with the indicative housing mix as set out below.

PRIVATE	
House type	**Percentage**
1 Bed	4%
2 Bed	28%
3 Bed	42%
4 Bed	19%
5 Bed	7%
TOTAL	**100%**

AFFORDABLE	
House type	**Percentage**
1 Bed	35%
2 Bed	35%
3 Bed	30%
TOTAL	**100%**

Key (opposite page)

1. Existing residential
2. Ancient woodland
3. Existing woodland
4. Existing chalk grassland
5. QinetiQ
6. QinetiQ entrance
7. The Fort (scheduled monument)
8. Land safeguarded for 1 form-entry Primary School
9. Employment
10. Mixed-use village centre
11. Village square
12. Village green
13. Gateway hamlet
14. Old Grove Place
15. Anisbirches Walk
16. Village Mews
17. Beaumont Glade
18. Dutchmore Wood
19. Bunker park
20. Community recreation area
21. Community orchard
22. Ecologically enhanced grassland / mitigation zone
23. Indicative location of LEAP
24. Indicative location of MUGA
25. Pedestrian and cycle link only

Broomfield Wood

Great Stockholme Wood

Dutchmore Wood

Old Grove

Anisbirches Wood

NORTH DOWNS BUSINESS PARK

M25

MITCHELL ROAD

LENNARD-JONES ROAD

PENNEY ROAD

CROW DRIVE

CROW ROAD

STAR HILL ROAD

POLHILL

A1

A3

A10

A11

A13

A14

Q13

Q14

X38

X2

6.2 INDICATIVE DENSITY

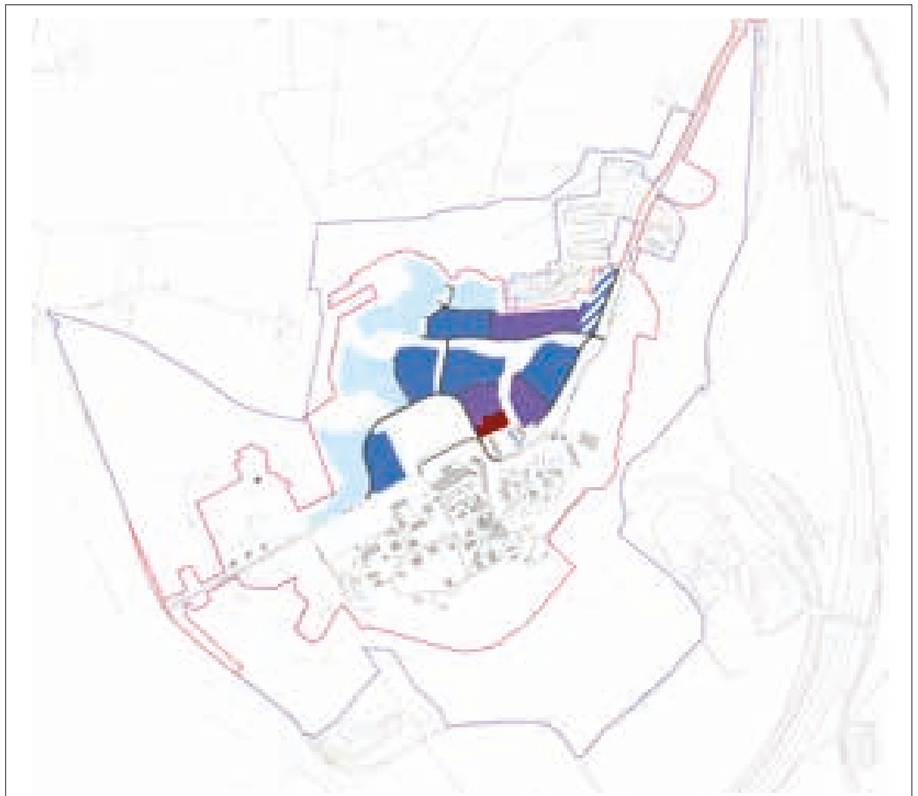
The plan opposite indicatively shows how the residential densities could be distributed around the development to achieve 635 homes. A range of densities will generate variation in built form and character across the site and thereby create enhanced visual interest. To see how the densities could inform the character across the site, please see the Character Area Guidance in Chapter 7.

The plan shows indicatively that higher densities could be located around the village centre where levels of activity will be the highest, with density gradually decreasing moving away from the centre towards the woodland edges.

INDICATIVE DENSITY SCHEDULE

LAND USE/PARCEL	AREA (HA)	MAX. DENSITY (DPH)	MAX. NO. OF HOUSING
Residential	**14.75**	**50**	**525**
R1	0.65	30	17
R2	0.27	30	7
R3	0.20	30	5
R4	0.95	45	39
R5	0.83	35	26
R6	0.90	35	29
R7	0.97	35	31
R8	1.14	30	30
R9	1.15	50	52
R10	1.49	47	64
R11	2.06	42	79
R12	2.41	50	108
R13	1.71	25	38
Mixed Use	**0.37**		**25**
M3	0.37		25
Mixed Use/ Employment	**1.44**		**85**
M1	0.24		0
M2	0.53		51
M4	0.67		34
GRAND TOTAL	**16.56**		**635**
Indicative Average Density (Residential & Mixed Use)		**38.35 dph**	

2015 EXTANT PERMISSION

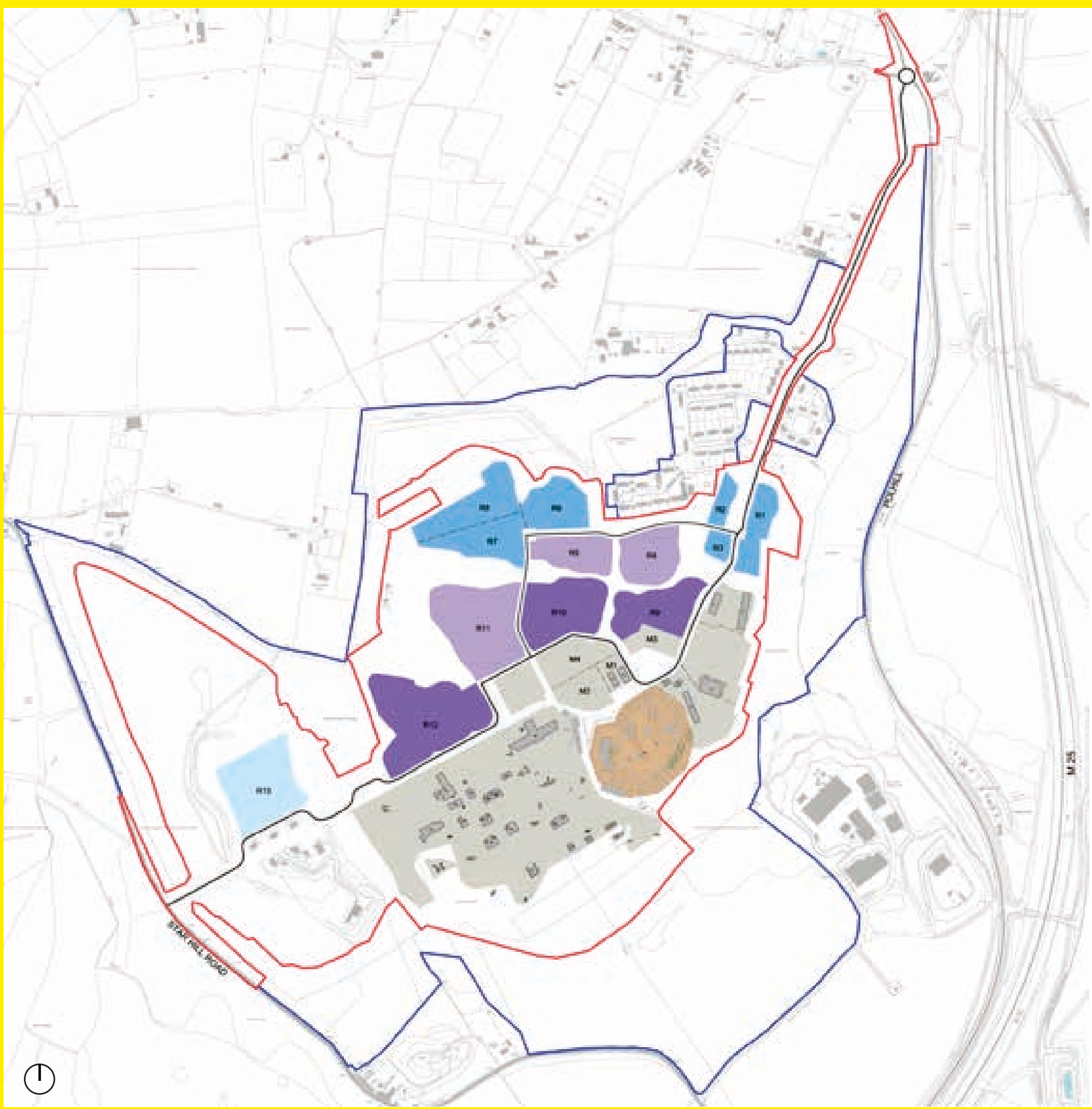


Key

- Application boundary
- Applicant's land ownership boundary
- Residential: Lower Density (up to 25 dph)
- Residential: Medium Density (26–35 dph)
- Residential: Medium Density (26–35 dph) (if not developed for employment)
- Residential: Higher Density (36–45 dph)
- Mixed use
- Buildings to be retained
- Retained sections of Crow Road and Crow Drive
- Indicative proposed roads

Average density of 34 dph across the whole site (excluding green amenity space, woodland and employment generating areas)

- 450 homes
- Average density: 34dph
- Densities ranging from 'up to 25dph' to '36–45 dph'
- Lower densities located to the north and western edge, facing onto woodland
- Medium densities located in the central area of the site
- Higher densities located around the Village centre and against existing housing



Key

- Application boundary
- Applicant's land ownership boundary
- Proposed vehicular routes
- Scheduled monument
- Employment/Mixed Use/School
- Existing building for retention

- Residential: 20 to 30 dph
- Residential: 25 to 35 dph
- Residential: 35 to 45 dph
- Residential: 45 to 55 dph

6.3 VILLAGE CENTRE

The Village Centre forms the heart of the village as both an employment area and a community hub for the new residents.

The Village Centre incorporates the restoration of two existing buildings; 'Penney' (Q14) which is Grade II Listed and 'The Q' (Q13). Both formed part of the original Q-Building enclave used for the Atomic Bomb Development Programme.

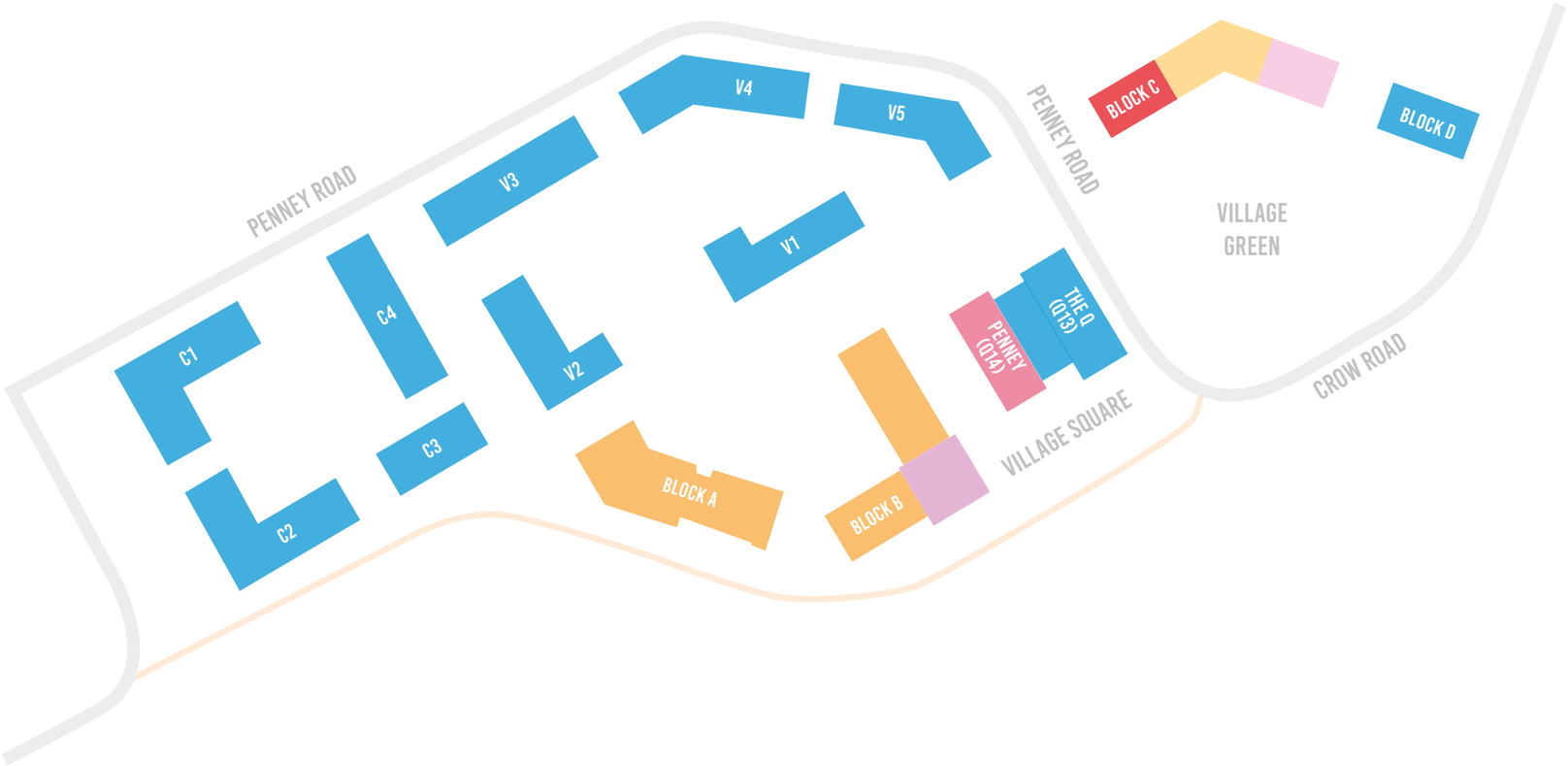
To the south of these two restored existing buildings, a new village square is proposed which will be the main focus for social and community activities as well as pedestrian/cycle movements. To the rear of these buildings parking, servicing, refuse collection and emergency fire access will be prioritised.

A mixed-use building (Block B) is proposed alongside Penney (Q14) creating a new 'beacon' for the Village Centre. The building's architecture will celebrate innovation and reflect the enclave's military history.

A new village green is located to the east of Penney Road, the space is framed by new buildings encouraging activity through a variety of uses and contain areas of play.

The remaining buildings in the Village Centre will accommodate employment use, prominently office (B1a) and Research & Development (B1b)

For more detail on the Village Centre, please see the Village Centre document.



Illustrative uses at ground level

Key (same page)

- Gym
- Residential
- Café
- Employment
- Community
- Nursery
- Food Store

Key (opposite page)

1. Gym
2. Apartment with community use
3. Apartments
4. Village Green
5. Children's play area – LEAP
6. Village Square
7. Employment


LENNARD-JONES ROAD
PENNEY ROAD
GREEN LINK
PENNEY ROAD
CROW ROAD
Q14
Q13
1
2
3
4
5
6
7
QINETIQ
THE FORT

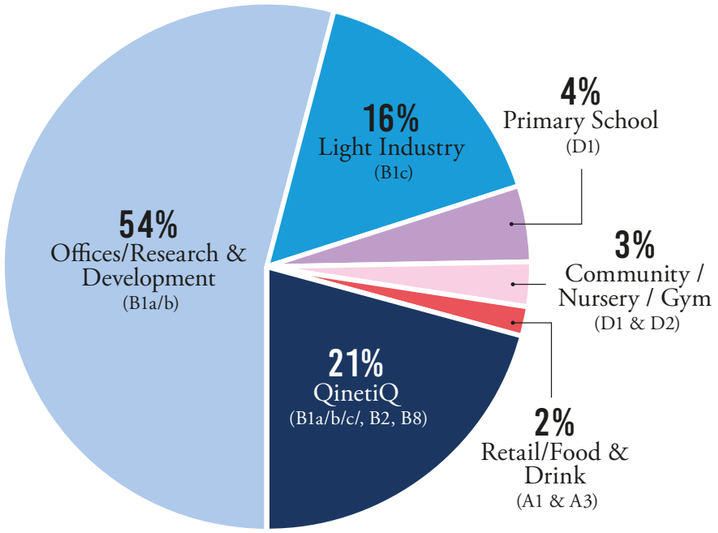
6.4 EMPLOYMENT & EDUCATION USES

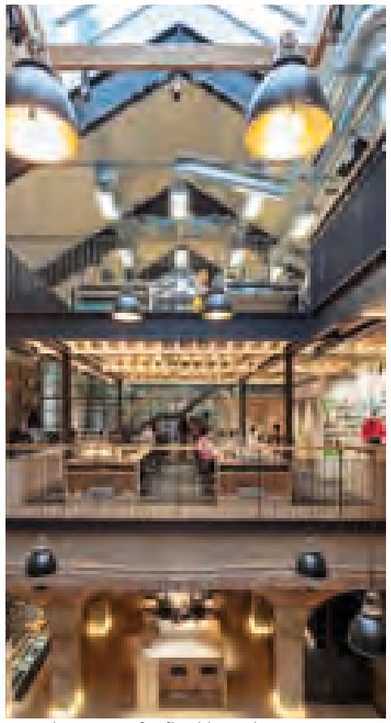
Employment and education uses are located along the southern part of the site, wrapping around the north of the Fort and QinetiQ's new consolidated demise. The employment area and land safeguarded for primary school are an integral part of the Village Centre and their location is easily accessible from every home which will encourage activity and vibrancy, making the commercial uses in this location more viable.

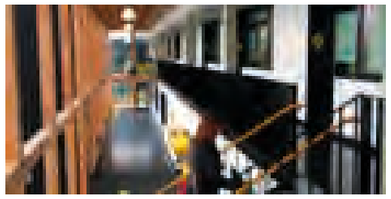
The employment areas will include a range of buildings with varying footprint areas, providing flexible accommodation for office, research & development as well as light industry.

At the centre of the main employment site, there will be area safeguarded for a potential single form entry primary school.

KEY	USE/USE CLASS	FLOOR AREA (SQM)	%	APPROX. NO OF JOBS
	Offices/Research & Development (B1a/b)	15,784	54%	1,039
	Light Industry (B1c)	4,626	16%	78
	QinetiQ (B1a/b/c, B2, B8)	6,016	21%	230
	Land safeguarded for Primary School (D1)	1,345	4%	29
	Community / Nursery / Gym (D1 & D2)	792	3%	32
	Retail/Food & Drink (A1 & A3)	520	2%	29
	TOTAL	**29,083**	**100%**	**1,437**




Precedent image for flexible workspaces – JTP Studios, Wapping


Precedent image for an Incubator Hub – Alconbury Weald, Huntingdon

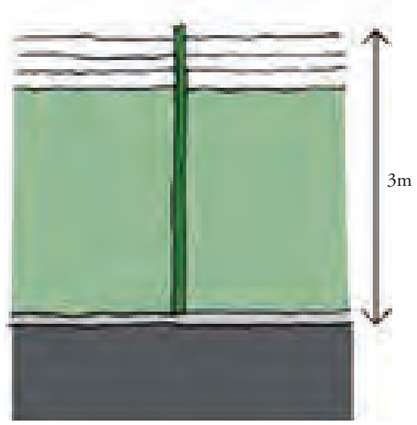

Precedent image of a primary school – Skinner' Kent primary school at Knights Wood, Tunbridge Wells


Precedent image for light industry buildings – Caxton Works, Poplar

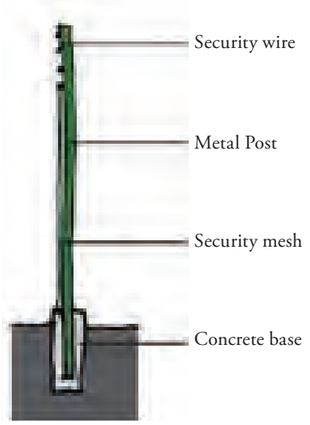
INDICATIVE DETAILS FOR QINETIQ'S FENCE

Due to the sensitive nature of QinetiQ's operations, their demise to the south of the site, will be contained by a 3m high secured fenceline. The extent and details of the proposed fenceline has been indicatively illustrated below. The exact alignment of the fenceline will be establish at reserved matters stage.


Indicative fence line of QinetiQ enclave



Elevation



Section

Key

1. QinetiQ
2. B1a/B1b – Offices/Research
3. B1c – Light industry
4. D1 – Community/Nursery
5. B1a/B1b/D1 – Office /Research / Land safeguarded for Primary school
6. D2 – Gym
7. A3 – Café
8. A3 – Shop

6.5 LANDSCAPE STRATEGY

RETAINING & ENHANCING LANDSCAPE FEATURES & HABITATS

The Site contains many special landscape features such as woodland, trees and chalk grassland. These features will be retained and enhanced through an appropriate management regime.

The built development will be offset from the Ancient Woodland by a buffer of at least 15m. This, in accordance with Natural England guidance and consultation, is to protect the ecological integrity of the woodland by creating new woodland edge habitat and discouraging access. The buffers will comprise a number of transitional of habitats, including an amenity/footpath zone closest to the residential area; an intermediate grassland/wildflower zone; and woodland/ woodland edge planting zone. The structural diversity of the ancient woodland would also be enhanced through appropriate management, such as canopy thinning, re-coppicing and planting of native species.

Numerous tree surveys have been under taken to identify the location, condition and value of trees across the Site. This information has been supplemented by a detailed site walkover to explore how areas of open space could coincide with existing groups of trees, resulting in minimising tree loss. Based on this survey information, there are approximately 1,600 trees within the Site, of which 795 are category 'A' trees, are likely to be of most landscape and amenity value.

Although it is not possible at the Outline Planning Application stage to definitively say which trees will be retained or removed, it is considered that the trees within the proposed public open space will be retained (subject to requirements for footpaths, play space, drainage features etc). Best endeavours to retain as many trees as possible within the proposed development parcels (subject to the location of amenity space and private gardens), will be addressed through detailed design at future reserved matter stage. By overlaying the tree survey information with the Parameter Plans—as shown on the plan opposite—it has been calculated that approximately 89.81% of the Category A trees have high potential for retention.

The area of chalk grassland on the scarp slope will be retained and enhanced through an appropriate management regime. This will include a carefully designed programme of sheep grazing (where possible) and cutting regimes, with arising's removed from the grassland habitat upon the unimproved calcareous grassland present within the south of the Site, and management of encroaching trees and scrub to provide a habitat mosaic and maximise the ecological value of this area. Other areas of semi-improved grassland and neutral grassland will also be retained and enhanced, increasing the overall biodiversity value of the Site.

Existing trees in the site

View of the chalk grassland on the scarp slope

Existing ancient woodland around the perimeter of the site


STAPLEHURST ROAD
M 25
Key
Ancient woodland
Existing woodland
Existing trees to be removed
Existing trees which could be retained subject to detailed design
Existing trees to be retained

6.5 LANDSCAPE STRATEGY

REDUCING VISUAL IMPACT

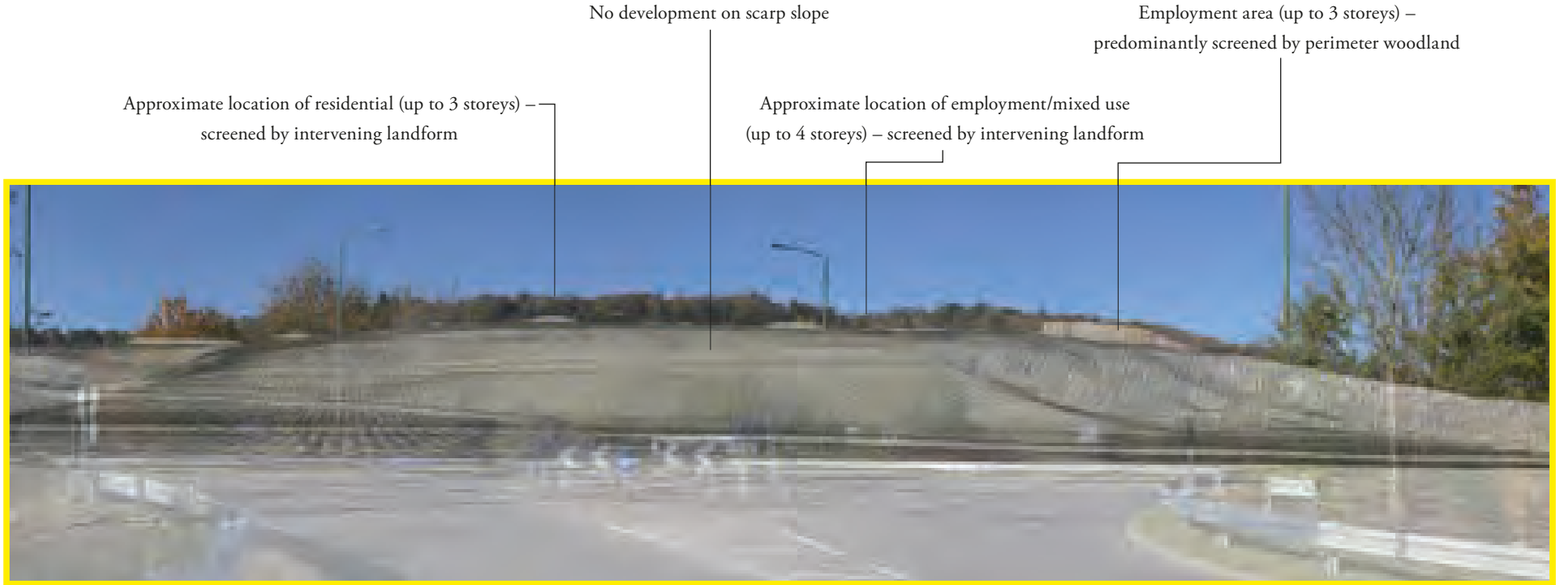
No built development is proposed on the visually exposed scarp slope, with all new buildings sitting behind the existing woodland that sits along the top of the scarp slope. The proposed development will also occupy the same area of the existing research establishment, and will not result in any significant change to the topography of the Site.

As defined by the Building Height Parameter Plan, the residential units will be predominantly 2 to 2.5 storey (11.5m maximum total building height), with 3 storeys proposed for landmark buildings and a maximum of 4 storey is proposed for the employment and mixed-use areas (16m maximum total building height).

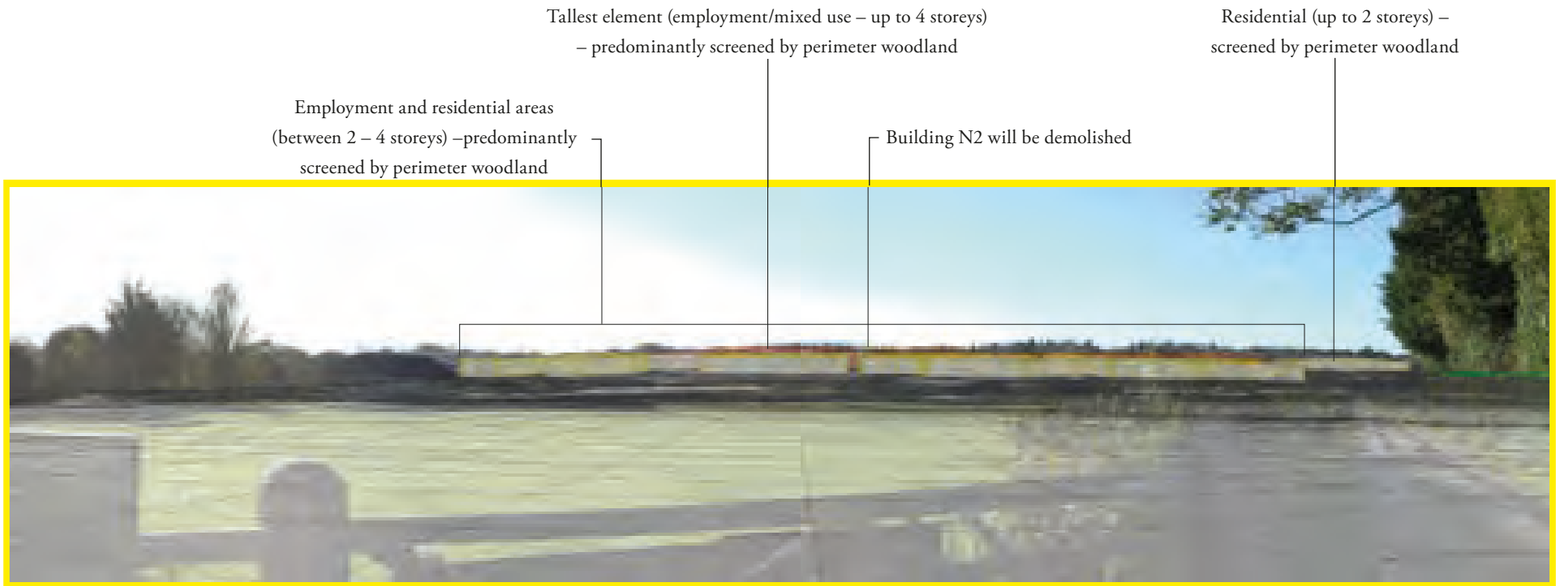
The visualisations opposite demonstrate that the majority of the completed development would be hidden by the perimeter vegetation. Some taller elements, namely the Innovation and Education Hub, would potentially be visible through this vegetation but would appear as small features within the wider panorama, especially as existing buildings that currently protrude more significantly above the perimeter vegetation would also be removed. As such, the proposed development will not be very visible from within the wider landscape and there will be no discernible change to views across the landscape.

The proposed development will also not adversely affect the levels of light pollution within the AONB. As set out in the Lighting Assessment, impacts are generally considered to range from negligible minor adverse to minor beneficial. A number of existing lighting installations will be removed, particularly security lighting at the West Gate/Star Hill Road.

The approved development for the site (of up to 450 homes) allowed for the same maximum building height parameters (i.e. 16m), and the proposed development will be no taller than the permitted scheme. The approved development also included an allowance for an energy centre flue zone of up to 25m, which significantly protruded above the tree-line. No energy centre flue forms part of the proposed development, which is beneficial from a landscape and visual perspective.

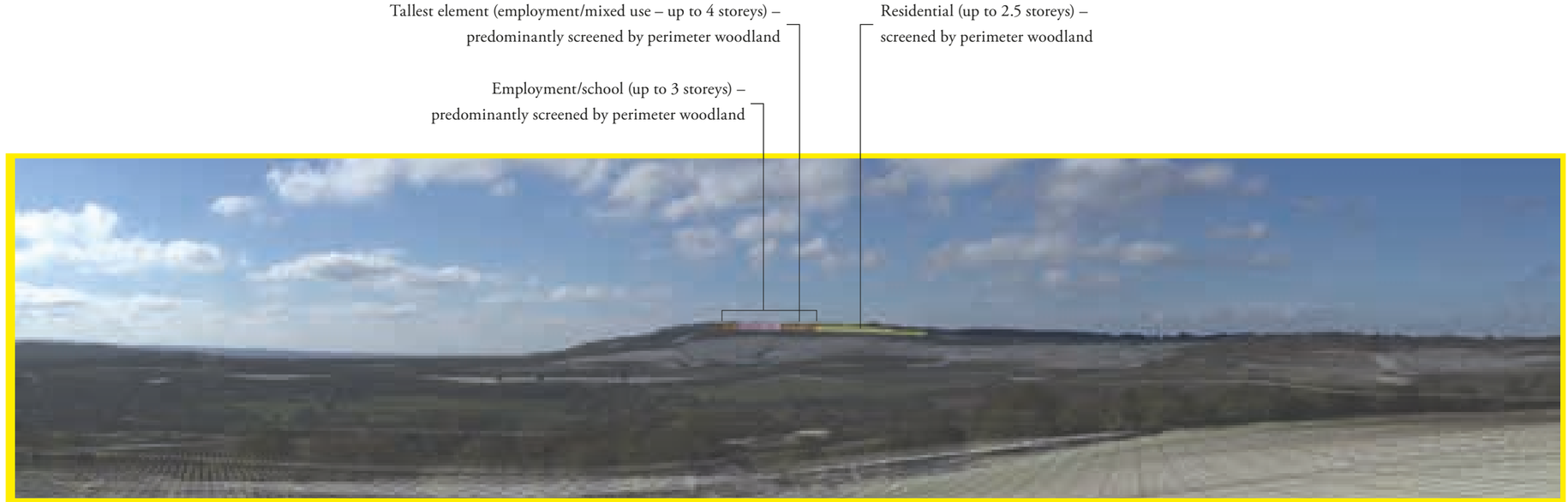


Viewpoint 6: View from junction of Morants Court Road/Polhill Road (A224), on the North Downs Way, looking north

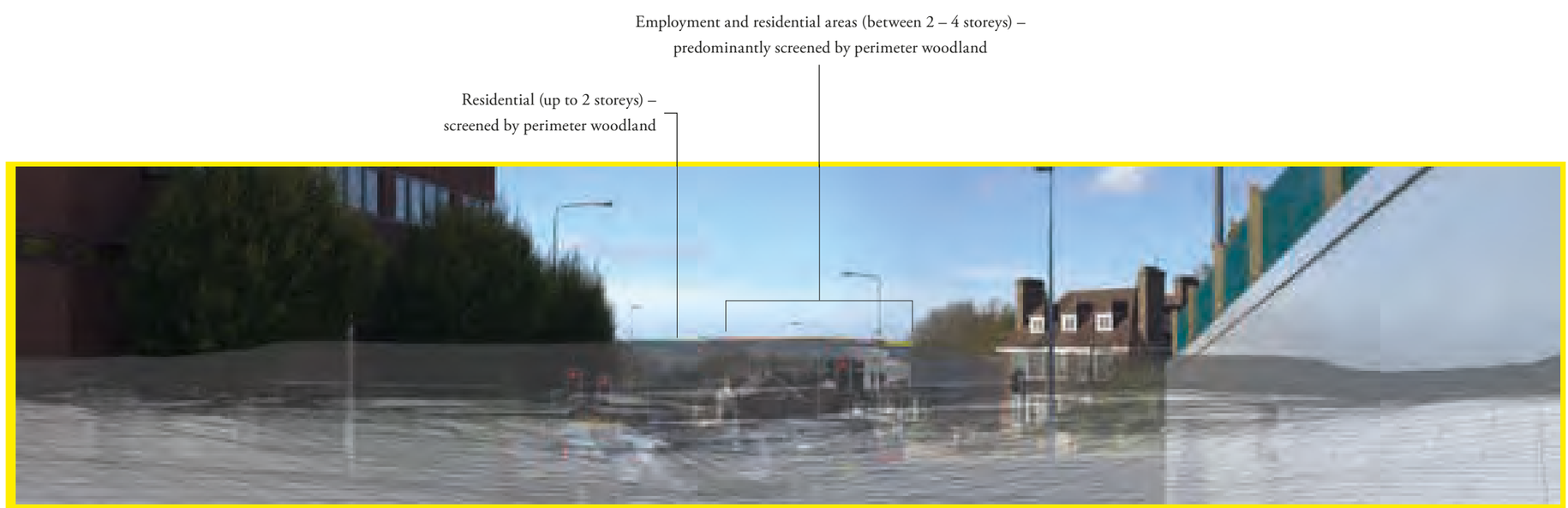


Viewpoint 7: View from Otford Lane looking south

6.5 LANDSCAPE STRATEGY



Viewpoint 12: View from Footpath SR60, near Otford Mount, looking south west



Viewpoint 14: View from junction of London Road/Argyle Road, within Sevenoaks, looking north-west

6.5 LANDSCAPE STRATEGY

ENHANCING THE CHARACTER OF THE SITE

The existing buildings within the site are light industrial/office in nature. Typically constructed from red brick, concrete or cladding they are interspersed with internal roads; large areas of hard standing used for parking/access; smaller storage buildings and bunkers; and areas of amenity grassland with mature trees. The proposed development provides an opportunity to enhance the overall character and visual amenity of the Site by removing many of the existing poor-quality buildings, large areas of hard standing and rubble from previously demolished buildings, and create a more legible site layout with high quality buildings and well-planned, usable open space.

While the design has had regard to the character of existing settlements within the surrounding landscape, the vision for the proposed development is not to create a 'traditional' AONB village—that mimics existing settlement patterns, building density, and architectural detail. It is, instead, to create a new community that utilises the existing layout and structure of the Site as far as possible and reflects the historic character of this unique site and enhancing its character and role within the AONB. This will minimise the need for new infrastructure and engineering works.

New development will provide genuine live and work opportunity, with employment and residential uses side by side, supported by a range of shared community facilities.

The proposed development is planned around a Village Centre, which utilises existing buildings; establishes a strong connection with the Fort; and provides a link between residential uses, the Innovation and Education Hub, and the retained QinetiQ site.

As set out later in the DAS, a 'character area' based approach has been adopted in order to identify different neighbourhoods. Each character area has definable characteristics, such as density, height, building typologies, landscape and land use, which will guide future detailed design and Reserved Matters Applications.

CREATING GREEN INFRASTRUCTURE

The character and appearance of the Site will be enhanced by a comprehensive green infrastructure strategy. A Village Green will be provided at the heart of the neighbourhood, adjacent to the Village Centre, providing opportunities for recreation and events. Connected to the Village Green are a series of 'green fingers' extending throughout the residential area, providing areas of public open space, pedestrian links, allowing for tree retention, and providing habitat corridors between areas of ancient woodland. The green fingers are also important from a place making perspective, creating an attractive residential environment and providing distinction between different neighbourhoods.

The ecological surveys have been a key influence on the green infrastructure strategy for the Site, and the development includes three strategic areas of open space that will each serve a variety of ecological and recreational functions. The area of chalk grassland to the south of the site—on the scarp slope—is of high ecological value. Its long-term integrity will be secured through the adoption of an appropriate management regime and public access will be restricted. The area of neutral grassland to the west of the QinetiQ/south of Crow Drive will be enhanced ecologically and managed as a wildlife area. Access to certain areas may be controlled by fencing. The area of neutral grassland to the north of Crow Drive will be retained as an informal recreation area, providing an alternative to those areas of greater ecological sensitivity, and providing direct access to the North Downs Way.

The proposed development of the site, from a high security research establishment to a new village, will allow members of the public to access an area of landscape (within the AONB) that was previously private. Provision of way-finder signs and interpretation signs will be ample throughout the site, aiding navigation and providing interpretation of key landscape, ecology and heritage features. Naturally, all existing Public Rights of Way around the Site will be retained and enhanced. This includes partial upgrade of Footpath SR172 between the Site and Knockholt Pound to a cycle path, partial removal of the security fence, creation of new connections to the green links within the site, and a programme of management to make sure that all footpaths are accessible and in good state of repair.

All designated heritage features within the Site will be protected and enhanced as part of the proposed development and an appropriate alternative use found for retained historic buildings. Measures include: retention of the Fort, which is a scheduled monument; reuse of the buildings within the Fort, some of which are listed, and retention of the Grade II listed Penney building, along with a number of adjoining buildings which are not listed, but contribute to its setting, as part of the Village Centre. Ten of the existing bunkers within the Site, which are not designated but reflect the Site's modern military heritage, will also be retained and incorporated within proposed open space. The heritage features form an important part of the green infrastructure strategy and positively contribute to the overall character of the Site.

Existing environment

Existing environment

Illustrative proposed development

6.5 LANDSCAPE STRATEGY

1 Village Centre/Village Green
Forms the green heart of the development, drawing together employment, residential and recreational uses, anchoring the landscape and contributing to a modern village character.

2 Green Corridors
These will link the green heart of the development to the wider landscape, allow for the retention of existing vegetation and create new opportunities for recreation, ecology and sustainable drainage.

3 Development
The development will occupy the same area of the existing military/defence research facility and does not result in major changes to topography.

4 Fort Halstead
The Fort is designated as a scheduled monument and contains areas of semi-improved calcareous grassland. The Fort's heritage interpretation will be enhanced and ecological habitats maintained through appropriate land management.

5 Ancient Woodland (ancient/semi-natural and replanted)
All ancient woodland around the perimeter of the development will be retained and its structure enhanced through appropriate management. A 15m buffer between development and ancient woodland will be provided and access to the more sensitive areas of woodland will be controlled.

6 Calcareous Chalk Grassland
The grassland is of high ecological value and its long term integrity will be secured through the adoption of an appropriate management regime by a suitable body. Public access will be restricted.

7 Semi-Improved Grassland
The diversity of grassland sward will be improved through the adoption of an appropriate management regime. Public access will be restricted.

8 Neutral Grassland (North of Crow Drive)
This area of grassland will be managed as an informal recreation resource, providing an alternative to those areas of greater ecological sensitivity.

9 Neutral Grassland (south of Crow Drive)
This area of grassland will be enhanced ecologically and managed as a wildlife area. Access to certain areas may be controlled by fencing.

10 Woodland Shelter Belt Planning
Planting will be allowed to mature and managed to maintain its screening function. Additional planting will be undertaken to enhance its structure.

11 Bunker Park
Bunker Park provides a semi-formal recreational area with some bunkers retained in situ for heritage interpretation (subject to a detailed feasibility study).

12 Rights of Way
Existing rights of way will be retained and incorporated as part of the development proposals, although careful consideration will be given to discouraging access to sensitive habitats.

13 Right of Way SR172
Creation of a new pedestrian and cycle link, improving connectivity between the site and Knockholt Pound. The existing Right of Way SR172 will be retained.

14 North Downs Way
The existing connection to the North Downs Way will be retained, ensuring connectivity between the development and the wider countryside.

15 Security Fence
Removal of the security fence around the vast majority of the site boundary.

6.6 PLAY STRATEGY

PLAY STRATEGY

The creation of a playful environment is a key strand of the green infrastructure strategy. A range of play areas and equipment will be distributed within the site and will provide for all ages and abilities.

Three types of play spaces are proposed at Fort Halstead:

- Local Area for Play (LAP) – 1 min walk from a child's home;
- Local Equipped Area for Play (LEAP) – 5 mins walk from a child's home; and
- Multi-Use Games Area (MUGA) – 8 mins walk from a child's homes.

Specific guidance on the requirements of each type of play area is provided in Fields in Trust Guidance (FIT): Standards for Outdoor Sport and Play. It includes specifications on the size of play area required, offsets from adjoining properties, equipment type, fencing, planting and seating which should be adhered to.

LAPs are small areas of open space specifically designated and primarily laid out for very young children to play close to where they live. These doorstep play areas are designed to allow for ease of informal observation and supervision and primarily function to encourage informal play and social interaction. The LAP requires no play equipment as such, relying more on demonstrative features indicating that play is positively encouraged. Perimeter fences should be provided for child safety and to prevent dog fouling.

LEAPs are areas of open space specifically designated and laid out with features including equipment for children who are beginning to go out and play independently close to where they live. These will have activity zones, 400sq.m minimum and be positioned beside a pedestrian route. It is recommended that LEAPs are located within 5 minutes walk from a home (which sometimes proves difficult to achieve).

FIT recommends that an alternative to LEAPs is to provide LLAPs. LLAPs need to be imaginatively designed and contoured using natural materials as far as possible such as logs and boulders to create an attractive setting for play. Planting should be varied to provide a mix of scent, colour and texture.

LEAP and LLAP play areas should not be fenced to ensure openness to allow more interaction between different age groups, whilst creating areas that are more accessible and sociable.

As children and young people become more independent, they will look for more challenging experiences, different forms of activity based provision and opportunities and environments for meeting with each other. Popular facilities include meeting areas and youth shelters within local open space and multi-games areas, skateboard parks and BMX tracks.

A MUGA is proposed at Fort Halstead for older children to use both formally and informally. This facility will be marked out for a range of activities, robustly made with ease of maintenance in mind and be free to use.

Guidance for the design, specification and construction, dimensions and layouts of MUGAs has been produced by Sport England and the Sports and Play Construction Association.

Play areas should be evenly distributed across the site and the plan opposite show indicative locations and walking distances for each play space. The precise location of these play spaces will be determined at Reserved Matters Application stage.

In addition to the equipped areas of play, provision for recreational play, in the form of an informal kick about area, is proposed on the grassland to the west of the new village.

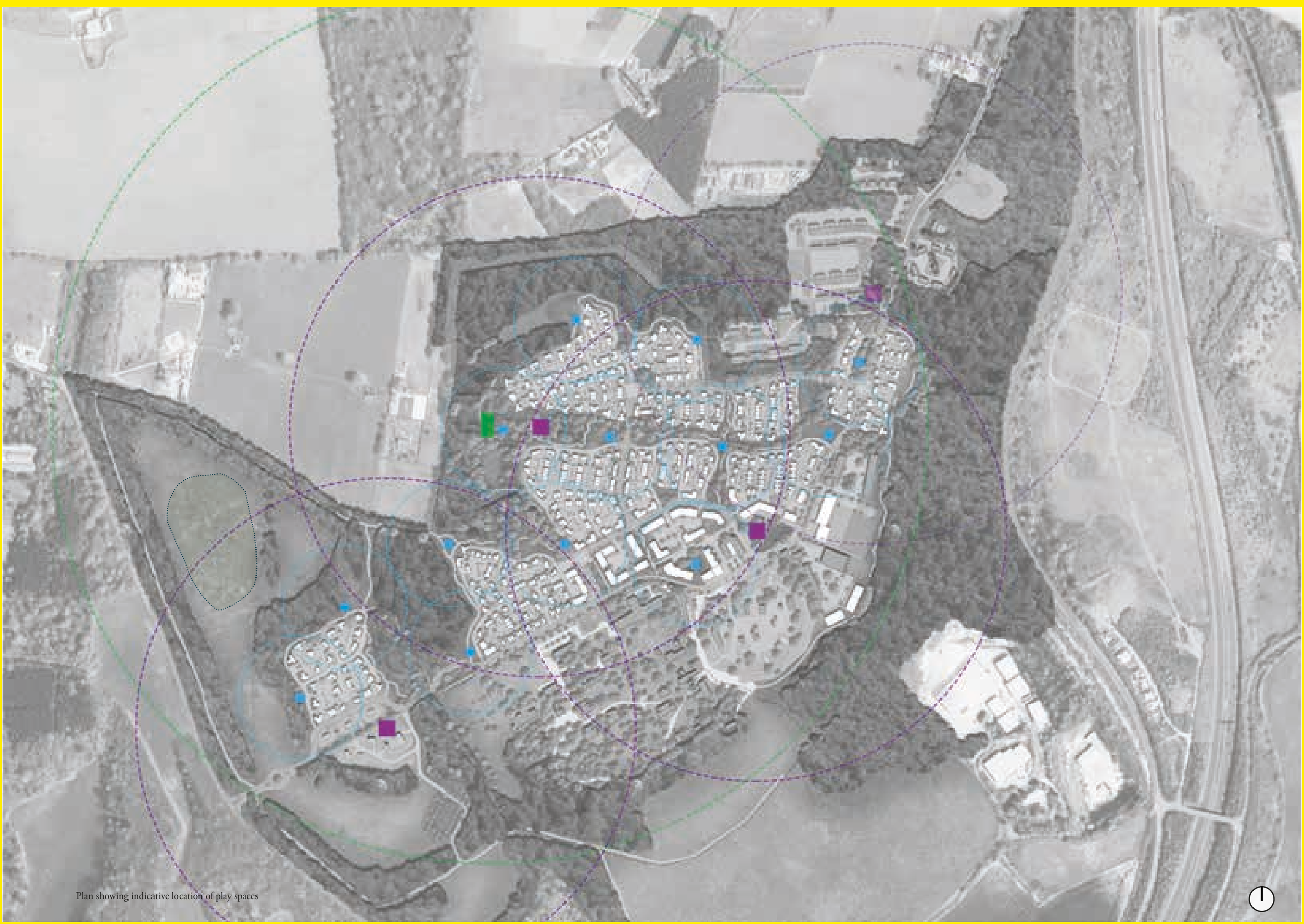
Naturalistic equipped play area at Boxgrove Park, Surrey

Naturalistic 'play-on-the-way' at Rugby Radio Station, Warwickshire

Informal kick about area at Caterham Barracks, Surrey

Key

- Indicative location of LAP (100m walking distance, 1 min walk)
- Indicative location of LEAP (400m walking distance, 5 mins walk)
- Indicative location of (MUGA) (700m walking distance, 8 mins walk)
- Informal kick about area



Plan showing indicative location of play spaces

7. CHARACTER AREA GUIDANCE

7.1 CHARACTER AREAS

INTRODUCTION

Fort Halstead will contain a number of distinct character areas, creating an interesting series of spatial and visual experiences as one moves through the site. Utilising the historical road network, subtle differences in design, the scale of buildings and their relationship to adjacent landscape spaces will help to define the different character areas, whilst maintaining an overall sense of unity across the site.

There should be a broad range of different house types and groupings across the development, within individual streets and spaces to create a variety of homes. This will ensure Fort Halstead is a place with a distinct character.

There are seven character areas, these are:

- Gateway Hamlets
  Small groups of high-quality homes, each with its own distinct character, in low density neighbourhoods, arranged to mark entrances to the development.

- Old Grove Place
  Homes focused around the Entrance Green, in a series of intimate courtyards; the area incorporates existing mature trees which line Crow Drive.

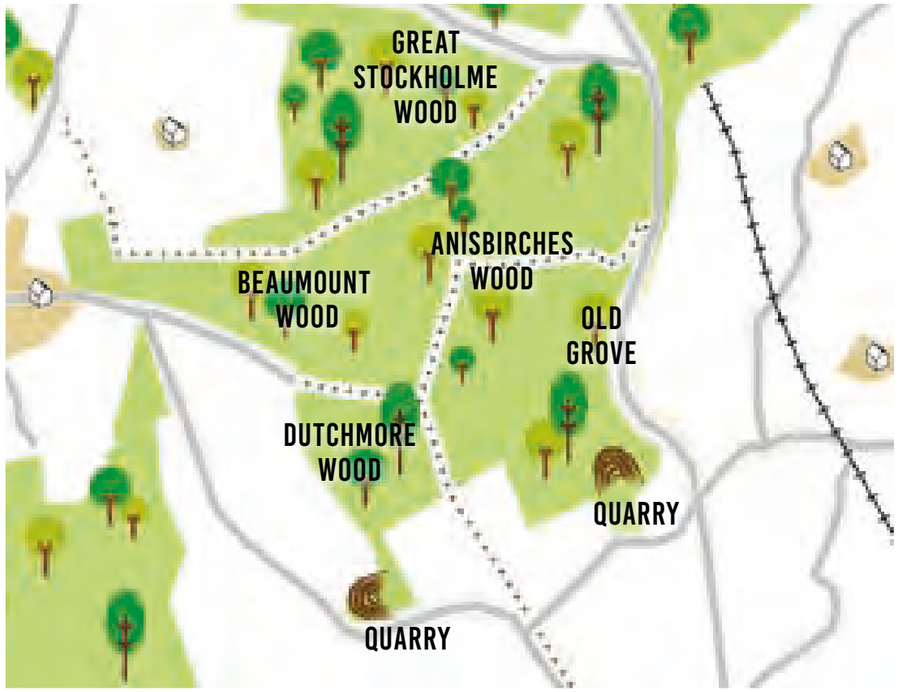
- Anisbirches Walk
  Homes nestled amongst mature trees, framing either side of the Green Link, providing the main east-west pedestrian and cycle route through the site.

- Beaumont Glade & Dutchmore Wood
  Homes arranged around streets and mews courtyards, transitioning to lower density housing around the edges, with views onto surrounding areas of ancient woodland.

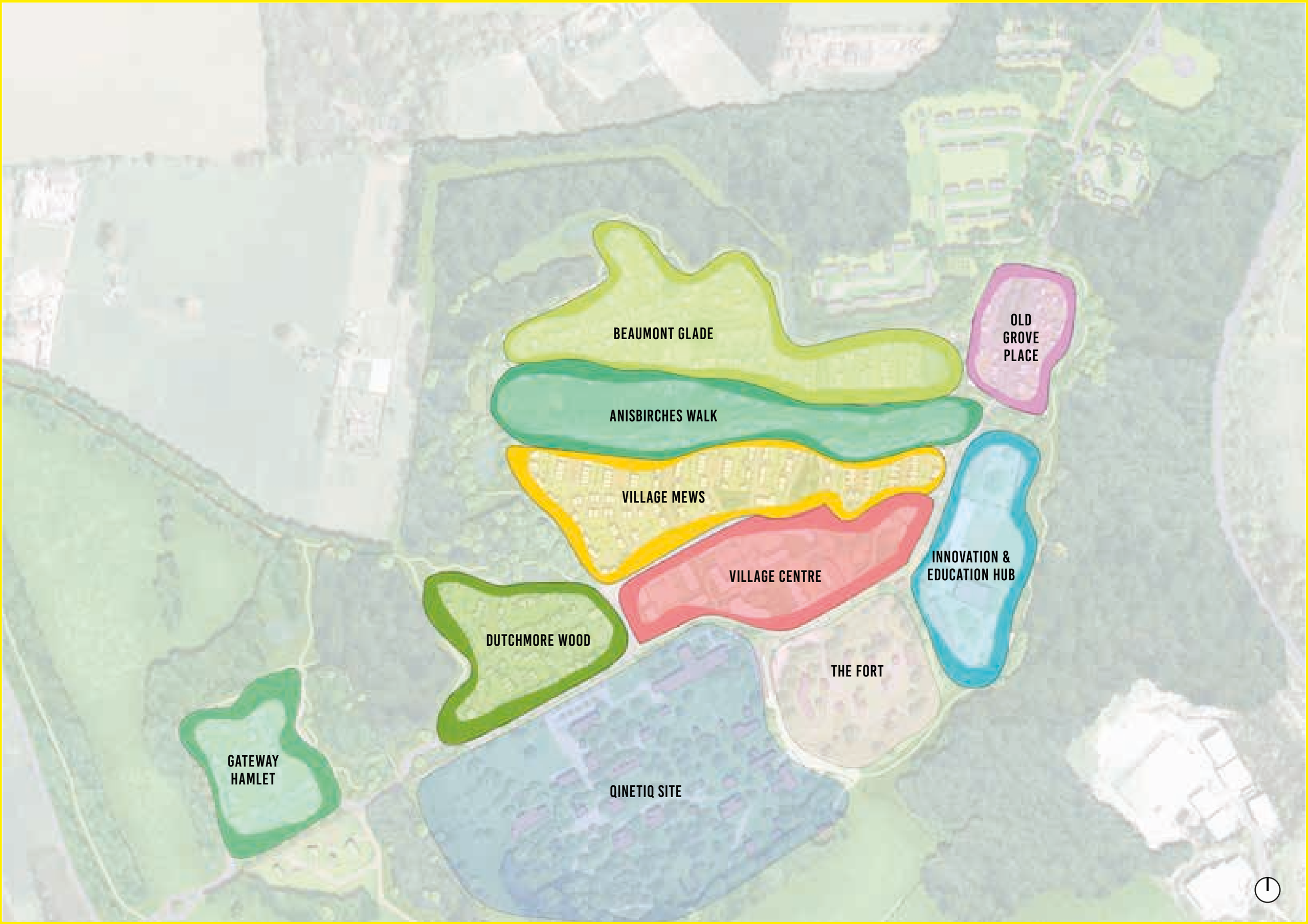
- Village Mews
  Narrow-fronted homes around shared-surface mews streets, creating a gradual intensification towards the larger buildings and facilities found in the Village Centre.

- Innovation & Education Hub
  A high quality, R&D and technology focused business & education campus, which could potentially deliver a primary school alongside a variety of employment opportunities in both new and refurbished buildings, allowing people to both live and work at Fort Halstead.

- The Fort & Village Centre
  The historical core of Fort Halstead and to its north, the higher density mixed-use area, forming the focus for the wider site.



Names of the character areas have been inspired by its surrounding context and history of place. Map of 1895


BEAUMONT GLADE
OLD GROVE PLACE
ANISBIRCHES WALK
VILLAGE MEWS
VILLAGE CENTRE
INNOVATION & EDUCATION HUB
DUTCHMORE WOOD
THE FORT
GATEWAY HAMLET
QINETIQ SITE

7.1 CHARACTER AREAS

CONTENTS OF THE CHAPTER

Each section within this chapter describes one of the character areas, providing important guidance on the key characteristics of each. Supported by illustrative plans, artist's impressions and precedent photos, this chapter aims to give a design narrative toward the look and feel of the village.

Each section contains the following elements:

1. A brief introduction setting out the location, vision and key features of the character area.
2. An illustrative view giving a general impression of the character area and how it should look and feel.
3. A table setting out each area's urban design principles, including key layout principles, frontage characters and parking typologies.
4. A diagram and illustrative masterplan demonstrating how the layout principles come together to create a neighbourhood.
5. A table setting out open space principles including green/blue infrastructure, street character and boundary treatments.
6. Illustrative plans and sections to demonstrate how the open space principles could be delivered.
7. A table setting out architectural design principles including plot layout parameters and materials.
8. A number of architectural precedent images which illustrate some or all of the characteristics described by the preceding guidance.

Text and diagrams set within an orange box are used to indicate mandatory design principles that *must be followed* to ensure the development will be of a high quality.

Mandatory Design Principles

Sample pages illustrating the Village Mews Character Area

7.1 CHARACTER AREAS

Layout Plan

Each character area should be designed in response to the surrounding parcels and not in isolation. The design of buildings and outdoor areas on the edges of each character area should be consistent with the adjacent parcels to allow for a gradual but apparent transition between character areas.

Key

- Mixed-use frontage
- Courtyard employment frontage
- Dual employment frontage
- School frontage
- Mews frontage
- Regular frontage
- Side-gable frontage
- Stepped frontage
- Staggered frontage
- Feature building
- Important view
- Indicative access into development parcel
- Indicative access into QinetiQ site
- Indicative internal street
- Indicative edge street
- Indicative mews street
- Shared footway/cycleway
- Shared courtyard
- Indicative car park
- Traffic calming measure for junction
- Indicative loading for larger vehicles
- Indicative access to school
- Existing tree to be retained where possible
- Entrance Green
- Grade II listed building and its setting
- Existing building to be retained
- Village Square
- Village Green
- Indicative location of LEAP
- Indicative location of MUGA
- Indicative zone for office/small enterprise
- Indicative zone for light industry
- Land safeguarded for Primary School
- Retention of existing ancient woodland with 15m buffer
- Retention of existing woodland
- The Fort (scheduled monument)
- Retention and consolidation of QinetiQ employment land
- Car park area for the Fort and Village Centre

7.2 GATEWAY HAMLET

Gateway Hamlet

The Gateway Hamlet mark the entrance from the Star Hill entrance. This area is fringed by woodland on three sides, creating a stand alone parcels with a secluded, intimate, inward looking character. The Star Hill Gateway Hamlet is principally composed of large detached dwellings with similar but distinct architectural expression, featuring a strong connection to the natural environment. The parcel features predominantly staggered frontages, with organic alignments of buildings and streets, and naturalistic boundary treatments.

Indicative density range: 20–30 dph (refer to indicative density plan in Chapter 6.2)

Illustrative view of Star Hill gateway hamlet among existing woodland

Gateway Hamlet

URBAN DESIGN

KEY LAYOUT PRINCIPLES

- Large detached and semi-detached homes arranged to create an informal 'organic' frontage to the woodland.
- Buildings in the centre of the parcels arranged around shared courtyard spaces.
- Generous spacing between homes, and careful consideration of outlook from individual homes, to create greater sense of space within.

FRONTAGE CHARACTER

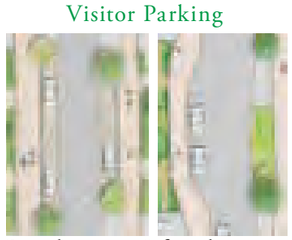
Stepped Frontage

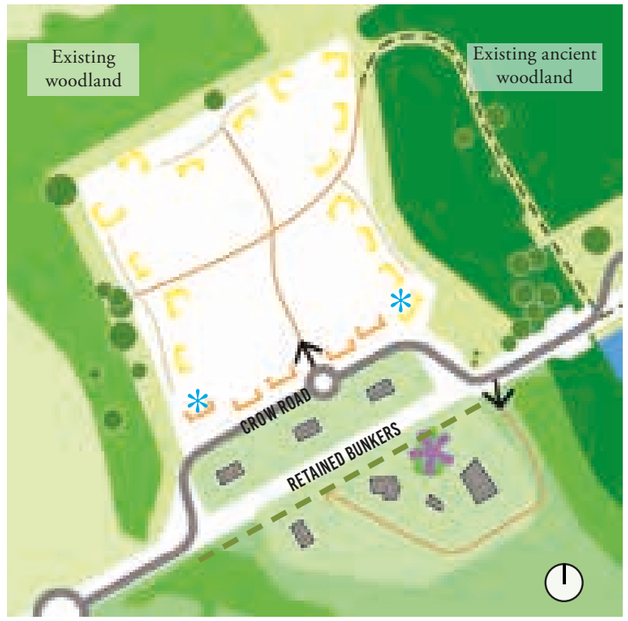
- Predominantly **detached with semi-detached** dwellings in key locations (e.g. at corners, location terminating views from green space).
- Building line steps to create visual interest and variation in the street scene.
- Varied roof profile.
- Car parking typologies: **on-plot corner; on-plot between dwellings.**

Staggered Frontage

- **Detached** dwellings of different forms.
- A mix of wider and narrower gaps between buildings to reinforce informal character.
- Variation in setback from the public realm to create organic frontage line.
- Buildings positioned at different angles and overlooking public space or route.
- Frontage may include the rear/flank walls of garages, linked to dwellings by garden walls.
- Car parking typologies: **on-plot corner; on-plot between dwellings, forecourt; on-street visitor parking**

CAR PARKING TYPOLOGIES

TYPOLOGIES	DESCRIPTION
On-Plot Corner 	• Located around the corner from main dwelling frontage • Usually serves individual dwelling on corner plot, but may serve more than one (e.g. semi-detached) providing up to a maximum of 4 spaces • Parking bay(s) enclosed by brick garden wall
On-Plot Between Dwellings 	• Parking spaces must be set behind the building line (an exception may be made where the dwelling is set back from the back of footway by more than 4m) • Parking spaces will be provided in either car ports or garages • No more than two cars allowed in tandem parking
Forecourt  Internal courtyard	• Applies to large dwellings only • Front boundary will be walls, cleft fencing or hedgerows • Gates to be inward opening • Maximum width of access from street 3m
On-Street Visitor Parking  Formal Informal	• Designed to prevent parking on verges and pavements • Max. 3 parallel parking bays without landscaping between • Marked bays should be a minimum 2.4m wide x 6m long



Extract from Layout Plan – Gateway Hamlet

- Feature building
- Indicative access into development parcel
- Indicative internal street
- Indicative edge street
- Shared footway/cycleway
- Existing trees to be retained where possible
- Stepped frontage
- Staggered frontage
- Indicative location of LEAP

Illustrative Masterplan – Gateway Hamlet

7.2 GATEWAY HAMLET

OPEN SPACE

GREEN/BLUE INFRASTRUCTURE

- The bunkers retained as a significant landscape and recreation feature forming an important part of the site heritage walk (Refer to Demolition Plan 00556I_PP04).
- Homes carefully positioned to respect and respond to individual character of ancient woodland edge.
- Street trees of 5–6m high to be incorporated into the streetscape where appropriate.

FRONT BOUNDARY TREATMENTS

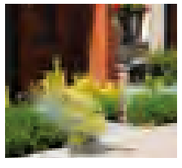
- Open and naturalistic.
- Boundary defined by low hedge or area of shrub planting to provide privacy but maintain openness.
- Timber posts to protect edges of ancient woodland from encroachment of vehicles (may also incorporate low level lighting).

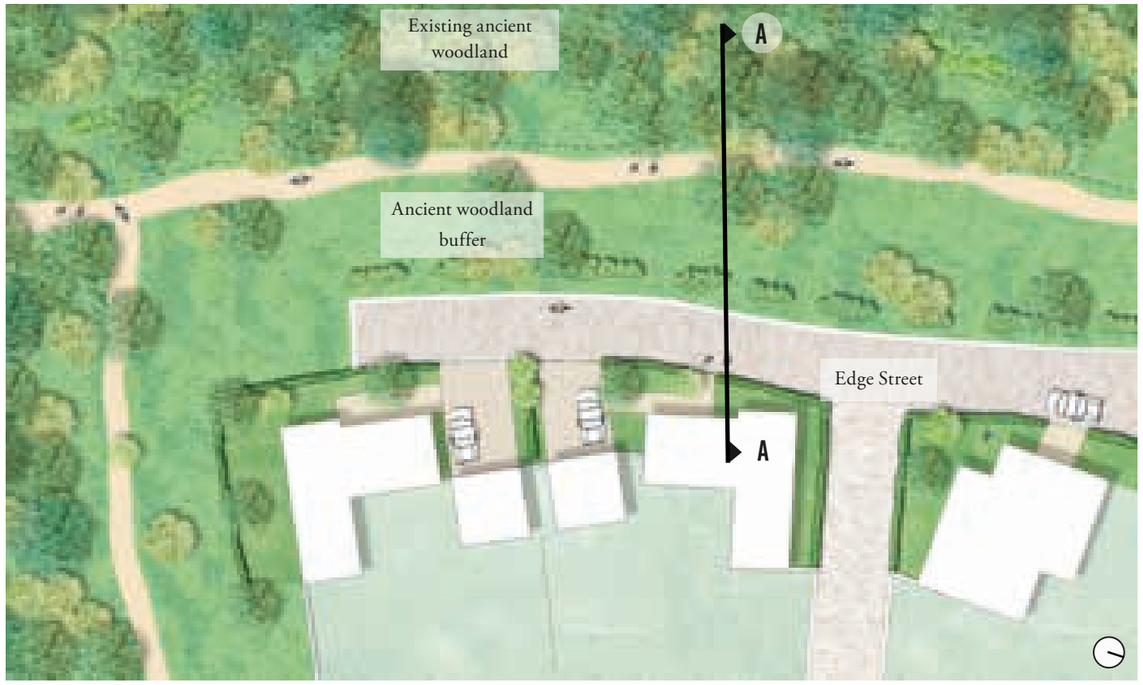
STREET CHARACTER

- Low grade, informal lanes along the woodland edge, providing the minimum amount of hard surfacing for both access and servicing requirements, with no black top.
- Where possible, homes served from the rear to retain pedestrian only, green frontage to woodland.
- Parking to be generally screened from view in car ports or garages.
- No white lines to demarcate carriageway.

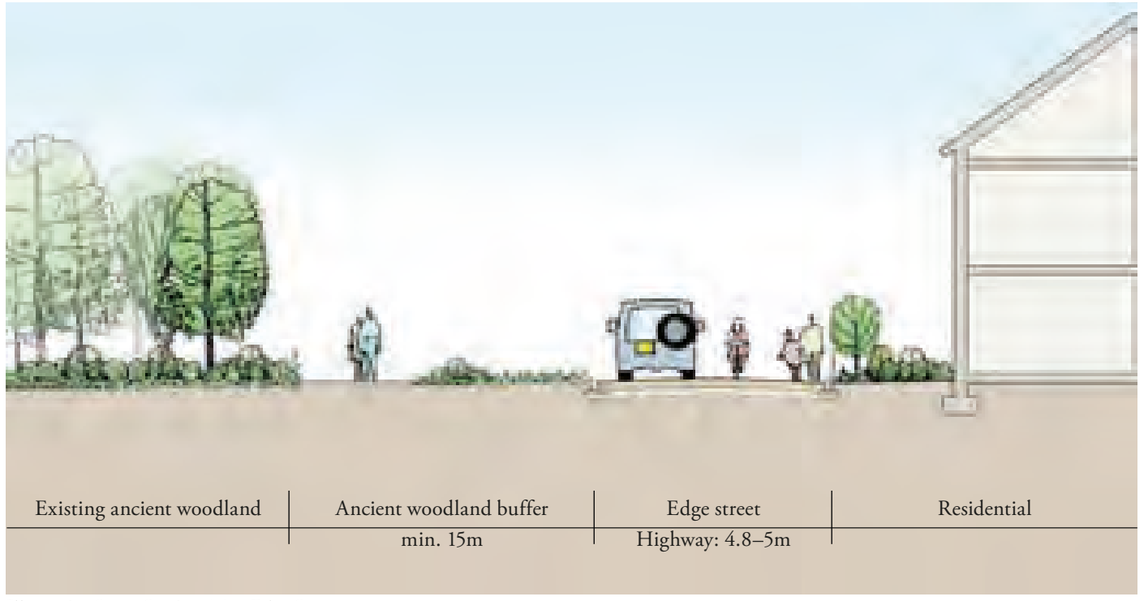
Refer to Access & Movement chapter in the DAS

FRONT BOUNDARY TREATMENTS

TYPOLOGIES	DESCRIPTION	EXAMPLES
Low Hedge 	• Height – 1.2m max • Clipped native hedge of continuous species • Post and wire fence integral to the hedge while it establishes	
Planting Area 	• Height – maximum 600mm • Set back maximum 2m • Low clipped hedge with shrub planting • Suitable along mews shared surfaced streets	
Timber Posts 	• Height – maximum 800mm • Suitable for demarcating the edge of key public green spaces • Lighting could be incorporated into design	
No Boundary 	• Plot boundary defined by distinct change of surface material (e.g. cobbles) or by the edge of private lawn in front of the building	



Illustrative Street Plan – Edge Street



Illustrative Street Section AA – Edge Street

ARCHITECTURAL DESIGN

BUILT FORM

- **2 storey homes** (refer to Building Heights Parameter Plan 00556I_PP02)
- Potential for unusual form or composition.
- Contemporary villas with distinct features and consistent character.
- Layered façades, use recesses, projections and balconies to create depth and add visual interest.
- Homes to be designed with large openings to maximise outlook into the surrounding woodlands and maximise internal daylight levels inside buildings.

FACING MATERIALS

- Use of light-weight and natural materials to respond to woodland setting.
- Primarily natural and dark stained timber boarding, create strong contrasts of colour and texture, whilst complementary to its woodland setting.

Precedent image of contemporary villas within a woodland setting (Vilnius, Lithuania)

Primary Materials

Dark stained timber cladding

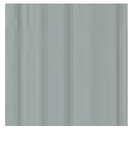
Secondary/Feature Materials

Large glass windows and balconies

Dark grey or Black metal cladding

Roof

Green roof



Grey metal standing seam

Indicative use of material palette

Western Gateway – dark stained timber cladding

Precedent image of villas overlooking green space (Cornwall Hotel Spa, Cornwall)

Precedent image of timber-clad villas (Manor Wood Grove, Surrey)

7.3 OLD GROVE PLACE

Old Grove Place sits at the junction of Crow Drive and Mitchell Road, landmarking the *principle entrance* into the main village and *creating a strong sense of arrival.* Homes either front onto the Entrance Green, a key formal space incorporating retained trees, or are arranged around a series of shared courtyards which run perpendicular to the main street and create *a quieter, more intimate residential environment.*

Contemporary interpretation of the '*Arts & Crafts*' architectural style with herbaceous boundary treatments and the creation of outdoor rooms in the form of shared surfaced courtyards.

Indicative density range: 25–35 dph (refer to indicative density plan in Chapter 6.2)

Illustrative view looking south along Crow Drive with entrance green on right hand side

7.3 OLD GROVE PLACE

URBAN DESIGN

KEY LAYOUT PRINCIPLES

- The Entrance Green at the junction of Crow Drive and Mitchell Road forms the focus for the parcel.
- Regular frontage along Crow Drive to creates a sense of a formal arrival.
- A series of small formal courtyards run perpendicular to the main streets with dwellings arranged around them.
- Dual-frontage units on the eastern edge respond both to the internal courtyard and existing woodland setting.

FRONTAGE CHARACTER

Regular Frontage

- Predominantly **detached** with **semi-detached** dwellings in key locations (e.g. at corners).
- Similar typology and arrangement, generally aligned with the street.
- Garages and driveways set behind the building line, with some use of rear parking.
- Car parking typologies: **on-plot between dwellings**

Side-Gable Frontage

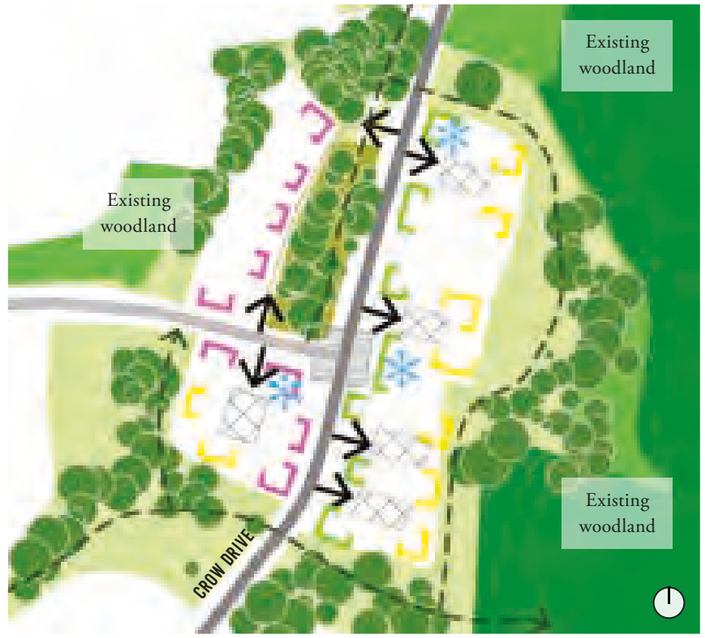
- **Detached** dwellings of similar form.
- Frontages facing onto the courtyard with an active gable end fronting Crow Drive.
- Houses along Crow Drive connected by connecting garden walls to reinforce the formal and linear frontage character.
- Frontage may include the rear/flank walls of garages, linked to dwellings by garden walls.
- Minimal gaps between buildings to create a high degree of enclosure
- Parking will be located within the shared courtyard.
- Car parking typologies: **shared courtyard parking, on-plot corner; on-plot between dwellings.**

Staggered Frontage

- **Terraced, semi-detached and detached** dwellings of similar form.
- Small clusters of houses arranged around the shared courtyard to create natural surveillance and a high degree of enclosure to reinforce its formal character.
- Dual aspect housing with active frontages onto both the shared courtyard and surrounding woodland.
- A mixture of narrow and wide fronted units.
- Variation in setback from the public realm to create a staggered building line.
- Car parking typologies: **on-plot frontage; on-plot corner; on-plot between dwellings.**

CAR PARKING TYPOLOGIES

TYPOLOGIES	DESCRIPTION
Shared Courtyard Parking 	• Parking to be accommodated in allocated spaces, car ports or detached car barns • Parking spaces to be accessed from the shared courtyard space • Max 4 spaces in a row separated by landscape • No more than 6 spaces in a single car port or barn structure • Natural surveillance required from adjacent dwellings • Flat over garage (FOG) house types are encouraged with this parking arrangement to provide natural surveillance
On-Plot Corner 	• Located around the corner from main dwelling frontage • Usually serves individual dwelling on corner plot, but may serve more than one (e.g. a terrace of houses) providing up to a maximum of 4 spaces • Parking bay(s) enclosed by brick garden wall
On-Plot Between Dwellings 	• Parking spaces must be set behind the building line (an exception may be made where the dwelling is set back from the back of footway by more than 4m) • Parking spaces will be provided in either car ports or integral garages • In the courtyards, structures to accommodate parking spaces must be attached or linked to the property. Detached garages may be permitted where houses front onto green space • No more than two cars allowed in tandem parking
On-Street Visitor Parking  Formal  Informal	• Designed to prevent parking on verges and pavements • Max. 3 parallel parking bays without landscaping between • Marked bays should be a minimum 2.4m wide x 6m long



Extract from Layout Plan

Illustrative Masterplan

7.3 OLD GROVE PLACE

OPEN SPACE

GREEN/BLUE INFRASTRUCTURE

- Entrance Green incorporates retained tree groups, creating a mature feel and enhancing the strong sense of arrival.
- Mature trees help to visually integrate the development with the surrounding woodland context creating an attractive approach into the development.
- Woodland ground flora is proposed landscape planting scheme underneath the trees comprising a mixture of shade tolerant shrubs, ornamental grass and tall herbaceous plants to reinforce the existing woodland character and to create an attractive arrival space.

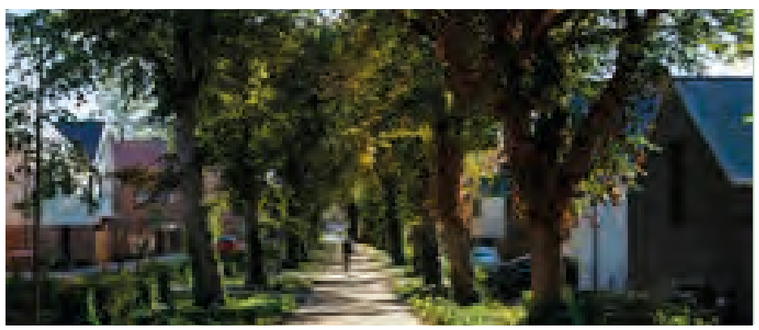
FRONT BOUNDARY TREATMENTS

- Formal boundary treatment softened by landscaping.
- Along the eastern side of Crow Drive, the boundary will be defined by a connecting garden wall with woodland ground flora planting in front, to soften the interface with the public realm.
- Within the courtyards, planting or hard paved areas will be used to demarcate public and private space.
- Estate railings with planting behind will define the boundary on the western side of the Entrance Green, fronting Crow Drive.
- Timber posts to demarcate the edge of the Entrance Green and other public open spaces (may also incorporate lighting).

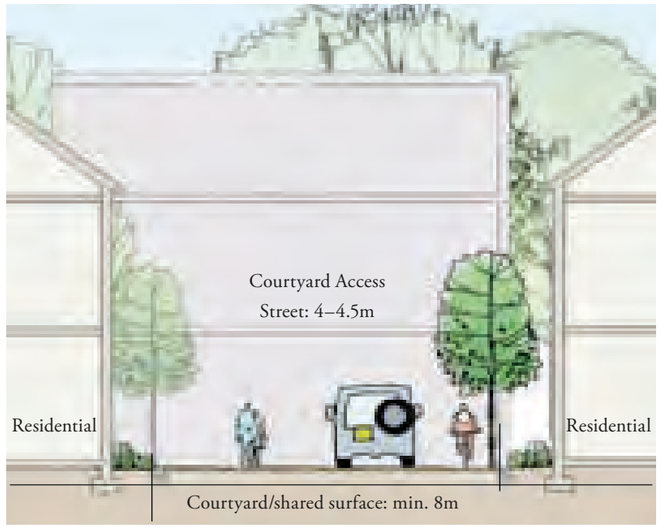
STREET CHARACTER

- Relatively formal along main streets with a good degree of enclosure – cars to be set back behind the building line.
- Courtyards designed as pedestrian priority with emphasis on creating welcoming shared communal spaces and reducing impact of parked cars.

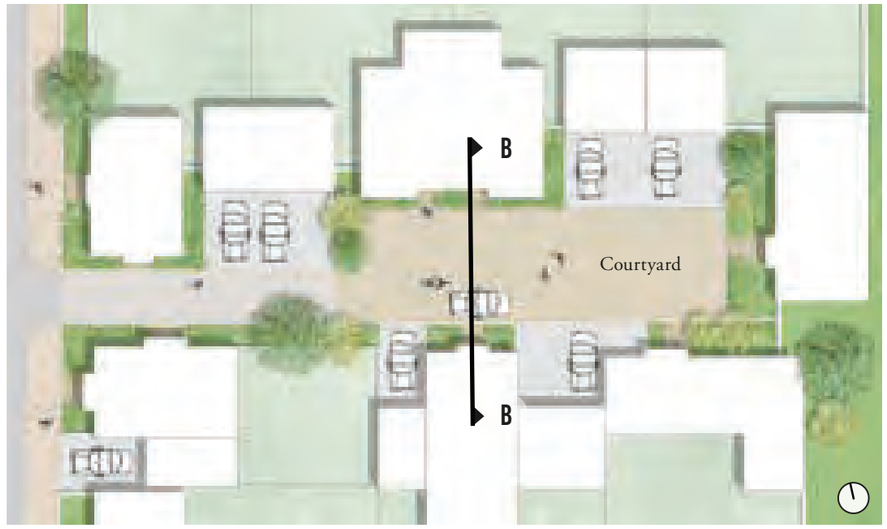
Refer to Access & Movement chapter in the DAS



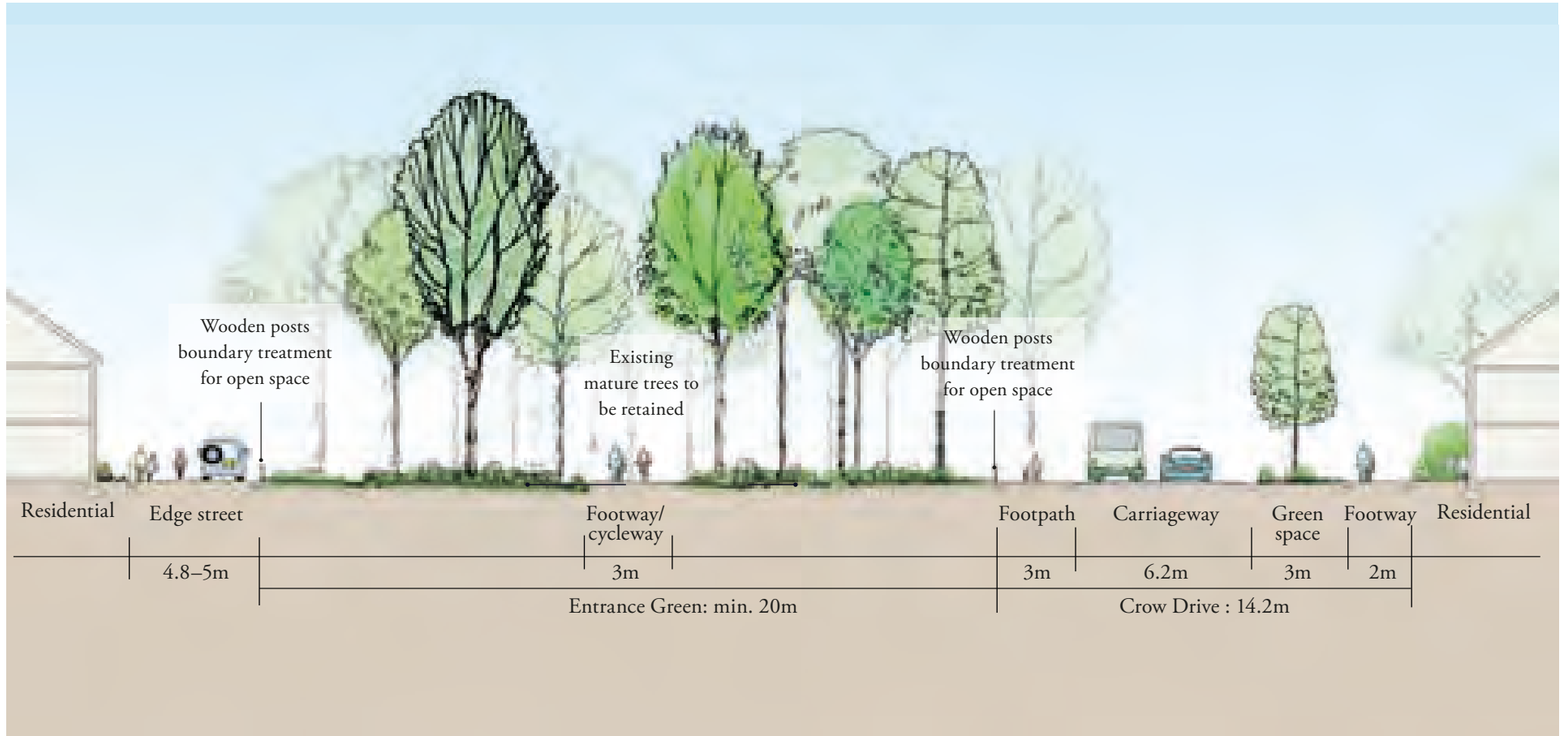
Example of footway/cycleway through entrance green – The Avenue, Saffron Walden



Illustrative Street Section BB – Courtyard



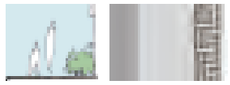
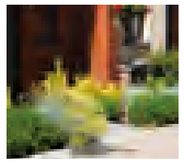
Illustrative Plan – Courtyard

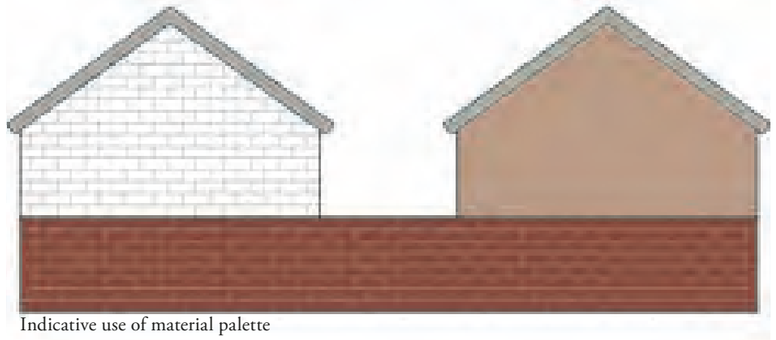


Illustrative Street Section CC – Entrance Green

ARCHITECTURAL DESIGN

FRONT BOUNDARY TREATMENTS

TYPOLOGIES	DESCRIPTION	EXAMPLES
Connecting Garden Wall 	• Total height – 2.4m max • The material must be the same material as the adjoining house • Clipped hedge of continuous species	
Planting Area Or Hard Paved 	• Height – maximum 600mm • Set back maximum 2m • Low clipped hedge with shrub planting • Suitable in the shared surface courtyard	
Estate Railing 	• Height – 1.2m max • Building set-back minimum 2m • Powder coated black metal railings with gates to match • Varied shrub planting behind	
Timber Posts 	• Height – maximum 800mm • Suitable for demarcating the edge of key public green spaces • Lighting can be incorporated into design	



Indicative use of material palette

BUILT FORM

- **Up to 2.5 storeys with occasional feature buildings up to 3 storeys** (refer to Building Heights Parameter Plan 00556I_PP02).
- Mainly large detached and semi-detached houses.
- A contemporary interpretation of the Arts and Crafts style with varied elevation composition with steep pitches arranged around a shared courtyard.
- Feature elements such as wide porches, bay windows and balconies and/or brick chimneys used to emphasise key buildings and elevations.
- Large picture windows are encouraged to create strong connections between the inside and outside of buildings.

FACING MATERIALS

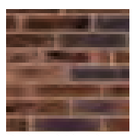
- Primarily red-multi brick at base level, and a mix of white brick and timber boarding above ground level. Buff brick and dark stained timber as feature materials.
- Generally lighter colours, with darker materials used for emphasis on landmark/corner dwellings and garages.
- No change of material for connecting garden walls to create an appearance of continuity.

Primary Materials – Top

White brick

Natural coloured timber cladding

Primary Materials – Base



Red-multi brick

Secondary/Feature Materials

Pale buff brick

Dark stained timber cladding

Roof

Red tiles

Dark grey tiles

Precedent of floating garden wall – The Avenue, Saffron Walden

Precedent of courtyard housing – The Avenue, Saffron Walden

7.4 INNOVATION & EDUCATION HUB

Innovation &
Education Hub

The Innovation & Education Hub provides a new high quality, R&D and technology focussed business and education campus in Sevenoaks. *A variety of employment opportunities* will be provided to allow people to both live and work at Fort Halstead. By providing a range of unit sizes on site, new businesses will have the space they need to *develop and grow over time*. This area also has the potential to deliver a primary school to serve the new and existing residents of Fort Halstead village. With secure grounds it will be located directly adjacent to the key facilities within the village centre.

Illustrative view of Crow Drive towards the Innovation and Education Hub

7.4 INNOVATION & EDUCATION HUB

URBAN DESIGN

KEY LAYOUT PRINCIPLES

- A potential primary school located at the heart of the hub, with safe crossing points to the Village Centre. It must have a secure boundary.
- The school drop-off will be accessed from the employment entrance, however will be segregated off to provide a safe child-friendly environment.
- Office, research and development and workshop uses, creating the opportunity for a varied, enterprising community of businesses.
- Relatively formal, generally orthogonal groupings of buildings, defining a series of courtyard spaces varying in both size and shape with some containing retained trees.
- Key existing buildings retained and reused.
- Buildings maximise active frontage to Crow Drive on the western edge and form an attractive entrance to the innovation and education campus.
- Retained cottages create a focus for views south along Crow Drive.

FRONTAGE CHARACTER

Dual Employment Frontage

- Buildings are dual aspect, with views to Crow Drive and existing woodlands.
- Carefully landscaped parking areas to the inward facing and side frontages of buildings.

Courtyard Employment Frontage

- Employment uses of varying types and size.
- Create sense of enclosure around open space.
- Located at different angles to each other to create informal-shaped block.
- Carefully landscaped shared courtyard with parking and loading areas in front of buildings.

School Frontage

- The building aligned with the existing street frontage which also provides sufficient drop-off area.
- Building frontage design to respond to the important views from the Village Green and provide sufficient level of security and privacy.

BOUNDARY TREATMENTS

- Hard paved and/or planted area at front of buildings providing privacy strip.
- Tall brick walls to screen service areas. Secure fence around the school site.
- Timber/metal posts used to define pedestrian zones to protect trees and planted areas within courtyard areas (may also incorporate lighting around green edges).

Eastern Hub – Illustrative Masterplan

Eastern Hub – Extract from Layout Plan

7.4 INNOVATION & EDUCATION HUB

OPEN SPACE

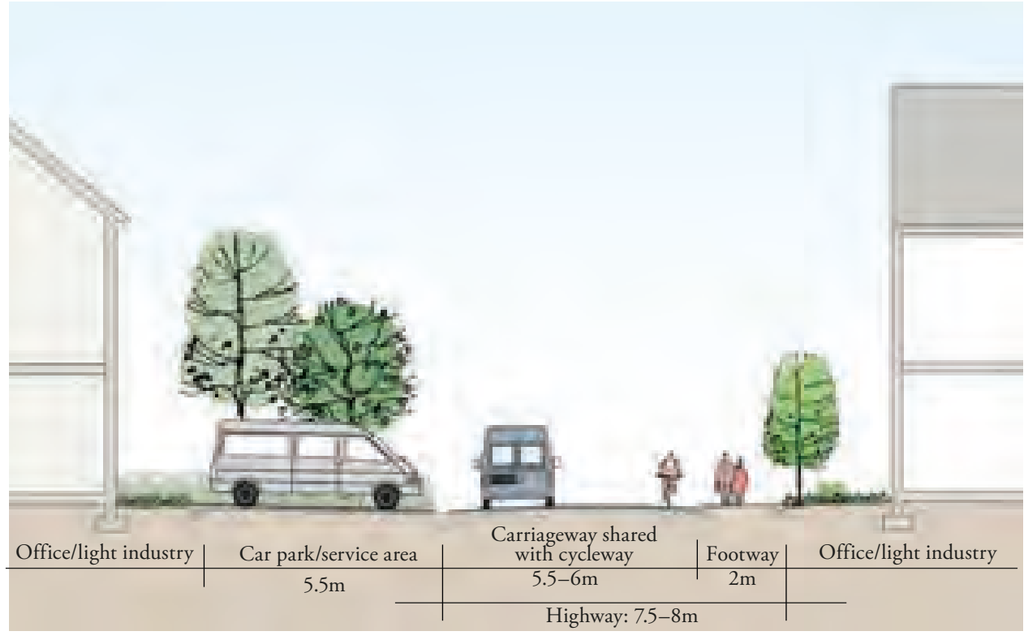
GREEN/BLUE INFRASTRUCTURE

- Single species trees set at regular intervals along Crow Drive to define strong avenue character.
- Pockets of existing trees retained and enhanced as amenity green spaces within the layout.
- Courtyard spaces sensitively landscaped to provide opportunities for social interaction and avoid over dominance of car parking.

STREET CHARACTER

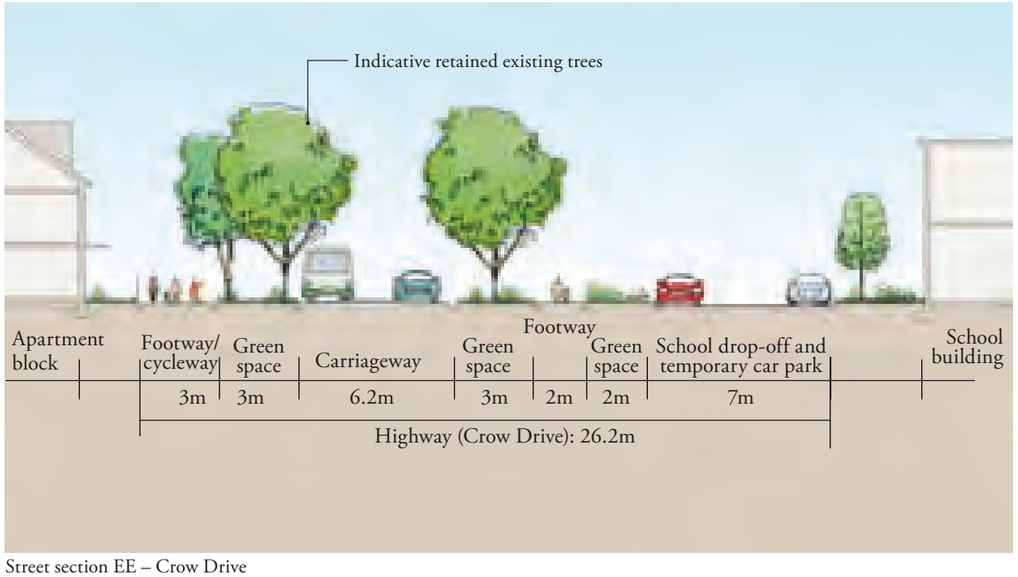
- Parking areas broken up with green spaces to accommodate landscape and/or tree planting and minimise visual impact.
- Appropriate traffic calming measures included within the access roads and parking areas to limit vehicle speeds and encourage pedestrian and child friendly environment.
- Appropriate levels of parking provided alongside secure and convenient cycle storage facilities.
- Service access for light industrial uses located to the back/side of buildings, with main building entrance for pedestrians at front, accessed from central courtyard space.
- School building to be set back from Crow Drive to provide a generous drop-off and temporary parking area.
- The size and location of service areas and waste storage facilities carefully considered and discretely placed to avoid visual intrusion and nuisance from daily use.

Refer to Access & Movement chapter in the DAS

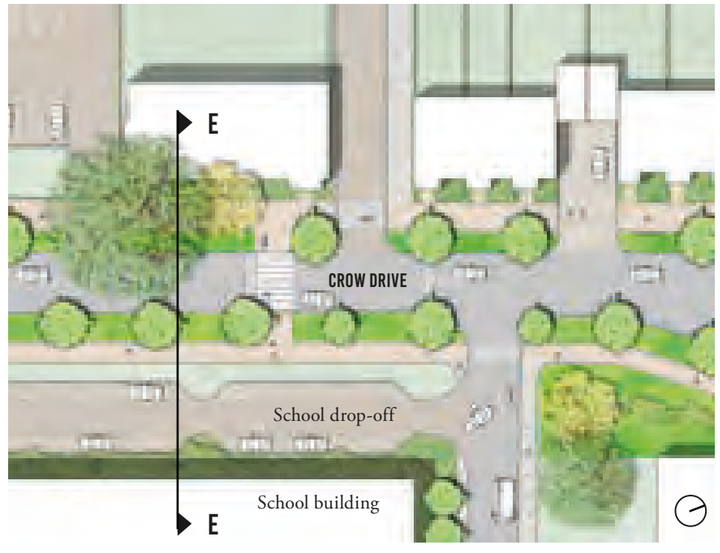


Street section DD – Street in Innovation Hub

A1 building to be retained



Street section EE – Crow Drive



Street plan – school drop-off and Crow Drive

7.4 INNOVATION & EDUCATION HUB

ARCHITECTURAL DESIGN

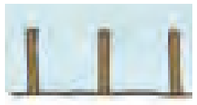
BUILT FORM

- Up to 3 storeys in height (refer to Building Heights Parameter Plan 00556I_PP02).
- Simple forms, inspired by large rural buildings, with contemporary detailing.
- Massing and roof form carefully controlled buildings appearing over bulky.
- Sensitive retained buildings as well as new residential buildings on the other side of Crow Drive.

FACING MATERIALS

- Predominantly dark coloured metal cladding and large glazed areas, particularly at building entrances.

FRONT BOUNDARY TREATMENTS

TYPOLOGIES	DESCRIPTION	EXAMPLES
Planted Area or Hard Paving 	• Height – maximum 600mm • Set back maximum 2m • Low clipped hedge with shrub planting • Suitable along the Mews shared surfaced streets	
Timber Post 	• Height – maximum 800mm • Suitable for demarcating the edge of key public green spaces • Lighting can be incorporated into design	

Primary Materials


Dark grey or black metal cladding


Large areas of glazing

Secondary/Feature Materials

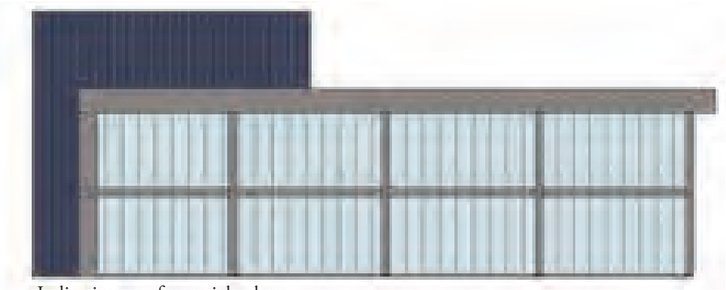

Timber cladding


Dark coloured weatherboarding

Roof


Flat roofs


Solar PV tiles or panels


Indicative use of material palette


Office/R&D buildings at Alconbury Weald, Huntingdon

Innovation Hub at Alconbury Weald, Huntingdon

7.5 VILLAGE CENTRE

The Village Centre forms the beating *heart of the development* where both employment and community uses come together. It sits to the north of the Fort, encompasses the retained and refurbished 'Q' buildings as well as providing a new village green to the east of Penney Road. The village centre will provide a *range of uses and facilities* for the new community including a food store, café, community hub (with space for a GP consulting room), a gym, flexible work space, a nursery as well as space which can accommodate older people's housing.

Illustrative view looking east towards the Village Green


London

7.5 VILLAGE CENTRE

URBAN DESIGN

KEY LAYOUT PRINCIPLES

- Retain and refurbish existing buildings of historic and architectural interest as the key feature for the Village Centre.
- New buildings to the west of Grade II listed building Q14 should have full 3 storeys, with the 4th storey set back in order to respect the setting and protect the view of its western elevation from the Fort (more detailed guidance can be found in the Village Centre Design Guide).
- Maximise active frontage to all areas of public realm and minimise gaps between buildings to ensure good degree of enclosure.
- Buildings at key locations within the plan, such as at gateways and buildings terminating vistas, are defined as feature buildings. These should have a distinct character reflecting the importance of their location and proximity to existing historic buildings, whilst also providing a means of effective wayfinding.
- Building frontages facing the Village Square and Village Green should be distinctive in both form and silhouette, providing an appropriate back-drop to these important spaces that lie at the heart of the new community.
- Potential older people's housing area to be located adjacent to the Village Centre, with potential communal facilities fronting the Village Centre.

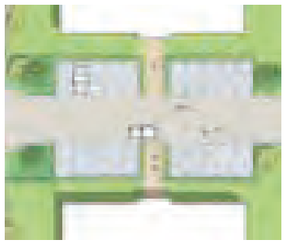
FRONTAGE CHARACTER

Mixed-Use and Employment Frontage

- Continuous, formal frontage facing onto key public spaces.
- Consists of **mixed-use** and **office** blocks with a consistent building line and where possible with gaps only for access to parking and pedestrian routes.
- It is encouraged that all buildings are dual aspect to provide sufficient overlooking onto public space and shared parking areas.
- Similar setback to create a strong rhythm and continuous building line.
- Separate buildings entrances for residential and other uses to be located on the outward-facing elevation
- Unified roof profile.
- Car parking typologies: **communal, on-street visitor.**

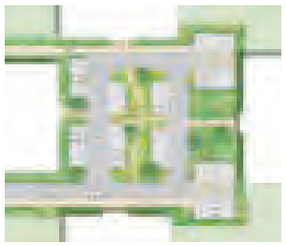
CAR PARKING TYPOLOGIES

TYPOLOGIES	DESCRIPTION
Communal	• Communal parking areas are used predominately for apartment blocks and employment buildings



For Residential buildings:

- Parking areas will be located to the rear of buildings, away from key public spaces and frontages.
- Residential parking areas will contain no more than 20 parking bays.
- There should be no more than 5 spaces in a row without landscaping between them.
- Walls should be used to clearly define the entrances to rear parking courts as well as screen parked cars from the street and create a good sense of enclosure.
- Parking areas will be overlooked and appropriately lit at night



For Mixed-Use and Employment buildings:

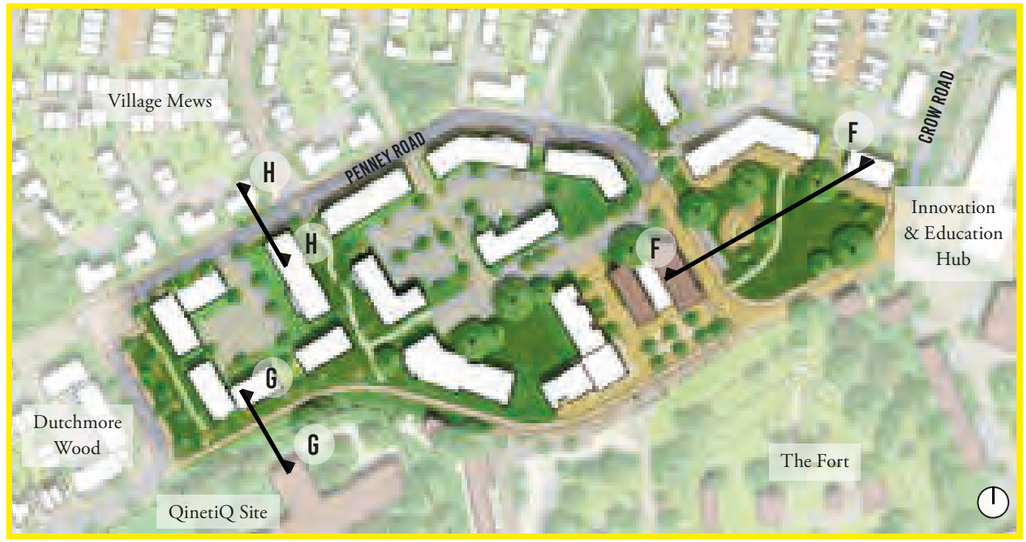
- A larger number of cars can be served from a single parking area, but it would need to be sensitively designed and considered on a case-by-case basis.
- No more than 6 spaces in a row without landscaping
- The layout of parking to be formed to create a rhythm to the landscape
- Parking areas to be positioned behind buildings and away from key frontages to avoid dominating public open spaces with vehicles.

On-Street Visitor Parking

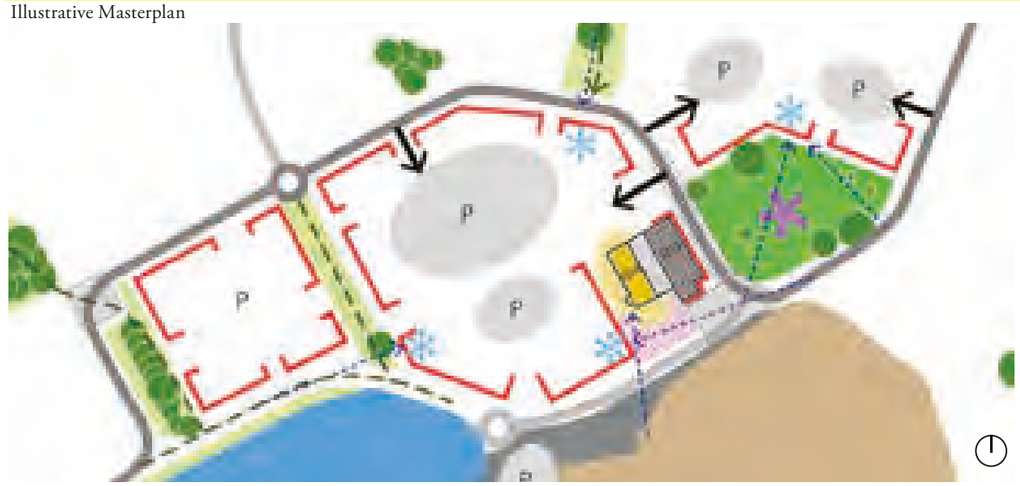
Formal

Informal

- Designed to prevent parking on verges and pavements
- Max. 3 parallel parking bays without landscaping between them
- Marked bays should be a minimum 2.4m wide x 6m long



Illustrative Masterplan



Extract from Layout Plan

Key

- Important view
- Mixed-Use and Employment Frontage
- Feature building
- Indicative access onto development parcel
- Shared footway/cycleway
- Traffic calming junction measure
- P — Indicative shared courtyard with car parking
- Existing tree to be retained where possible
- Grade II listed building and setting
- Existing building to be retained
- Village Square
- Village Green
- Indicative location of LEAP

OPEN SPACE

GREEN/BLUE INFRASTRUCTURE

- Create a clear sequence of open spaces from the Fort to the Green Link, including the Village Square and Village Green, with continuous shared footway/cycleway with a minimum width of 3m wide.
- The Village Green should have some formality in its layout, responding to the surrounding built environment, but also reflecting the more naturalistic character typical of the commons and greens found within the local area.
- Outdoor facilities: an equipped play area to be provided in the Village Green.
- A minimum of 5m green space should be provided between QinetiQ's fence line and proposed footway/cycleway.

STREET CHARACTER

- General character: relatively formal with a good degree of enclosure.
- Vehicular accesses onto the mixed use and employment areas should be located from Penney Road and Lennard-Jones Road.

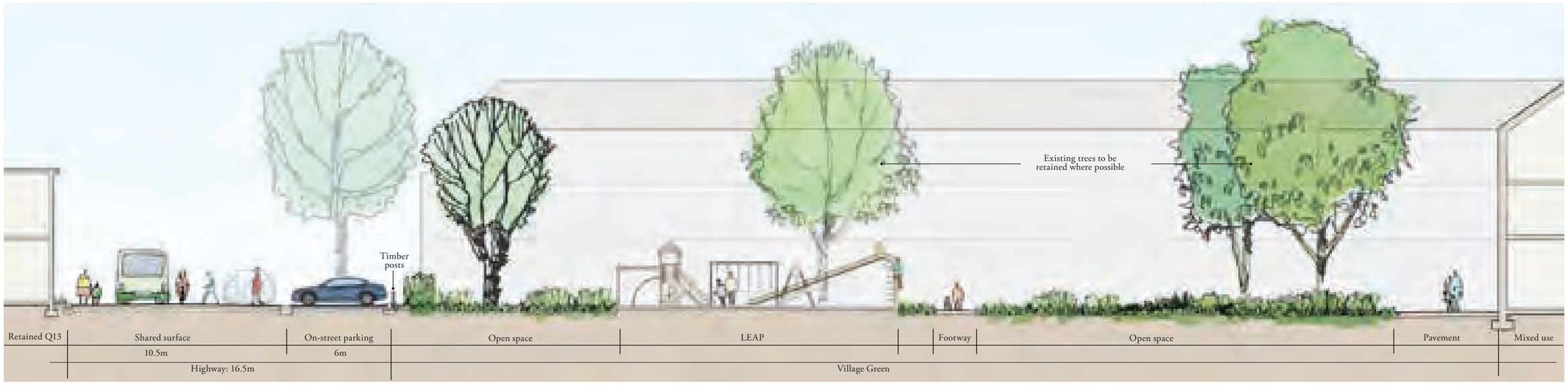
FRONT BOUNDARY TREATMENTS

- Railing on low wall with hedge.
- No boundary, set back planted area or low wall for mixed use Village Centre and Employment.
- Wooden posts for Village Green.
- 1m service zone minimum clear of vegetation is required between the QinetiQ's demise and fence line. QinetiQ's fence line should sit within their demise.

Refer to Access & Movement chapter in the DAS

FRONT BOUNDARY TREATMENTS

TYPOLOGIES	DESCRIPTION	EXAMPLES
Low Wall/Railing on Low Wall With Hedge 	• Total height – 1.2m max • Powder coated black metal railings with gates to match • Clipped native hedge of continuous species • This boundary treatment is appropriate for the Innovation Quarter and Mixed-Use areas	
Planted Area Or Hard Paving  	• Height – maximum 600mm • Set back maximum 2m • Low clipped hedge with shrub planting • Suitable along the shared surfaced streets in the mews	
Timber Post 	• Height – maximum 800mm • Suitable for demarcating the edge of key public green spaces • Lighting can be incorporated into design	

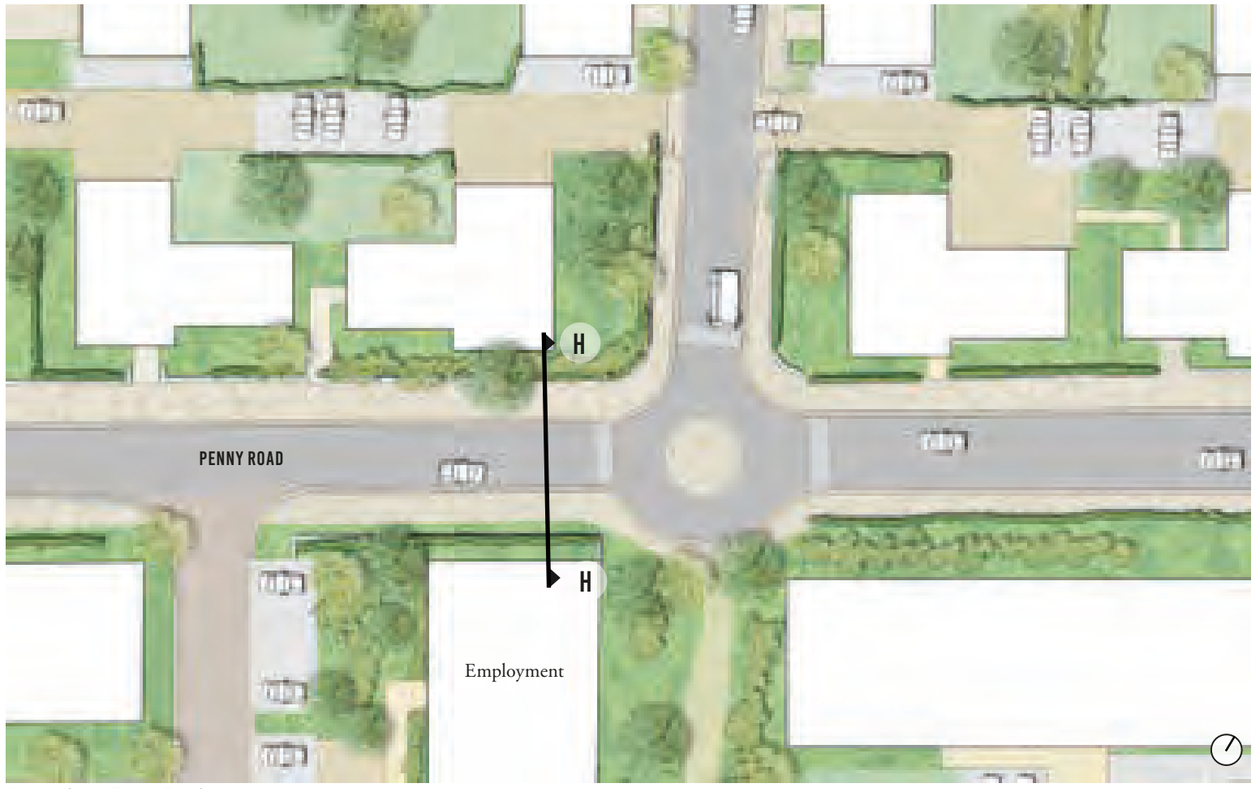


Street Section FF – Village Green

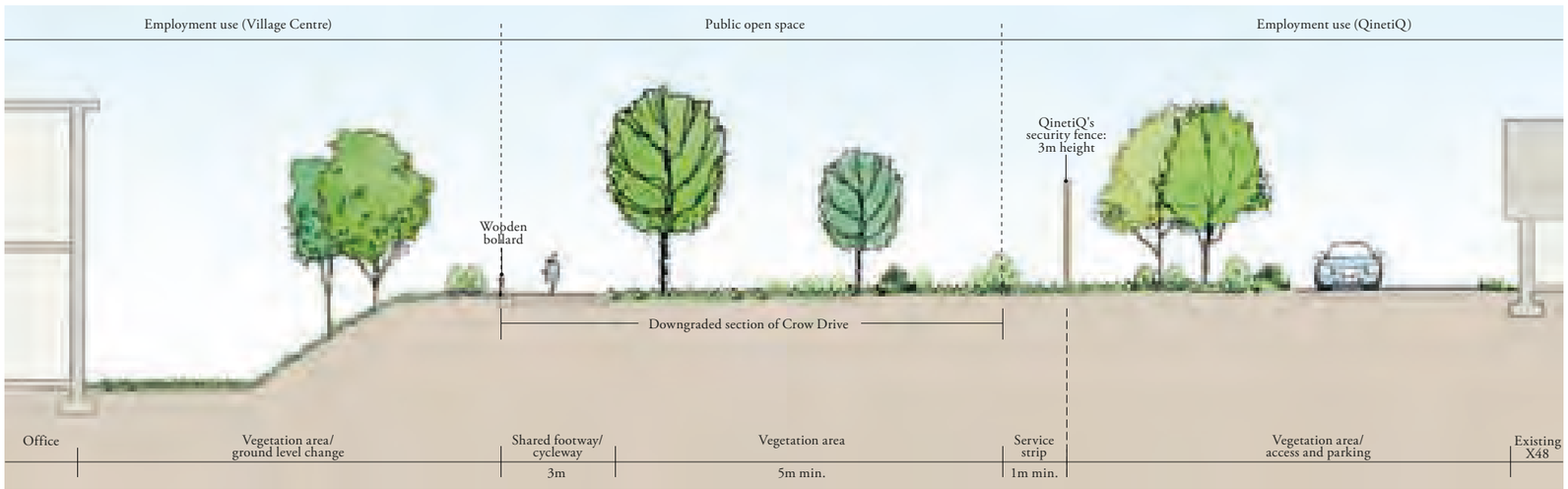
7.5 VILLAGE CENTRE

OPEN SPACE

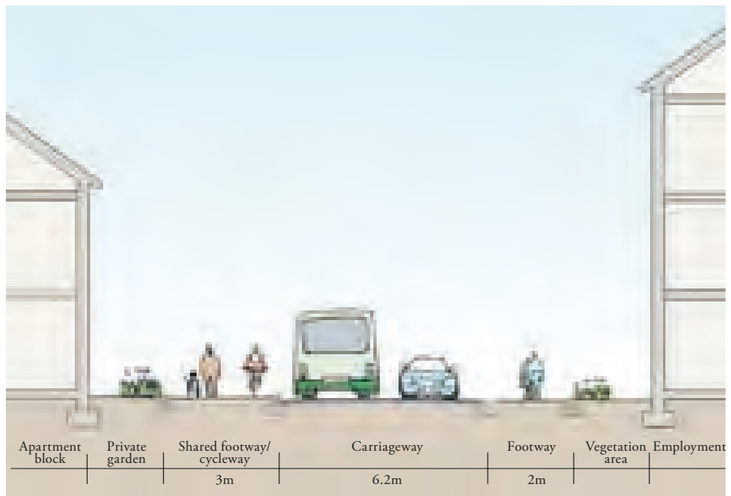
Illustrative Masterplan



Street plan – Penny Road



Street section GG – Crow Drive and interface with QinetiQ



Street Section HH – Penney Road

ARCHITECTURAL DESIGN

BUILT FORM

- 3–4 storeys, with mixed-use area up to 4 storeys; employment area and residential area up to 3 storeys. (Refer to Building Heights Plan 00556I_PP02).

ARCHITECTURAL CHARACTER

- High-quality contemporary design, taking inspiration from the retained buildings in the Village Centre.
- Buildings adjacent to retained buildings should have flat roofs. Remaining buildings in the village centre should have a mixture of pitched and flat roofs.
- Both the residential and employment buildings in the village centre should be consistent in architectural style and language.

MATERIALS

- Red brick and red multi-brick as primary material, secondary use of white painted bricks and timber cladding. Red clay tiles and greys tiles to be used for pitched roofs.
- Crittall style windows on the new buildings and crittall style windows with mandatory T-shape glazing bars on the refurbished buildings in the Village Centre.

Primary Materials


Red Brick


Red-multi brick

Secondary/Feature Materials


White painted brick


Timber cladding

Roof


Red tiles


Grey slate tiles

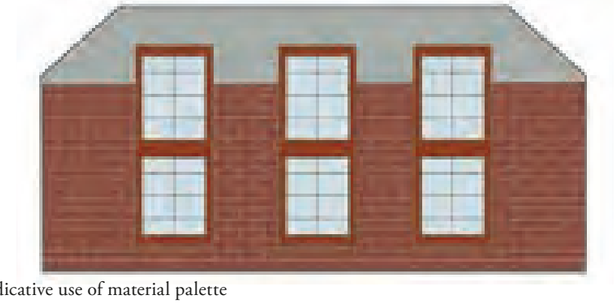
Windows


Crittall with T-shaped profile


Metal: Brown -Red cladding

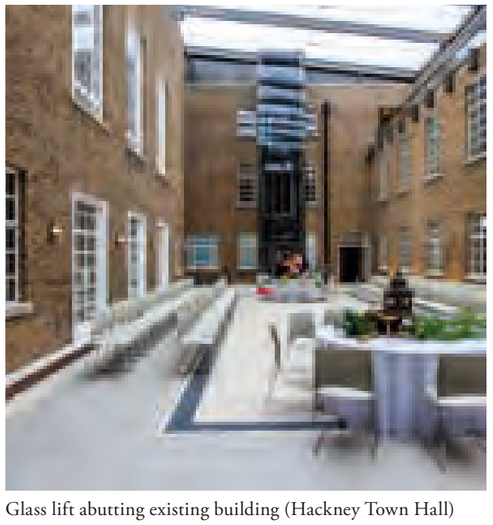

Apartments with ground floor mixed-use (Great Kneighton, Cambridge)


Precedent image of refurbished listed building (Barry, Wales)


Indicative use of material palette


Older people's living accommodation (Lenton Flats, Nottingham)


Precedent image of ground floor use (Nieuwe Park, Rozenburgschool)

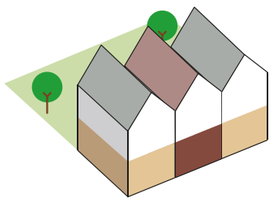

Glass lift abutting existing building (Hackney Town Hall)

7.6 VILLAGE MEWS

Village Mews *forms the heart of the residential neighbourhood,* sitting immediately to the north of the Village Centre. A series of intimate shared-surface streets lined with linked or terraced houses to form *a number of attractive routes for pedestrians and cyclists,* while discouraging vehicles, creating *a family friendly neighbourhood* with easy access to the Green Link and other amenities.

Indicative density range: 35–55 dph (refer to indicative density plan in Chapter 6.2)

Illustrative view along shared-surface Mews Street showing carefully balanced allocation of space between pedestrian, landscape and vehicular requirements.



7.6 VILLAGE MEWS

URBAN DESIGN

KEY LAYOUT PRINCIPLES

- Similarly sized, linked or terraced homes fronting onto a series of intimate shared-surface streets running north-south through the parcel.
- A small number of detached and semi-detached homes creating more informal frontage to public green space.
- Small apartment blocks along the southern edge of the parcel create a sensitive transition to the larger blocks in the Village Centre.
- Level changes sensitively incorporated into the layout through careful arrangement of homes and well-considered retaining walls within back gardens.
- Feature buildings with special architectural treatment to be used in key locations.

FRONTAGE CHARACTER

Regular Frontage

- Consists mainly of **semi-detached houses** with **apartment blocks** or **detached units** at key locations (e.g. on corners).
- Small spacing between buildings and similar setbacks to create strong building lines along the primary and secondary vehicular routes.
- Car parking typologies: **on-plot between dwellings, communal/shared courtyard.**

Stepped Frontage

- Consists of predominantly **detached and semi-detached** houses.
- Building line steps to create visual interest and variation in the street scene.
- Varied roof profile.
- Car parking typologies: **on-plot corner, on-plot between buildings.**

Mews Frontage

- Strong repetition of **terraced or linked dwellings** of similar forms.
- Minimal spacing between homes to create a high degree of enclosure.
- Similar setback to create strong rhythm and building line.
- Unified roof profile.
- Car parking typologies: **on-plot between dwellings, on-plot frontage, on-street visitor parking.**

CAR PARKING TYPOLOGIES

TYPOLOGIES	DESCRIPTION
On-Plot Corner	• Located around the corner from main dwelling frontage • Usually serves individual dwelling on corner plot, but may serve more than one (e.g. a terrace of houses) providing up to a maximum of 4 spaces • Parking bay(s) enclosed by brick garden wall
On-Plot Between Dwellings	• Parking spaces must be set behind the building line (an exception may be made where the dwelling is set back from the back of footway by more than 4m) • Parking spaces will be provided in either car ports or integral garages • Along the internal streets, structures to accommodate parking spaces must be attached or linked to the property, with the expectation of housing fronting onto green space, where detached garages may be permitted • No more than two cars allowed in tandem parking
Communal/ Shared Courtyard	• Communal parking areas are used predominately for apartment blocks • Parking areas will contain no more than 20 parking bays. • There should be no more than 5 spaces in a row without landscaping between. • At the entrance(s) to rear parking courts, walls should be used to clearly define the entrance, screen parked cars from the street and create a good sense of enclosure.
On-Street Visitor Parking	• Designed to prevent parking on verges and pavements • Max. 3 parallel parking bays without landscaping between • Marked bays should be a minimum 2.4m wide x 6m long
On-Plot Frontage	• Max 4 spaces in a row separated by landscape • Not to serve more than 8 dwellings on any one side of the street • Chevron parking can be used if desired

Illustrative Masterplan

Extract from Layout Plan

- Feature building
- Indicative access onto development parcel
- Indicative internal street
- Indicative edge street
- Indicative mew street
- Shared footway/cycleway
- Existing trees to be retained where possible
- Regular frontage
- Stepped frontage
- Mews frontage

7.6 VILLAGE MEWS

OPEN SPACE

GREEN/BLUE INFRASTRUCTURE

- Street trees and incidental landscaping planted regularly within the street scene.
- No significant green spaces within development parcel – access to surrounding green areas prioritised.

FRONT BOUNDARY TREATMENTS

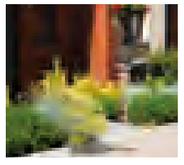
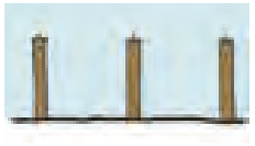
- Generally narrow, hard paved or planted area at front of homes providing privacy strip.
- Timber posts to define public open spaces (may also incorporate lighting around green edges).
- Low native hedge with planting behind.

STREET CHARACTER

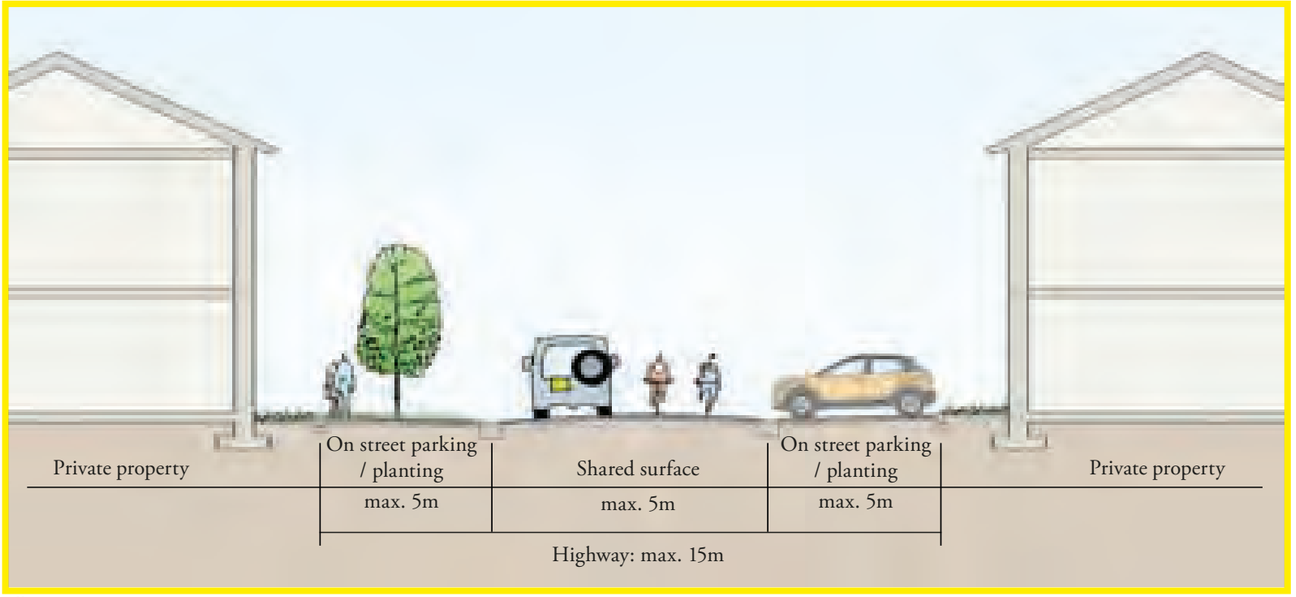
- Mews streets designed to naturally slow traffic and encourage social interaction by their restricted width (carriageway max. 5m wide), attractive shared-surface character and inclusion of street trees/landscaped areas.
- Where possible vehicles parked in between homes, behind building line, typically in car ports. Otherwise parking to be located on-plot in front of homes.
- Limited on-street parking for visitors only.
- No white lines to demarcate carriageway

Refer to Access & Movement chapter in the DAS

FRONT BOUNDARY TREATMENTS

TYPOLOGIES	DESCRIPTION	EXAMPLES
No Boundary 	• Plot boundary defined by distinct change of surface material (e.g. cobbles) or by the edge of private lawn in front of the building	
Planting Area or Hard Paved  	• Height – maximum 600mm • Set back maximum 2m • Low clipped hedge with shrub planting • Suitable along the Mews shared surfaced streets	
Timber Posts 	• Height – maximum 800mm • Suitable for demarcating the edge of key public green spaces • Lighting can be incorporated into design	

Illustrative street plan – Mews street



Illustrative street section JJ – Mews street

ARCHITECTURAL DESIGN

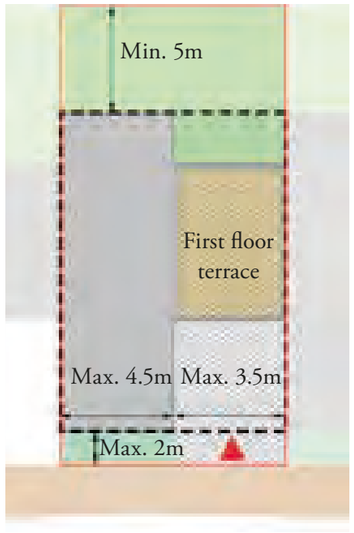
BUILT FORM

- Simple architectural forms and limited materials with repeated rhythm gives the area a strong character.
- More urban forms with clean lines, softened by subtle textures and layering of façade elements.
- Houses of up to 2.5 storeys, and 3 storey apartments on the southern edge.
- Narrow fronted house types with street-facing gables prevalent, plotted as linked or semi-detached.
- On the mews streets, innovative compact housetypes are encouraged, with narrow street-facing gables (ie. 4.5m wide) with integrated parking zones.
- Along the mews streets, smaller private rear gardens are encouraged with minimum depths of 5m.
- Where smaller private rear gardens are proposed (less than 8m deep) an alternative private amenity space will need to be included i.e. first floor terrace.
- Where larger private rear gardens are proposed (more than 8m deep), more conventional house types may be utilised.

FACING MATERIALS

- White brick for the top, and red multi-bricks and pale buff bricks used as base materials, with lighter materials used in narrower streets to reflect more light.

NARROW-FRONTED PLOT LAYOUT EXAMPLE



Key

- Indicative plot boundary
- Indicative build zone
- Indicative building footprint
- On-plot parking/garage zone
- Front/side garden as defensible space (private amenity space)
- Back/side garden (private amenity space)
- First floor terrace (private amenity space)
- Vehicular access

ALTERNATIVE PLOT LAYOUT OPTIONS

'L' shaped – car port and terrace to the back

'T' shaped – car port and terrace in the middle

'L' shaped – car port and terrace to the front

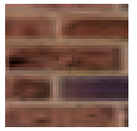
Long terrace – car port and terrace along length of property

Primary Materials – Top

White brick

Primary Materials – Base

Pale buff brick



Red-multi brick

Roof

Red tiles

Grey slate tiles

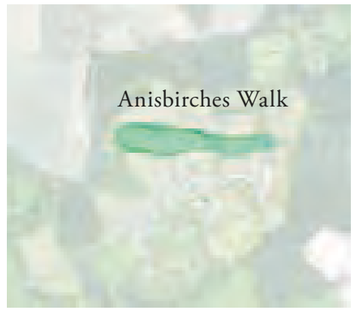
Precedent of visitor parking on a Mews street (Denwenthorpe)

Precedent image showing a narrow fronted house type with first floor terrace (Newhall, Essex)

Indicative use of material palette

Precedent of lighter materials used to reflect more light (Lavenham, Housing by Project Orange).

7.7 ANISBIRCHES WALK



Anisbirches Walk is the central green link through the site, connecting and drawing in the two ancient woodland edges at either end. This Green Link provides the setting for the main east–west pedestrian and cycle route through the village, with houses nestled within the existing mature landscape. A staggered arrangement of built form on either side of the Green Link creates an *interesting and varied* frontage while providing good levels of passive surveillance to ensure *a safe and welcoming space* at all times.

Indicative density range: 25–55 dph (refer to indicative density plan in Chapter 6.2)

Illustrative view along green link showing shared pedestrian/cycle route

URBAN DESIGN

KEY LAYOUT PRINCIPLES

- Dwellings of various sizes forming an active frontage to the main east-west Green Link.
- Predominantly large detached houses on the northern side, arranged at a variety of angles in a consciously informal manner and with no vehicular access along the green space.
- Generally smaller, semi-detached homes on the southern side, arranged in a more ordered way and forming frontage to a series of private drives along the green edge.
- Homes along the northern edged are accessed via shared courtyards at the rear.

FRONTAGE CHARACTER

Staggered Frontage

- **Detached** dwellings of different form
- A mix of wider and narrower gaps between buildings reinforces informal character of the setting.
- Varying set back from the public realm creates organic frontage line.
- Buildings positioned at different angles to the space or route they face, and to each other.
- Optimising views of green space.
- Car parking typologies: **on-plot corner; shared courtyard; rear parking courts (for apartments only).**

Stepped Frontage

- Predominantly **semi-detached** with **detached** dwellings in key locations (e.g. at corners, location terminating views from green space).
- Building line steps to create visual interest and variation in the street scene.
- Varied roof profile.
- Active house frontages overlook the Green Link and provide natural surveillance.
- Car parking typologies: **on-plot corner; on-plot between dwellings; rear parking courts (for apartments only).**

CAR PARKING TYPOLOGIES

TYPOLOGIES	DESCRIPTION
On-Plot Corner 	• Located around the corner from main dwelling frontage • Usually serves individual dwelling on corner plot, but may serve more than one (e.g. a terrace of houses) providing up to a maximum of 4 spaces • Parking bay(s) enclosed by brick garden wall
On-Plot Between Dwellings 	• Parking spaces must be set behind the building line (an exception may be made where the dwelling is set back from the back of footway by more than 4m) • Parking spaces will be provided in either car ports or integral garages • Along the mews streets, structures to accommodate parking spaces must be attached or linked to the property, with the expectation of housing fronting onto green space, where detached garages may be permitted • No more than two cars allowed in tandem parking
Shared Courtyard Parking 	• Parking to be accommodated in allocated spaces, car ports or detached car barns • Parking spaces to be accessed from the shared courtyard space • Max 4 spaces in a row separated by landscape • No more than 6 spaces in a single car port or barn structure • Natural surveillance required from adjacent dwellings • Flat over garage (FOG) house types are encouraged with this parking arrangement to provide natural surveillance
Rear Parking Courts 	• Communal parking areas are used predominately for apartment blocks • Parking areas will contain no more than 10 parking bays. • There should be no more than 5 spaces in a row without landscaping between. • At the entrance(s) to rear parking courts, walls should be used to clearly define the entrance, screen parked cars from the street and create a good sense of enclosure.

Illustrative Masterplan

Extract from Layout Plan

- Feature building
- Indicative access onto development parcel
- Indicative internal street
- Indicative edge street
- Indicative mews street
- Shared footway/cycleway
- Existing trees to be retained where possible
- Indicative location of LEAP
- Indicative location of MUGA
- Stepped frontage
- Staggered frontage

7.7 ANISBIRCHES WALK

OPEN SPACE

GREEN/BLUE INFRASTRUCTURE

- Green Link incorporates retained mature trees as focal points, helping to create a mature landscape from the start.
- Planting has an informal, semi-natural character providing a soft transition to the built form.
- Naturalistic play area included within the space encourages social interaction.
- Green Link is the key shared pedestrian/cycle route through the village, providing good, off-road connections to the Village Green, Village Centre and the Fort.

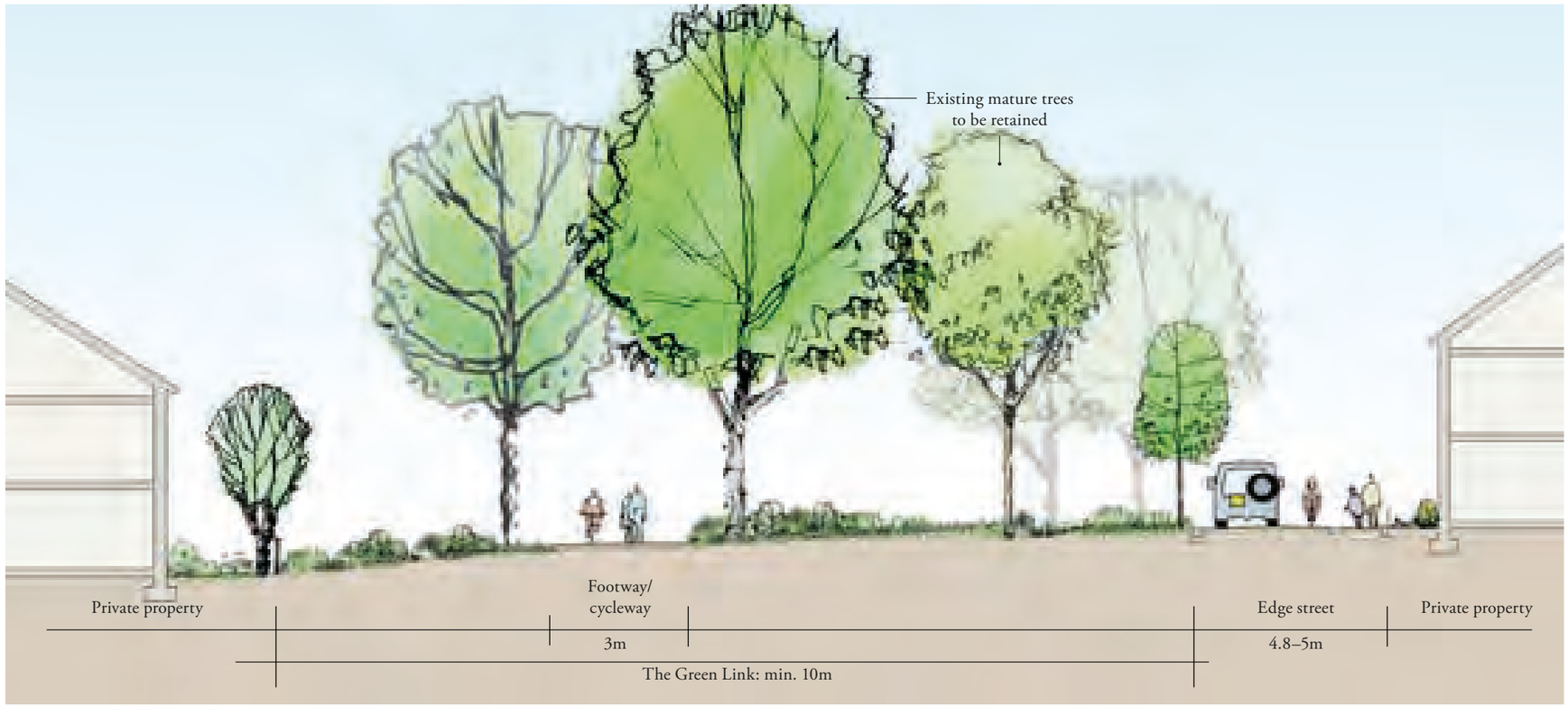
STREET CHARACTER

- No vehicular access along the northern edge of the Green Link. Access to homes to be provided from the north.
- Informal, edge streets on the southern edge of the space provide limited access to homes without through traffic to limit impact on quality of space.
- Vehicular access to green areas to be restricted through careful landscaping and appropriate use of timber bollards.

FRONT BOUNDARY TREATMENTS

- Generally open and naturalistic.
- Boundary defined by estate railings and/or native hedge to provide privacy and simultaneously maintain openness.
- Timber posts used to protect edges of Green Link from encroachment of vehicles (may also incorporate lighting).
- Low woodland ground flora and shrub planting, planted in drifts beneath trees to create strong naturalistic green setting.

Refer to Access & Movement chapter in the DAS

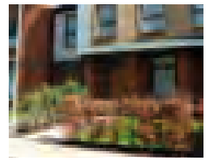


Section KK – The Green Link

FRONT BOUNDARY TREATMENTS

TYPOLOGIES	DESCRIPTION	EXAMPLES
Low Hedge / Estate railing 	• Height – 0.9m–1.2m max • Building set-back minimum 2m • Clipped native hedge of continuous species • Post and wire fence integral to the hedge while it establishes • Powder coated black metal railings with gates to match	
No Boundary 	• Plot boundary defined by distinct change of surface material (e.g. cobbles) or by the edge of private lawn in front of the building	

FRONT BOUNDARY TREATMENTS

TYPOLOGIES	DESCRIPTION	EXAMPLES
Planting Area 	• Height – maximum 600mm • Set back maximum 2m • Clipped native hedge with shrub planting • Suitable along the mews shared surfaced streets	
Timber Posts 	• Height – maximum 800mm • Suitable for demarcating the edge of key public green spaces • Lighting can be incorporate into design	

ARCHITECTURAL DESIGN

BUILT FORM

- **Up to 2.5 to 3 storey homes to the north of the Green Link, up to 3 storey homes to the south** (refer to Building Heights Parameter Plan 00556I_PP02).
- High-quality, contemporary homes with generous balconies and large areas of glazing overlooking the Green Link.
- Mainly detached and semi-detached dwellings.
- Occasional, small villa-style apartment buildings on key corners.

FACING MATERIALS

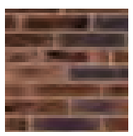
- Predominantly red bricks with dark stained or white painted timber cladding above ground floor, to emphasise horizontality, with special materials used to highlight feature buildings.

Primary Materials – Top

Dark stained timber cladding

Naturally stained or white painted timber cladding

Primary Materials – Base



Red-multi brick

Roof

Red tiles

Dark grey tiles

Indicative use of material palette

Precedent for Green Link fronted house type (Alford Road, Cranleigh)

Precedent for Green Link fronted house type (Alford Road, Cranleigh)

Precedent for Green Link fronted house type (Guildford Barracks, Surrey)

7.8 BEAUMONT GLADE & DUTCHMORE WOOD

The character of Beaumont Glade and Dutchmore Wood is defined by their role in *creating a transition* between the ancient woodland along their northern and western edges and the areas of higher density housing towards the Village Centre. Both display an *informal, organic character* at the woodland edges and a more *formal character towards the centre* and alongside key vehicular routes, with Dutchmore Wood incorporating a number of small apartment blocks along its southern edge where it is closest to the Village Centre.

Indicative density range: 25–45 dph for Beaumont Glade, and 45–55 dph for Dutchmore Wood (refer to indicative density plan in Chapter 6.2)

Illustrative view looking towards Beaumont Glade from woodland edge

7.8 BEAUMONT GLADE & DUTCHMORE WOOD

URBAN DESIGN

KEY LAYOUT PRINCIPLES

- Large detached and semi-detached homes fronting onto ancient woodland along northern edges of the parcels.
- Smaller link-detached and semi-detached homes form regular frontage to central streets. Small apartment blocks define key street corners in Dutchmore Woods.
- In Beaumont Glade, groups of mews style houses around a series of north-south shared-surface streets with a more intimate character create views out towards the woodland edge and the Green Link.
- In Dutchmore Woods, semi-detached and terraced homes group around shared-surface streets and spaces in the centre of the parcel.
- Level changes sensitively incorporated into the layout through careful arrangement of homes and well-considered retaining walls within back gardens.

FRONTAGE CHARACTER

Regular Frontage

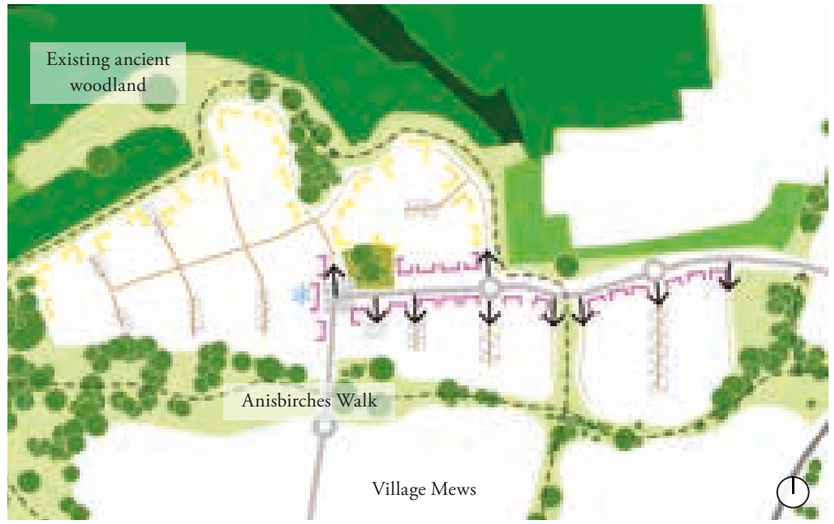
- **Semi-detached** dwellings along primary vehicular routes with **apartment blocks and large detached units** in key locations (e.g. at corners).
- Consistent typology and arrangement.
- Aligned with the street frontage to create strong building line along the primary vehicular routes, with some exceptions to define areas of special character.
- Minimal gaps between buildings to create a high degree of enclosure.
- Garages and driveways set behind the building line, with some use of rear parking.
- Car parking typologies: **On-plot frontage, on-plot between dwellings, communal.**

Staggered Frontage

- Predominantly **detached** and occasional **semi-detached** dwellings of different form.
- A mix of wider and narrower gaps between buildings to reinforce informal character.
- Variation in setback from the public realm to create organic frontage line.
- Buildings positioned at different angles to the space or route they face, and to each other.
- Frontage may include the rear/flank walls of garages, linked to dwellings by garden walls.
- Optimising views of green space from plot.
- Car parking typologies: **on-plot corner, on-plot between dwellings, shared courtyard, forecourt.**

Illustrative Masterplan – Beaumont Glade

Illustrative Masterplan – Dutchmore Wood



Extract from Layout Plan – Beaumont Glade

Extract from Layout Plan – Dutchmore Wood

- Feature building
- Indicative access onto development parcel
- Indicative access to QinetiQ site
- Indicative internal street
- Indicative edge street
- Indicative mews street
- Traffic calming junction measure
- Shared footway/cycleway
- Existing trees to be retained where possible
- LEAP
- Regular frontage
- Staggered frontage

7.8 BEAUMONT GLADE & DUTCHMORE WOOD

OPEN SPACE

CAR PARKING TYPOLOGIES

TYPOLOGIES	DESCRIPTION
On-Plot Frontage	
	• Max 4 spaces in a row separated by landscape • Not to serve more than 8 dwellings on any one side of the street • Chevron parking can be used if desired
On-Plot Corner	
	• Located around the corner from main dwelling frontage • Usually serves individual dwelling on corner plot, but may serve more than one (e.g. a terrace of houses) providing up to a maximum of 4 spaces • Parking bay(s) enclosed by brick garden wall
On-Plot Between Dwellings	
	• Parking spaces must be set behind the building line (an exception may be made where the dwelling is set back from the back of footway by more than 4m) • Parking spaces will be provided in either car ports or integral garages • Along the internal streets, structures to accommodate parking spaces must be attached or linked to the property, with the expectation of housing fronting onto green space, where detached garages may be permitted • No more than two cars allowed in tandem parking
Forecourt	
	• Applies to large dwellings only • Front boundary will be walls, railings or hedgerows • Gates to be inward opening • Maximum width of access from street 3m

TYPOLOGIES	DESCRIPTION
Communal/Shared Courtyard	
	• Communal parking areas are used predominately for apartment blocks • Parking areas will contain no more than 20 parking bays. • There should be no more than 5 spaces in a row without landscaping between. • At the entrance(s) to rear parking courts, walls should be used to clearly define the entrance, screen parked cars from the street and create a good sense of enclosure.

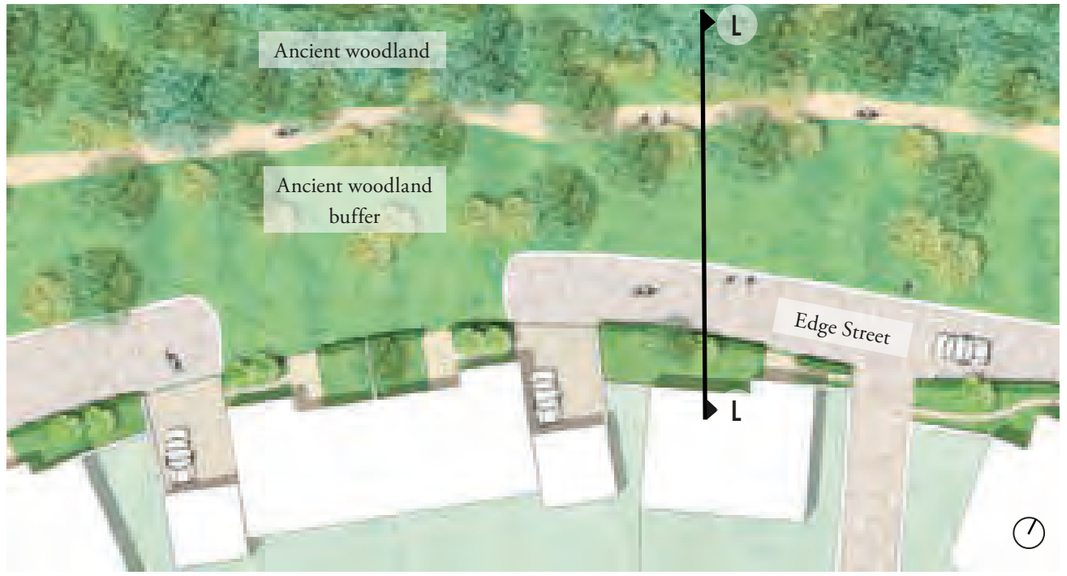
GREEN/BLUE INFRASTRUCTURE

- Where existing mature trees can be retained they should provide a focus for 'Pocket Greens' within the centre of the parcels.
- Public footpath incorporated within the 15m wide buffer to the Ancient Woodland.
- Play area and SuDS ponds incorporated within green space to north of parcels.

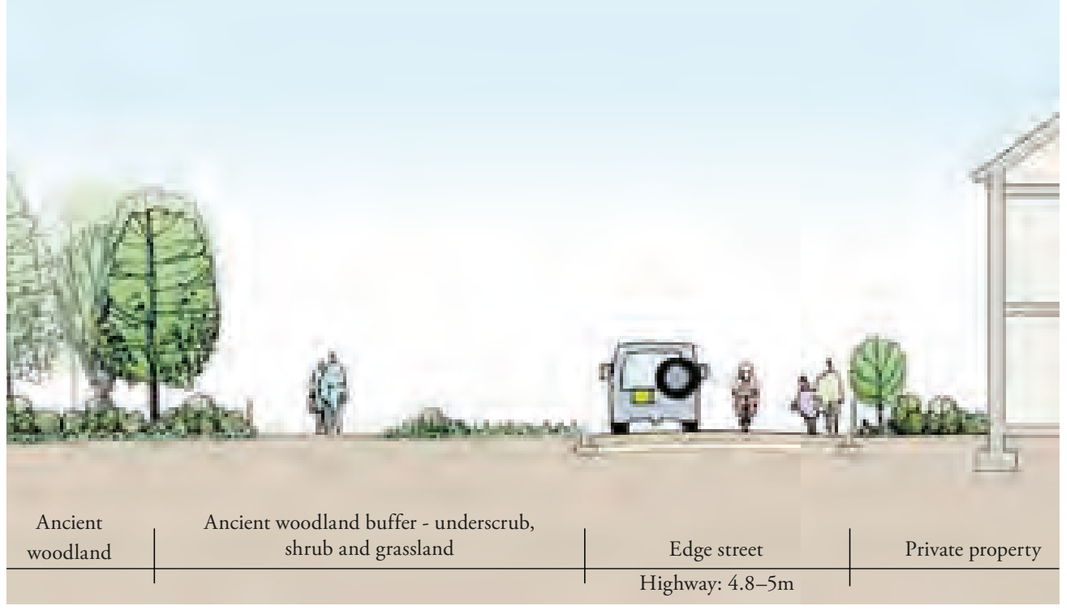
STREET CHARACTER

- Lanes along the woodland edge should feel secure and private and not be continuous
- Vehicular access to green areas to be restricted through careful landscaping and appropriate use of timber bollards.

Refer to Access & Movement chapter in the DAS



Street plan – Edge street

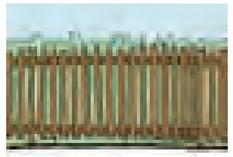


Street section LL – Edge street

7.8 BEAUMONT GLADE & DUTCHMORE WOOD

ARCHITECTURAL DESIGN

FRONT BOUNDARY TREATMENTS

TYPOLOGIES	DESCRIPTION	EXAMPLES
Native Planting 	• Suggest 0.5m high native ground cover planting to create more naturalistic interface, possibly with low railing integrated	
No Boundary 	• Plot boundary defined by distinct change of surface material (e.g. cobbles) or by the edge of private lawn in front of the building	
Picket Fencing With Hedge or Shrub Behind 	• Height – 1.2m max • Painted timber in light grey or other suitable pale colour, with gates to match • Low clipped hedge and/or shrub planting behind • This boundary treatment is appropriate for use	

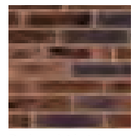
Primary Materials


Pale buff brick


Dark stained timber cladding


Blue brick

Secondary/Feature Materials


Red-multi brick

Roof


Red tiles


Dark grey tiles

FRONT BOUNDARY TREATMENTS

- Transitioning from open and naturalistic to the north of the parcels to more formal in the south.
- Low hedge/area of shrub planting along northern woodland edge.
- Picket fence with hedge or shrub planting behind, transitioning to low wall with hedge.
- Timber posts to protect edges of open space and prevent inappropriate vehicular access.

BUILT FORM

- High-quality homes of contemporary design with a distinctly rural character.
- Principally 2 storey with some 2.5/3 storey dwellings providing added emphasis on key corners or acting as vista stoppers.
- A mix of detached, link-detached, semi-detached and terraced dwellings.

FACING MATERIALS

- Predominantly buff and dark blue brick or dark stained timber cladding with red-multi brick as a feature material. Variety of materials used across both parcels, responding to the transition between adjacent parcels.


Indicative use of material palette


Precedent for materials (The Avenue, Saffron Walden)


Precedent for materials (Derwenthorpe, York)

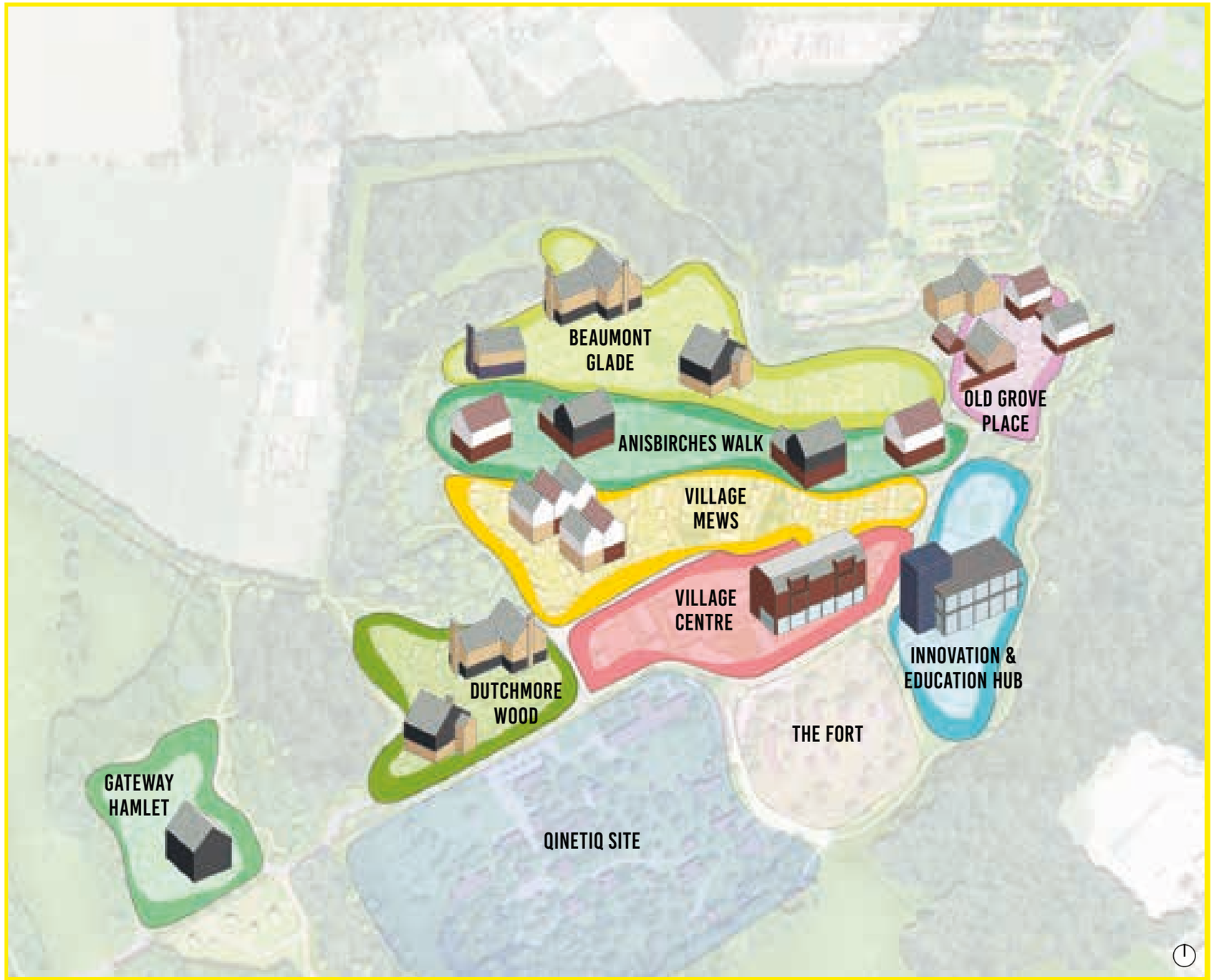

Precedent for woodland edge (Ockford Park, Godalming)

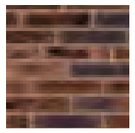
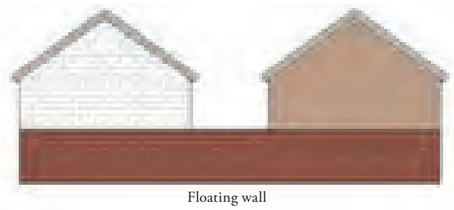
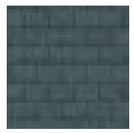
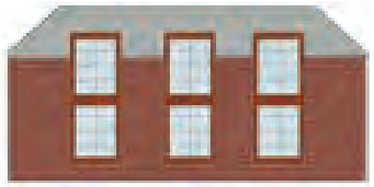
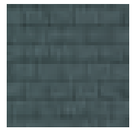
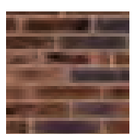
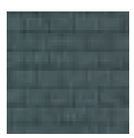
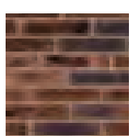
7.9 MATERIALS

MATERIAL PALETTE

Sustainability, local distinctiveness and variety are three key principles influencing the exterior palette of materials at Fort Halstead. By using local materials, the character and identity of the area is reinforced and the need for material transportation is reduced. Depending on context, contemporary materials can be used to produce innovative and unique buildings. Materials vary throughout the new village to reinforce the different character areas within the site and create a legible place.

The table on the following page demonstrates the combination of different character areas within Fort Halstead, whilst also contributing to the local distinctiveness of the Kent Downs AONB.



HAMLETS		TOP	BASE	FEATURE	ROOF
Gateway Hamlet		• Dark stained timber cladding – Western Gateway		 Red-multi brick  Dark grey or black metal cladding	 Red tiles  Grey slate tiles
Old Grove Place	 Floating wall	TOP • Natural coloured timber cladding • White brick BASE • Red-multi brick	 Red-multi brick	 Pale buff brick  Dark stained timber cladding	 Red tiles  Dark grey tiles
Innovation & Education Hub		• Predominantly dark coloured metal cladding and large glazed areas, particularly at building entrances		 Timber cladding  Dark stained timber cladding	 Flat roofs  Solar PV tiles or panels
Village Centre		• Primary use of red brick and red multi-brick, secondary use of white painted bricks and timber cladding. Red clay tiles and greys tiles to be used for pitched roofs.		 White brick  Timber cladding  Metal: Brown-red cladding	 Red tiles  Dark grey tiles  Crittall
Village Mews		TOP • White brick BASE • Pale buff brick • Red-multi brick	 White brick	 Red-multi brick  Pale buff brick	 Red tiles  Grey slate tiles
Anisbirches Walk		TOP • Dark stained timber cladding • Naturally stained or white painted weatherboard BASE • Red-multi brick	 Dark stained timber cladding  Naturally stained or white painted weatherboard	 Red-multi brick	 Red tiles  Dark grey tiles
Beaumount Glade & Dutchmore Wood		TOP • Pale buff brick • Dark stained timber cladding BASE • Pale buff brick • Blue brick	 Pale buff brick	 Dark stained timber cladding  Blue brick	 Red-multi brick	Red tiles Dark grey tiles

8. ACCESS & MOVEMENT

8.1 ACCESS STRATEGY

HIGHWAY ACCESS STRATEGY

The Crow Drive access from Polhill will remain as the main access to and from the new village at Fort Halstead. A new roundabout has been designed to improve the quality of that access and the design has been agreed in principle with Kent County Council Highways (see drawing on p168). The scheme will improve access and egress to/from the site and has sufficient capacity to cater for the whole Fort Halstead development. The scheme incorporates enhanced safety of access for both pedestrians and cycles.

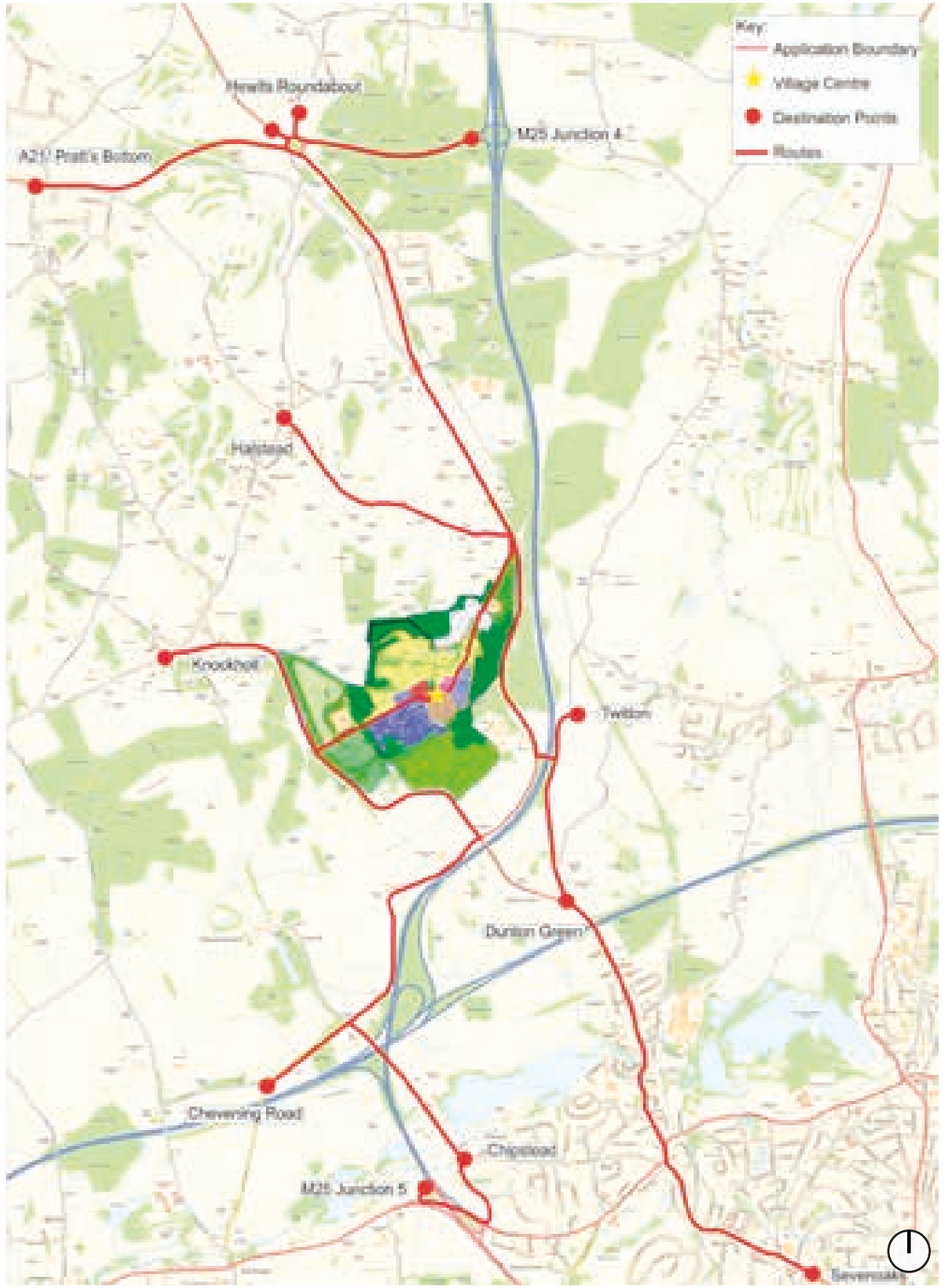
Kent Highways has confirmed that they will require the existing secondary access onto Star Hill Road to be retained in order to provide best practice for masterplanning and suitable arrangements in the event of the main access becoming blocked by either an accident or due to road works.

The masterplan has been designed to encourage the new community to use the main Polhill access through the use of appropriate traffic calming measures combined with a more circuitous route to the secondary access.

In order to enhance safety, interventions will be introduced to reduce speeds, together with a new entry treatment is proposed for Star Hill Road—this has been agreed in principle with Kent Highways. Visibility splays will also be improved at the Star Hill site access, again to enhance safety.

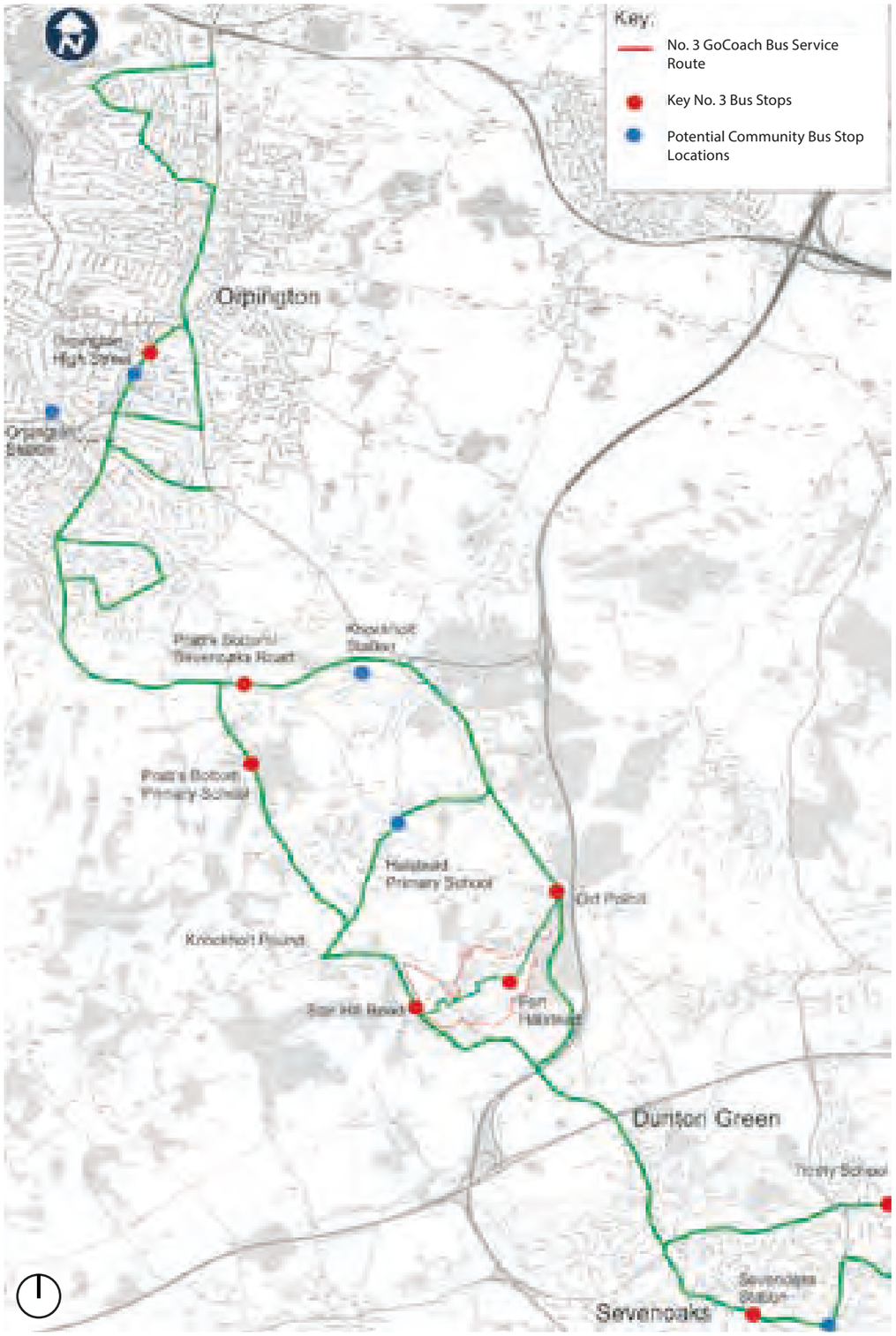
TRAVEL PLAN

A framework travel plan will be submitted as part of the planning application. This will include a package of measures aimed at encouraging the use of non-car modes of transport. It will also include details for monitoring trip generation for the new Fort Halstead village and identify a remedial strategy should mode share targets not be achieved.



Highway access routes

8.2 PUBLIC TRANSPORT



No. 3 bus route and potential community bus stop locations

NO. 3 BUS SERVICE

Positive discussions have been held with Go Coach, the operators of the No. 3 bus service (Orpington High Street to Sevenoaks) with a view to rerouting the service so that it serves the Fort Halstead site. This would provide access along with other school services to secondary schools in Sevenoaks (Knole Academy and Trinity Schools) as well as to town centre facilities in both Sevenoaks and Orpington and to the Riverhead Tesco superstore.

COMMUNITY BUS

As previously, the strategy includes the provision of a new high quality, community bus service to operate from the site. This would provide a bespoke service tailored to meet the needs of the new residential and business community, and be flexible so as to address the most frequent needs of the residential and business site communities as they evolve.

As such, it is proposed that this service would:

- Provide a link to one or more rail stations to meet the requirements of commuters at the beginning and end of the day. This would most likely provide a link to Orpington Station as well as potentially Knockholt;
- Provide a more flexible service during the off-peak period, for example to provide access to Sevenoaks or Orpington.

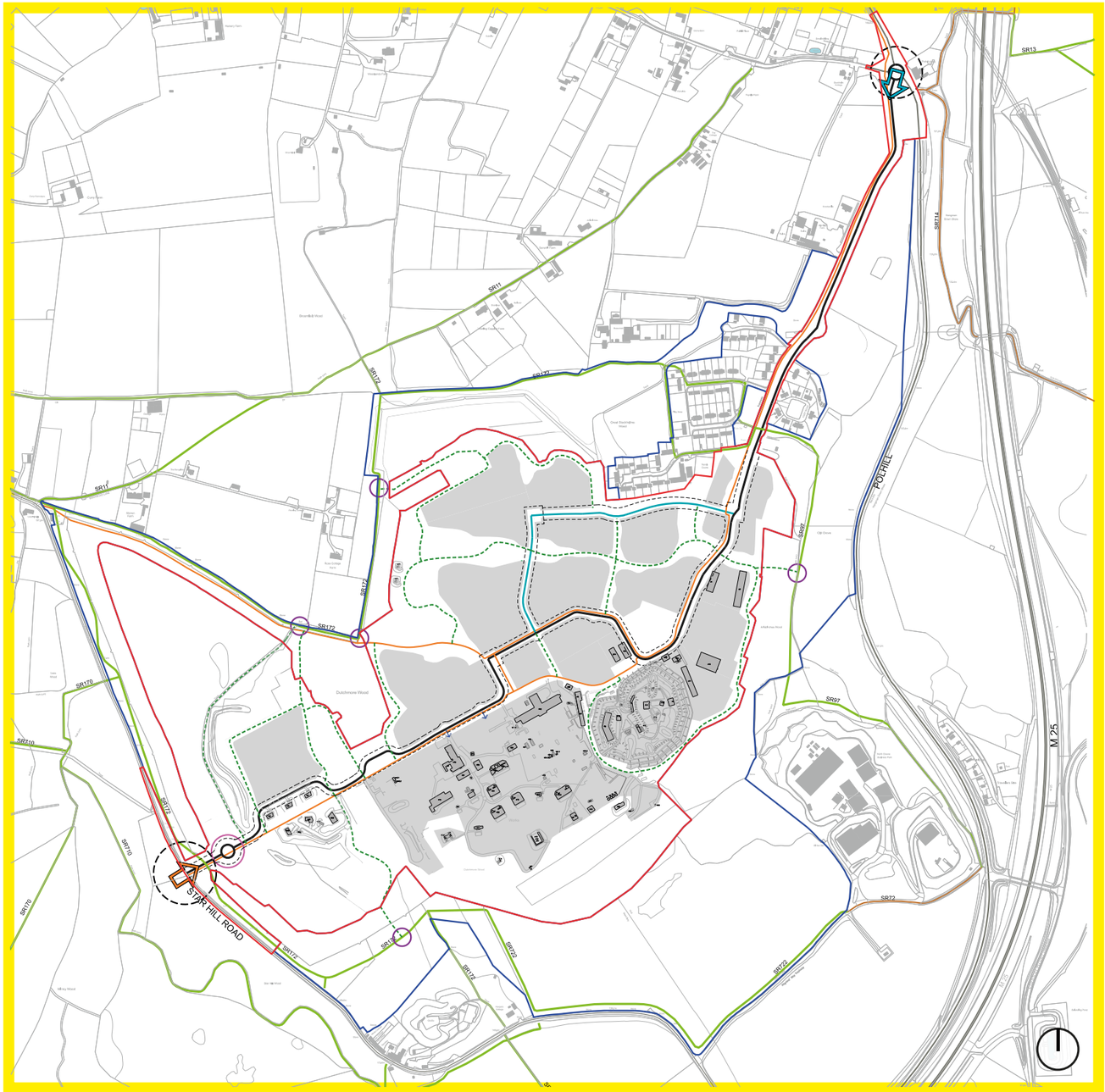
Community bus at Caterham Barracks, Surrey

Community bus at Caterham Barracks, Surrey

8.3 ACCESS & MOVEMENT STRATEGY

A network of different types of proposed routes contributes to the permeability of the development. It is designed to encourage walking through the development by creating routes that are attractive, direct and overlooked. Less rigid, more organic character of the street network responds to the existing landscape and surrounding woodlands and highlights countryside character of the development.

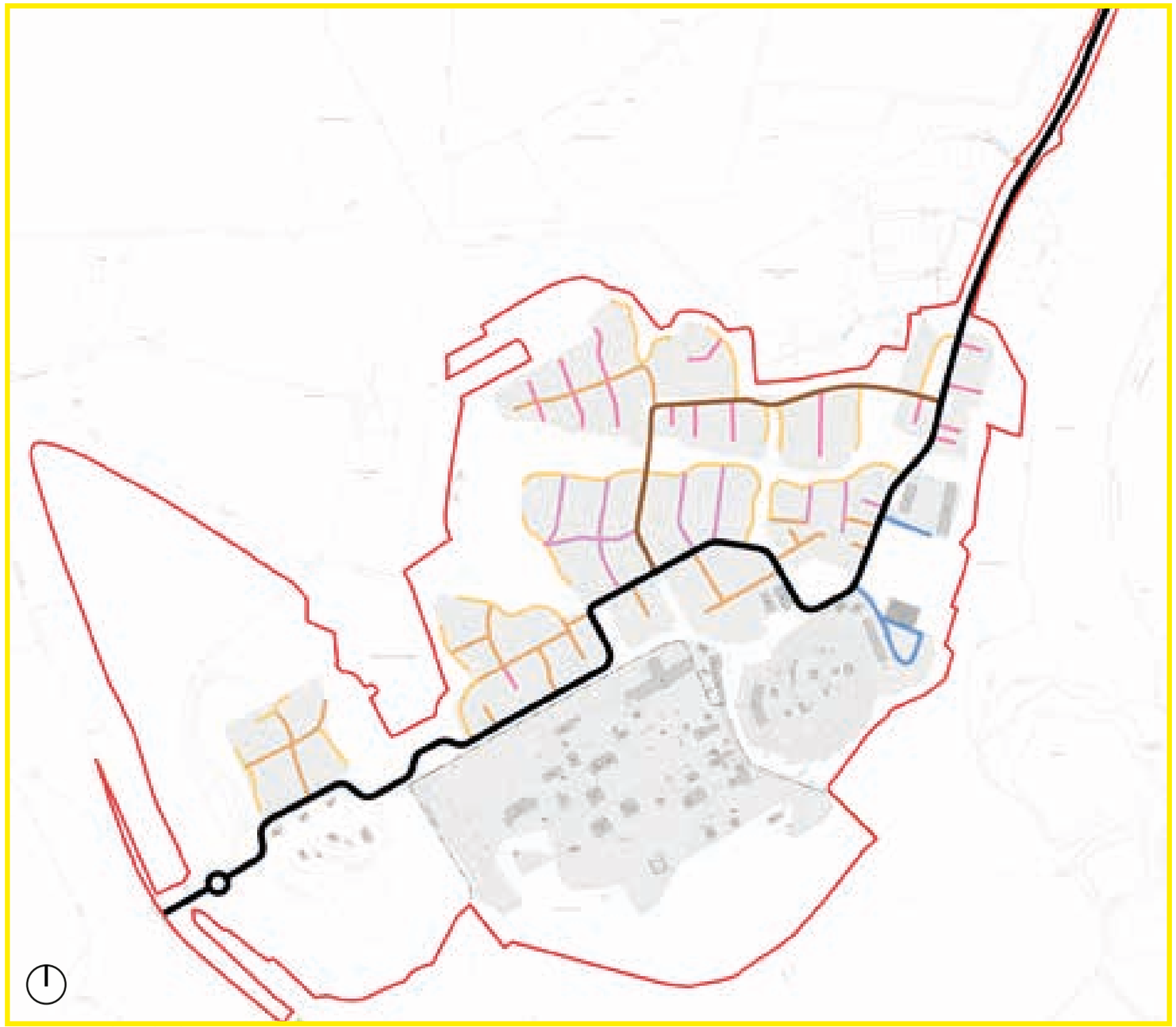
The proposed hierarchy of routes will deliver a comprehensive network of high quality pedestrian and cycle routes across the site providing convenient, accessible, safe, comfortable and attractive facilities for all users.



Key

- Application boundary
- Applicant's Land ownership Boundary
- Development Parcels
- Existing building for potential retention
- Existing public rights of way (PROW)
- Existing bridleway
- Existing road
- Main access – all modes
- Secondary access – all modes
- QinetiQ Ltd. access point
- Junction improvement
- Crow Road/Primary Road
- Corridor for primary road*
- Indicative Bus Loop
- Secondary road
- Indicative strategic shared footway cycleway
- Indicative secondary shared footway cycleway
- Connection to existing footway network

8.4 INDICATIVE STREET HIERARCHY



Indicative street hierarchy plan

The street network serving the new homes will be based on interconnected streets, shared surfaces and courtyards. The distinctive street hierarchy is designed to provide legibility and easy navigation through the site for residents and visitors. It includes the main road, secondary, tertiary and edge streets each with different layouts and dimensions. Easy access for service and emergency vehicles is ensured by providing several accesses to each development parcel.

Key

- Primary street
- Secondary street
- Tertiary street
- Edge street
- Shared courtyard
- Mews street
- Employment & education parcel access
- School drop-off

8.5 WALKING & CYCLING ACCESS

The masterplan prioritises the movement of pedestrians and cycles through the site. This is achieved by the following interventions:

- Reduce traffic speeds – design of streets in accordance with requirements for a 20 mph zone;
- Provide a new off-road cycle route through the site between the Polhill access to the Site access and Knockholt Pound;
- A series of "green links" provide other safe shared use pedestrian/cycle links through the site.
- A foot/cycleway adjacent to PRoW SR172 towards Knockholt Pound

Off-Site Enhancements

As with the approved scheme, the village, as well as the wider community, will benefit from the following enhancements:

- New on-road cycle lanes between Polhill and Shanklands Roundabout as well as cycle facilities at the upgraded site access junction. In particular, these enhancements will provide safer access to Knockholt Station;
- Proposed 40 mph speed limit on Star Hill;
- Lighting of the M25 underpass on the bridleway linking Polhill and Filston Way.

ALL ROUTES

Key

- Indicative cycling route
- Indicative pedestrian routes
- Indicative running route
- Indicative extended running route
- Indicative recreation route

CYCLING

8km of cycling route

8.5 WALKING & CYCLING ACCESS

FOOTPATH NETWORK

7km of walking routes within the neighbourhood

RUNNING ROUTE

6km of running route

RECREATION NETWORK

3.6km route connecting all recreational activities in the neighbourhood together

8.6 GENERAL DESIGN GUIDANCE

A LEGIBLE AND PERMEABLE* STREET NETWORK

Fort Halstead has been designed to be a walkable neighbourhood—a place where a range of useful facilities are within a short walking distance of all homes. This encourages people to walk and cycle rather than use the private car for short trips, but in order for this to happen, it is important that the street network is legible and permeable.

The illustrative street hierarchy plan shows a connected network of streets within the site. These form a clear hierarchy, each serving a particular function, from Crow Drive, the primary route running through the site, to the tertiary and edge streets, which are principally designed to accommodate the residents of the adjacent homes. The aim of this hierarchy is both to define a clear pattern of movement within the site and create a variety of attractive, characterful streets.

The location and alignment of Crow Drive and the secondary route is fixed and predominately follows the existing and historic alignment, with the exception of a few locations where deviation has been introduced to incorporate traffic calming measure and encourage slower vehicular movements. The location and alignment of all other street types are shown illustratively. While there is scope for some deviation from the illustrative layout, detailed proposals should follow the principles set out in this chapter, particularly in respect of the hierarchy between different street typologies.

The following detailed principles should be adhered to.

- Streets should interconnect—many cul-de-sac, gated and one-way streets will not be acceptable. The only exception may be at edge streets serving a small number of homes, but only if it can be designed to adequately accommodate the servicing of dwellings and does not sever pedestrian and cycle movements through the wider area;
- Each street should be designed to encourage the particular activities intended to take place within it.

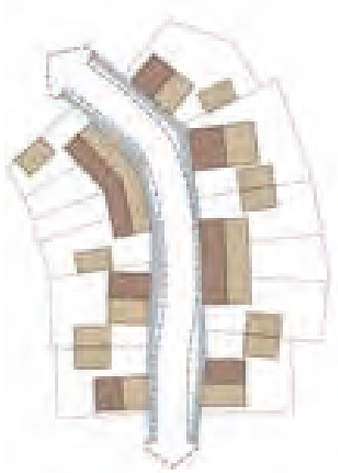
STREET ALIGNMENT

The detailed alignment of streets should be determined by the arrangement of buildings along them and the desire to create varied, interesting places.

- All streets should be designed to naturally slow traffic by visual cues such as built frontage, on street parking, horizontal deflections, landscape and surface materials
- Long straight sections of street should generally be avoided. Where this is not practical, additional measures such as those set out above will be required to limit speeds

*In urban design terminology, a ‘permeable’ street network is one which has a variety of pleasant, convenient and safe routes through it. It encourages walking and cycling and makes places easier to navigate through. Conversely, urban forms which lack permeability, e.g. those severed by arterial roads, or with many long culs-de-sac, are considered to discourage movement on foot and necessitate longer journeys by car.

Buildings and gardens are placed to define the preferred urban form.



The space left between is available to form the carriageway and is tracked for movement and for the provision of places where people may park their vehicles.

8.6 GENERAL DESIGN GUIDANCE

JUNCTION DESIGN

Cross roads and T-junctions will be the most common forms of junctions within the street network. In order to allow pedestrians to follow straight desire lines when crossing streets, it is important that junction radii are kept as small as possible.

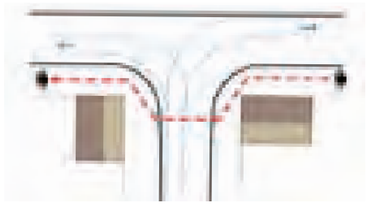
- Vehicle tracking should be undertaken to test designs and achieve tight radii at junctions.
- Radii should generally be less than 6m (to be determined by swept path analysis) with the less trafficked streets achieving a minimum of 4m. Exceptions to this may be made for junctions with the primary road where 6m radii may be required.
- It is acceptable for large vehicles to use the opposite carriageway when turning in areas where traffic is moving at 20mph.
- Widening the street near the junction can help achieve tighter radii.
- Where on-street parking is provided near junctions, wider car parking bays may be used to allow visibility splays to be maintained.
- Street trees can also be located within these visibility splays to allow continuity of street trees.

The adjacent diagrams illustrate this approach, which is also explained in Manual for Streets 1.

CONSTRUCTION DETAILS

- At the corners of all junctions or other vulnerable areas, footways or other hard-standings should be constructed to the same quality as the carriageway to avoid being damaged by vehicles overrunning the footways or parking.
- The placement of trees, tree pits and utilities should be carefully considered at design stage to ensure a holistic design of the sub base and surfaces to ensure longevity.

KEY STREET GEOMETRY PRINCIPLES



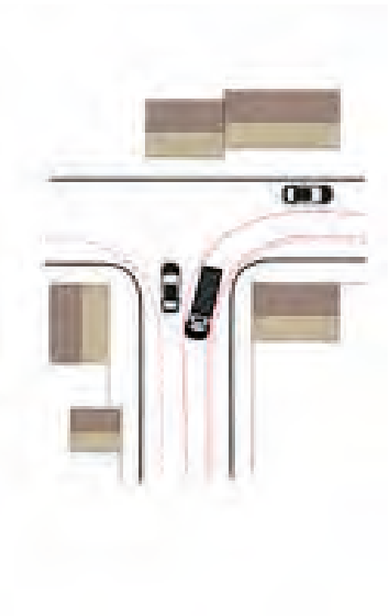
Larger radii force pedestrians to deviate.

Tighter radii allows pedestrian desire line to be maintained and vehicles turn slowly (10–15 mph)

- Pedestrian does not have to look further behind to check for turning vehicles
- Pedestrian can easily establish priority because vehicles turn slowly.

Side street widens at junction & narrows further back to allow smaller radii. Smaller radii allow pedestrians to cross more easily.

Best solution includes raised surface for easier pedestrian crossing.



- Tighter kerb radii can be used with a wider carriageway. The refuse vehicle turning requirement is still contained within the space, yet vehicles do not dominate.
- By using the same concept of tracking, wider carriageways can be set out to generate tighter junctions. These have much better calming effect on traffic speed.

8.7 CROW DRIVE

INTRODUCTION

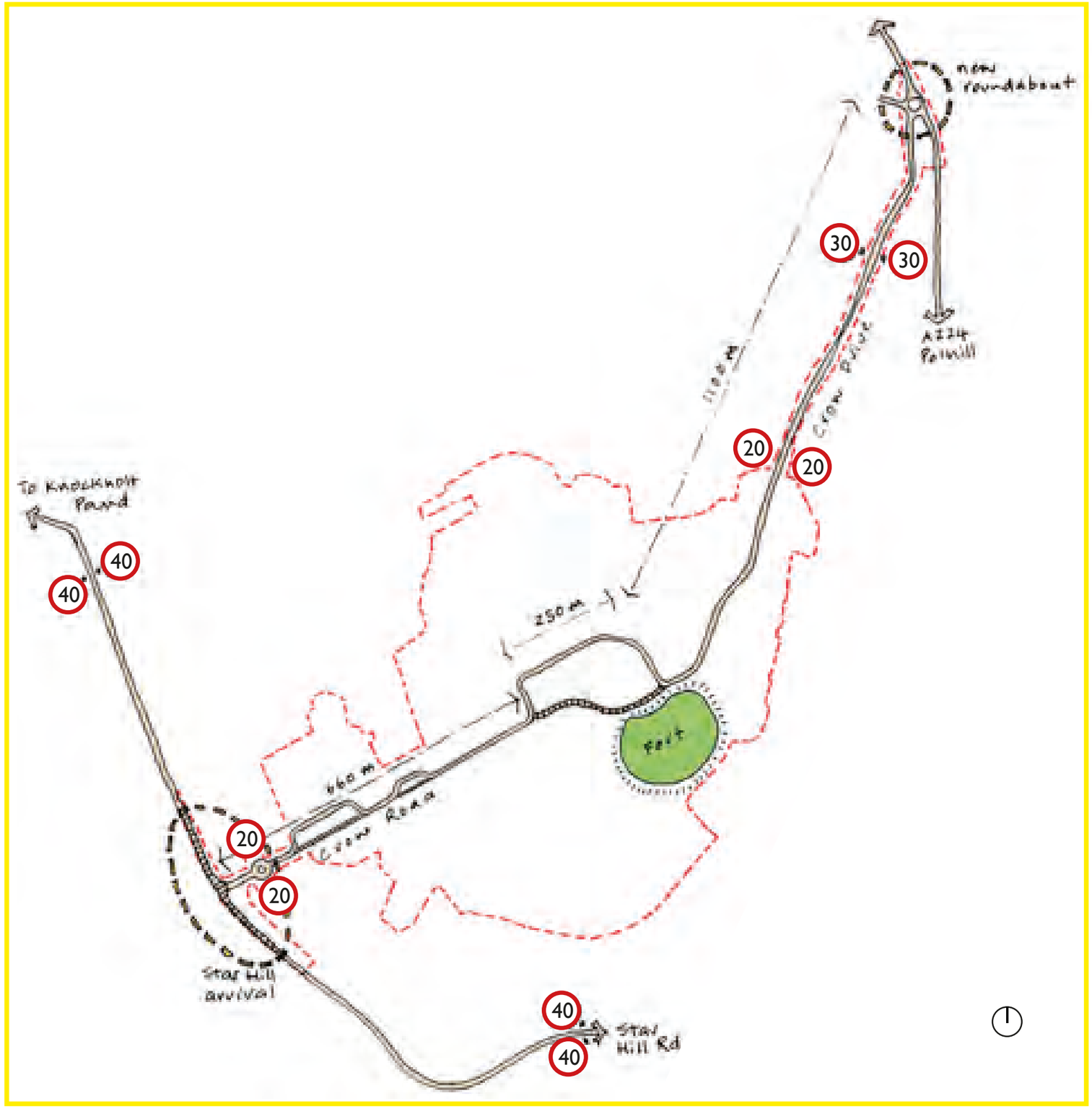
Streets make up the majority of the public realm within Fort Halstead and the detailed design of these streets will play a key role in establishing the character of the place as a whole and the different character of the neighbourhoods within it.

The proposal combines best practice in design, embracing *Manual for Streets* and the adopted *Kent Design Guide*, to deliver a new exemplary residential environment for all to enjoy.

Crow Drive is the main route into Fort Halstead from both Polhill and Star Hill. Crow Drive will vary in character and respond to its surrounding built character. The following chapter sets out guiding design principles for future reserved matter applications to ensure the quality and delivery of these different characters.

Text and diagrams set within an orange box are used to indicate mandatory design principles that *must be followed* to ensure the development will be of a high quality.

Mandatory Design Principles



8.7 CROW DRIVE

GENERAL PRINCIPLES

Throughout Crow Drive vehicular speeds will be restricted to 20mph or less. The exception to this is the short stretch of the Crow Drive connecting to the Polhill where a 30 mph limit will be applied in order to allow drivers to adjust their speed from leaving the nearby highway network.

The width of the carriageway is 6.75m which will accommodate a bus route. On the northern side of the Crow Drive there will be on a minimum of 2m footway and on the southern side a 3m minimum shared cycle and footway.

Kerbs with a high upstand should be used on the boundary between verge and carriageway to prevent unwanted parking on the green verge. On street parking should be only provided within parallel parking bays and where possible inset between the trees.

LIGHTING ON CROW DRIVE

The lighting along Crow Drive and across the development should aim to reduce sky low, luminaire intensity and light intrusion and thus limit visual impact at night. These issues can be addressed by the careful selection of luminaries that would neither project light upwards nor throw too much light directly onto objects (thereby reflecting back upwards). Whilst reduced levels of illumination is encouraged, no compromise should be made in respect of safety in health, safety and welfare of operatives and visitors.

Key light design measures should include:

- Lighting should be to the minimum level necessary to provide the required level of illumination;
- LED lights are recommended that enable increased control, improve colour definition, and save on energy;
- Luminaires should be designed and oriented to restrict light directionality only to the areas necessary. This should include double asymmetrical luminaires and full horizontal cut-off designs to prevent light spill;
- Lighting should be zoned to provide higher lighting levels along main routes (albeit whilst aiming for minimum standards of illumination); lower lighting levels on minor roads; and no light at all on out outward facing private drives;
- If security lights are to be provided on houses these should be of a full horizontal cut-off design with appropriate accessories to prevent light spill. They should also be fitted with motion sensors with timers set to the minimum value;
- The design to be as uniform as possible.

For more detail on the lighting strategy please refer to the Lighting Assessment Report.

CROW DRIVE

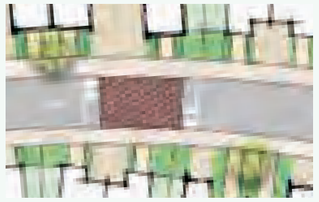
GENERAL HIGHWAY FEATURES

Speed limit	20 to 30
Min. carriageway width	6.75 m
Footway/cycleway	2m footway on one side; 3m shared footway/ cycleway on the other side or in the green space
Cycleway forward visibility	20m
Longitudinal gradient	<10%
Cross fall	<10%
Bus access	Yes
Street lighting	Yes outside of 20mph zone and within 20mph zone at locations to be determined
Distance between speed restraints features	60m - 80m within 20mph Speed Limit Zone
Junction visibility x	2.4m
Junction visibility y	>25m within 20mph zone, 43m outside
Max longitudinal gradient	8% (gradients may only be increased if unavoidable due to local topography)
Cross section gradient	1.0% to 5.0%

8.8 TRAFFIC CALMING MEASURES

Traffic calming measures aim to encourage safer, more responsible driving and reduce traffic speeds. Traffic calming measures to be designed into Fort Halstead include mini-roundabouts, squares, shared surfaces, table tops, road humps, speed cushions and eyots.

In the Kent Design Guide Chapter 'Making it happen-highways', the maximum length of straight road between speed control features within 20 mph zones is generally 60 to 80 metres.

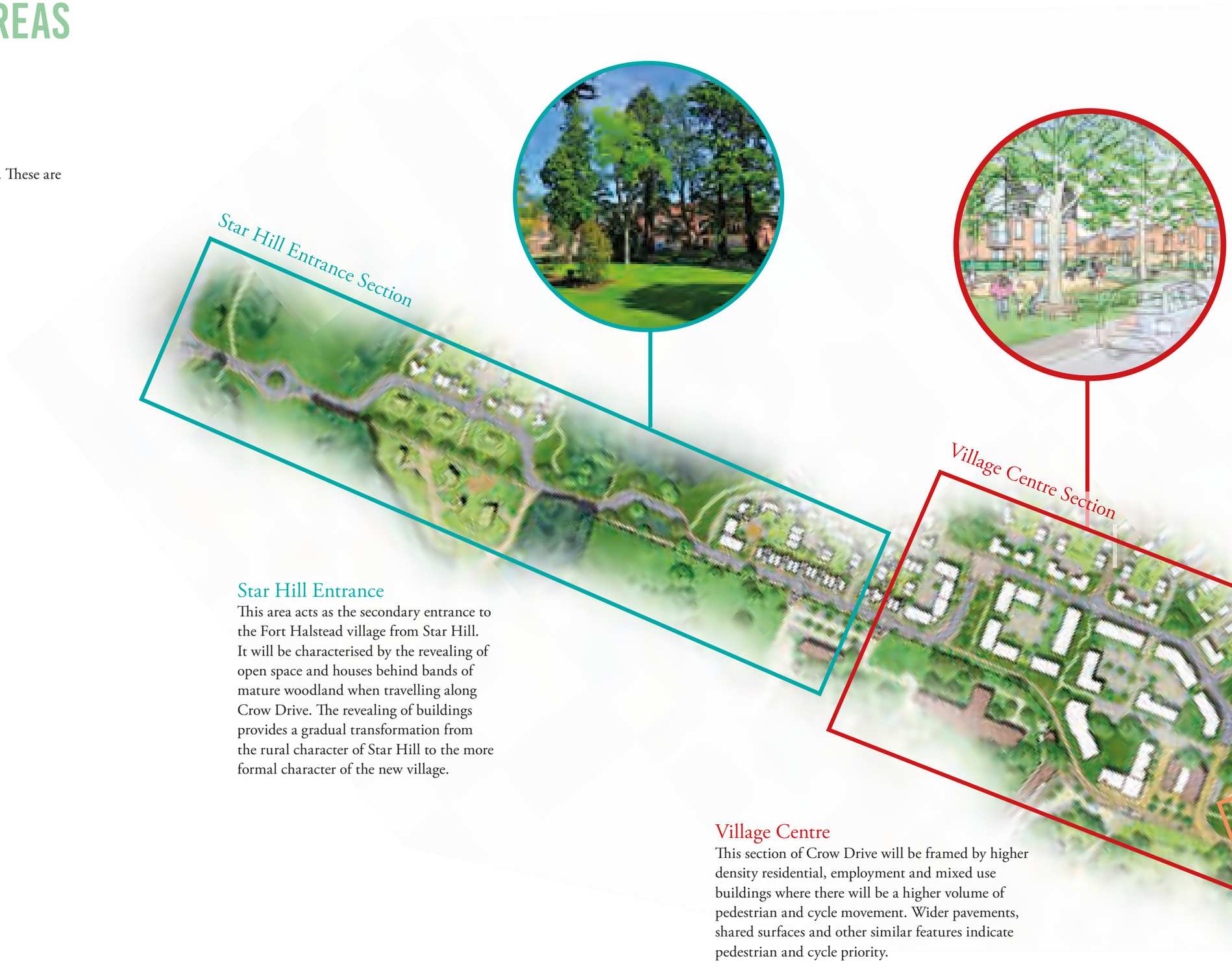
TYPOLOGIES	DESCRIPTION	PRECEDENT
Mini-roundabout		
	• The central dome may be up to 6 metres in diameter and raised to a maximum of 75mm in the centre. The dome height should be in proportion to the roundabout diameter, i.e. for a 2m central island the dome should be raised to a maximum of 50mm in the centre. This should be lowered if buses or frequent HGVs need to cross it. • The edge should be flush within a tolerance of 6mm above the adjacent road surface and the dome can be finished in cobbled or similar material. • Potential bus loop to be incorporated into the design of an eyot.	
Table tops		
	• Ramps at the commencement of table junctions and speed tables shall be 1.125 metres long, laid at a gradient of 1 in 15 (6.7%). The maximum height of any vertical deflection in Kent is 75mm. • For adoptable roads KCC require humps and tabletops to be formed of tegular type blocks, of a standard colour palate to be agreed with KCC. Ramps can be formed of a contrasting colour material, to the specification dictated by KCC.	
Overrun strips		
	• Overrun strips allow larger vehicles to negotiate bends and narrowings without significant visual widening of the main carriageway surface. • Overrun strips can be formed of a raised shoulder, the edge no greater than 25mm above the carriageway channel line, and can be formed of an edge kerb and cobbled or other similar material differentiating from the carriageway material type.	

8.8 TRAFFIC CALMING MEASURES

TYPOLOGIES	DESCRIPTION	PRECEDENT
Shared surface 	• Shared space is an urban design approach that minimises the segregation between modes of road user. This is done by removing features such as kerbs, road surface markings, traffic signs, and traffic lights. • Use of contrasting materials allows legibility and understanding between pedestrians and vehicle drivers.	
Road humps and cushions 	• Hump spacing of 60–80 metres is required for 20 mph zones when used in a series	
Eyots 	• Eyots are traffic islands in the centre of the carriageway taking the form of an over-runnable edge strip and a solid central island planter. • The edge of the overrun strip should be flush within a tolerance of 6mm above the adjacent road surface. Eyot geometry will be dictated by vehicle swept path analysis.	
Square junction 	• Raised shared surfaced table within a square, with offset alignment to each entry/exit.	

8.9 CHARACTER AREAS

There are 4 key character area along Crow Drive. These are illustrated here.



Star Hill Entrance

This area acts as the secondary entrance to the Fort Halstead village from Star Hill. It will be characterised by the revealing of open space and houses behind bands of mature woodland when travelling along Crow Drive. The revealing of buildings provides a gradual transformation from the rural character of Star Hill to the more formal character of the new village.

Village Centre

This section of Crow Drive will be framed by higher density residential, employment and mixed use buildings where there will be a higher volume of pedestrian and cycle movement. Wider pavements, shared surfaces and other similar features indicate pedestrian and cycle priority.

8.9 CHARACTER AREAS

Tree-lined Avenue

This area will be characterised by street trees planted in a formal arrangement on each side of the street.

Woodland Arrival

The Woodland Arrival will be characterised by the surrounding mature woodland and will create a strong landscaped entrance to the development. Generous grass verges and clusters of houses create a sensitive transition to the village.

8.10 WOODLAND ARRIVAL

The Woodland Arrival forms an informal edge to the residential neighbourhoods, with a woodland character. Generous grass verges and soft, open frontages create a transition to the village.

This section connects Fort Halstead to Polhill (A224). The street will be framed by green space on both sides providing a rural character within existing woodland. Vehicular movements will be calmed naturally by eyots, humps, mini-roundabouts and pedestrian crossings. The main entry point to the 20mph zone will be calmed by a 28m ICD (inscribed circle diameter) compact roundabout with a solid/landscaped central island.

The transition from the Woodland Arrival to the Tree-Lined Avenue and from Star Hill Entrance to the Village Centre should be marked by a feature such as a raised courtesy crossing and a welcome signage.

Location of Woodland Arrival

WOODLAND ARRIVAL

HIGHWAY

Speed limit	20 to 30
Width of adopted highway	Varies
Minimum carriage width	6.75 m
Footway/ cycleway provision	min. 2m footway on one side, 3m shared footway/ cycleway on the other side
Highway verge	max. 8m wide

HIGHWAY FEATURES

Bus route	Yes
On-street parking	No
Traffic-calming features	Yes – raised table top, eyot, road hump, mini-roundabout, compact roundabout
Road markings	100mm if required
Centre line radii	Varies

WOODLAND ARRIVAL

ACCESS

Junction spacing	60m min for adjacent roads, 15m for opposite
Minimum junction visibility	2.4 x 43m within 30mph, 2.4m x 25m within 25mph zone
Kerb Radius	Determined by swept path analysis, although a starting point should be 4m or less
Direct vehicular access to properties	No

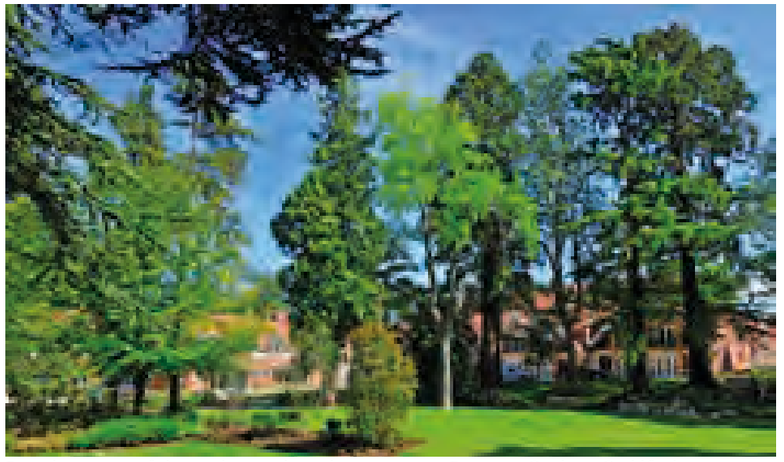
PAVING MATERIALS

Carriageway	Asphalt
Kerbs and Edging	To be agreed with KCC
Footway	Asphalt or block paving

LIGHTING

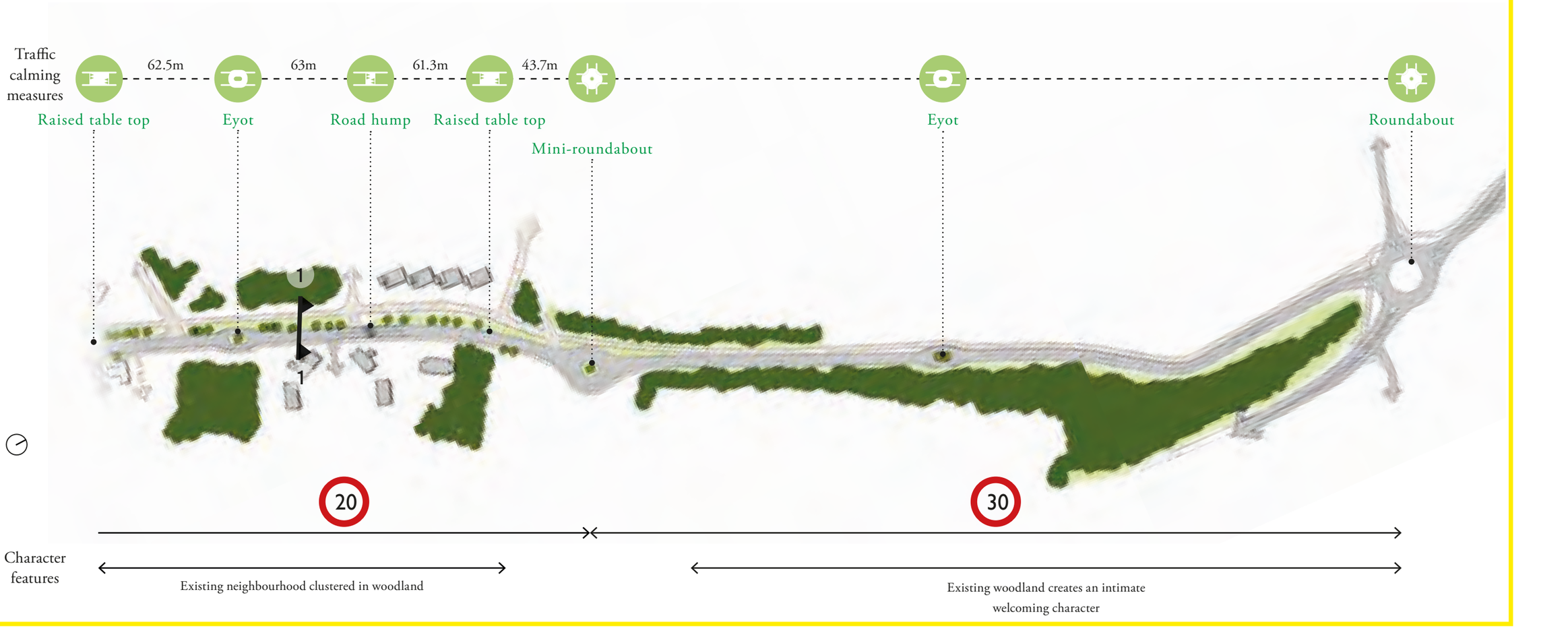
Carriageway	To be agreed with KCC depending on tree coverage

Precedent image of woodland arrival, Moscow



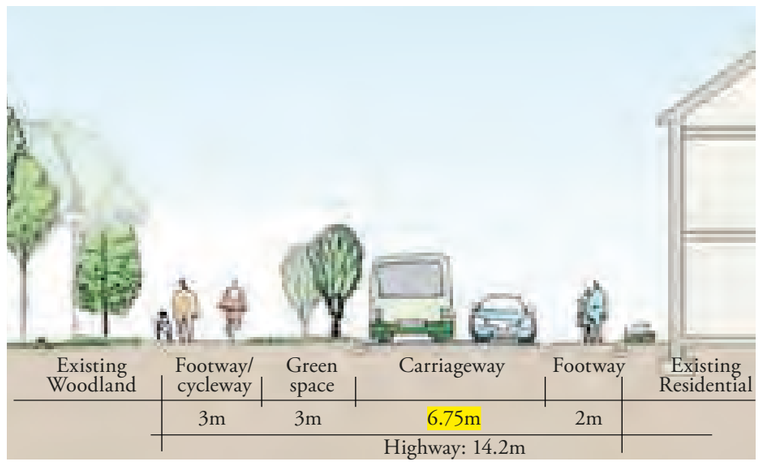
Precedent image of glimpsed views through mature trees, Boxgrove Gardens, Guildford

8.10 WOODLAND ARRIVAL




Existing housing along Crow Drive


Precedent image of informal green space within woodland setting, Boxgrove Gardens



Indicative section 1 – 1

8.11 TREE-LINED AVENUE

This area will be characterised by large street tree species planted in a formal arrangement on each side of the street. A shared surface pedestrian cycle route runs parallel to the north of the avenue adjacent to the green space.

There will be on-street parking and a pedestrian crossing in the Anisbirches Walk section.

TREE-LINED AVENUE

HIGHWAY

Speed limit	20
Width of adopted highway	Varies
Minimum carriage width	6.75 m
Footway/ cycleway provision	2m footway on one side, 3m shared footway/ cycleway on the other side
Highway verge	min. 3m on both sides

HIGHWAY FEATURES

Bus route	Yes
On-street parking	Yes – parallel
Traffic-calming features	Shared surface, raised table top, Eyot, road hump, square
Centre line radii	In accordance with Kent Design Guide

TREE-LINED AVENUE

ACCESS

Junction spacing	To be agreed with KCC
Minimum junction visibility	2.4 x 25m
Kerb Radius	Determined by swept path analysis, although a starting point should be less than 4m
Direct vehicular access to properties	Yes – restricted at junctions

PAVING MATERIALS

Carriageway	Asphalt, tegular block
Kerbs and Edging	To be agreed with KCC
Footway	Asphalt, tegular block

LIGHTING

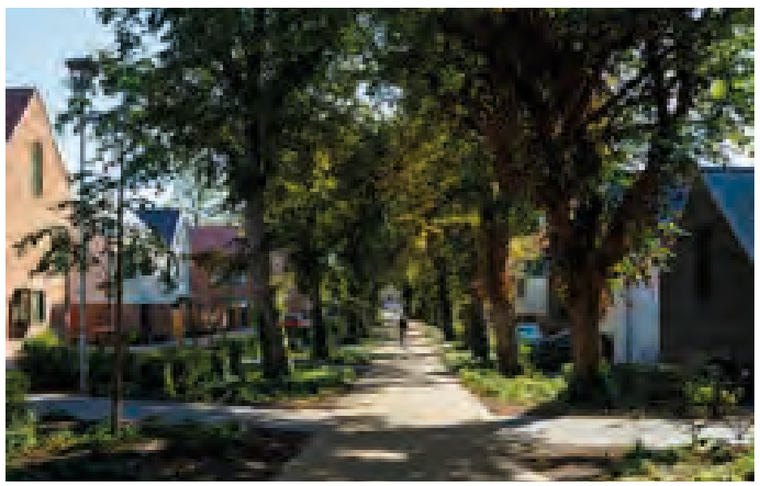
Carriageway	To be agreed with KCC depending on tree coverage

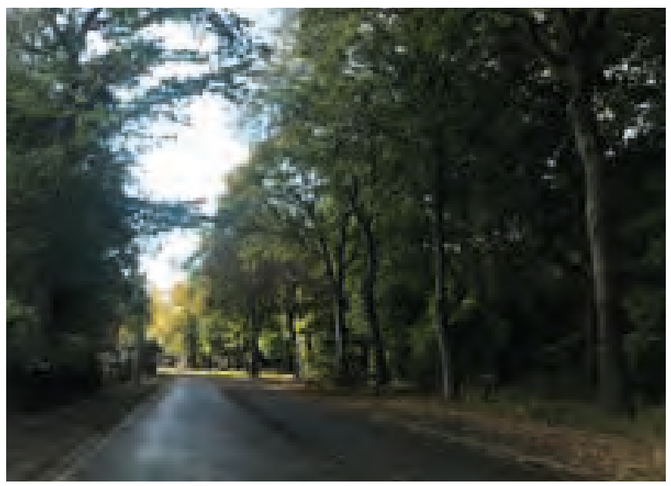
Location of Star Hill Entrance Section

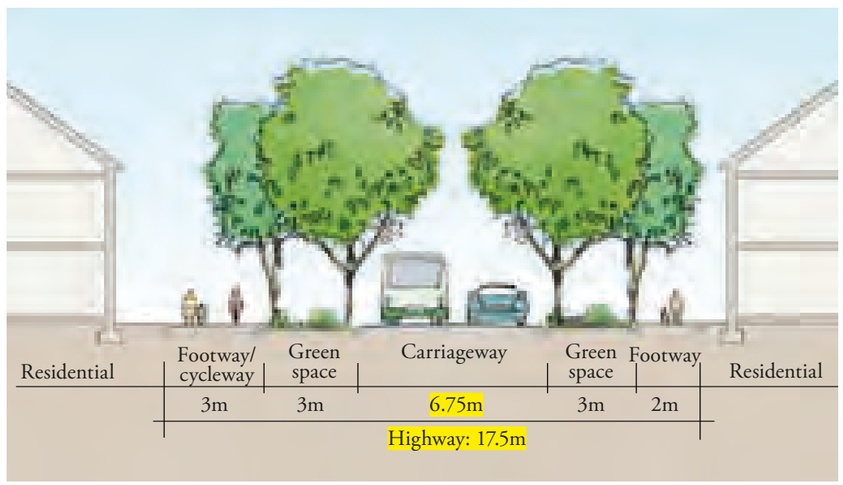
Artist impression of the Tree-Lined Avenue

Precedent image of The Avenue, Saffron Walden

8.11 TREE-LINED AVENUE


Example of footway/cycleway through entrance green – The Avenue, Saffron Walden


Existing treed area at the approach of Fort Halstead



Indicative section 2 – 2

8.12 VILLAGE CENTRE

The Village Centre section will have a higher volume of pedestrian movement than the typical sections of the Avenue and therefore requires wider pavements and other features that signify pedestrian priority.

The pavement will run up to property boundaries to allow shop fronts in a traditional high street design. Special paving will mark pedestrian crossing points on desire lines and the design of street furniture, lighting, public art and soft landscaping will emphasise the civic importance of the place.

Where Crow Drive runs along the edge of the Village Square and Village Green, it will form an integral part of the square with the carriageway and adjoining pedestrian space at the same level. Changes in material rather than standard kerbs should be used to demarcate pedestrian priority and parking areas.

Bus stops will include raised platforms to allow easy boarding. Tactile paving must be used to indicate safe crossing places for blind and partially-sighted pedestrians.

Location of Village Centre Section

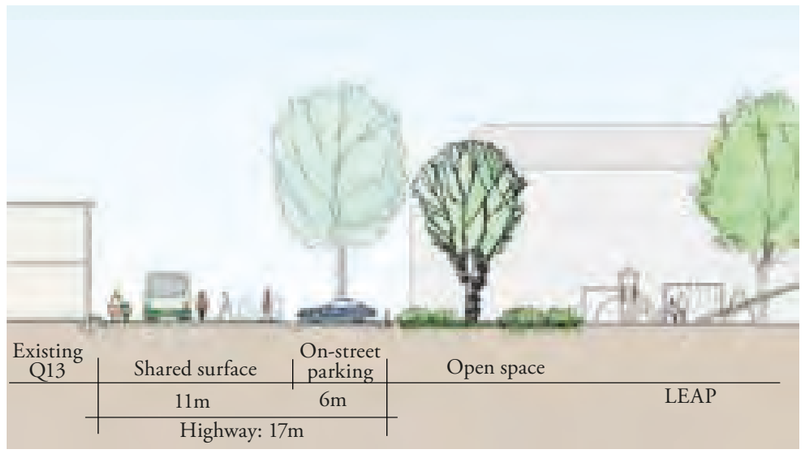
VILLAGE CENTRE	
HIGHWAY	
Speed limit	20
Width of adopted highway	Varies
Minimum carriage width	6.75 m
Footway/ cycleway provision	2m footway on one side, 3m shared footway/ cycleway on the other side
Highway verge	No verges
HIGHWAY FEATURES	
Bus route	Yes
On-street parking	Only permitted around the village green
Traffic-calming features	Yes – mini-roundabouts, squares, shared surface, overrun strip
Road markings	If required
Centre line radii	In accordance with Kent Design Guide

VILLAGE CENTRE	
ACCESS	
Junction spacing	To be agreed with KCC
Minimum junction visibility	2.4 x 25m
Kerb Radius	Determined by swept path analysis, although a starting point should be less than 4m
Direct vehicular access to properties	No
PAVING MATERIALS	
Carriageway	Asphalt, tegular block
Kerbs and Edging	To be agreed with KCC
Footway	Asphalt, tegular block
LIGHTING	
Carriageway	To be agreed with KCC
QINETIQ	
Security fence line	3m (max) high fenceline with a service strip clear of vegetation, to be located 1m (min) from QinetiQ's demise (for details of fenceline refer to diagrams in the Star Hill Entrance character area)

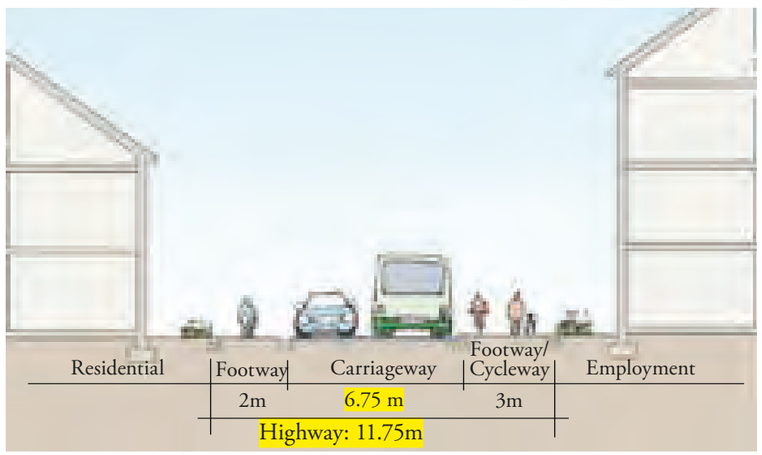
Artist impression of the Village Green

Precedent image of streetscape framed by higher density housing – Newhall, Essex

8.12 VILLAGE CENTRE



Indicative section 3 – 3

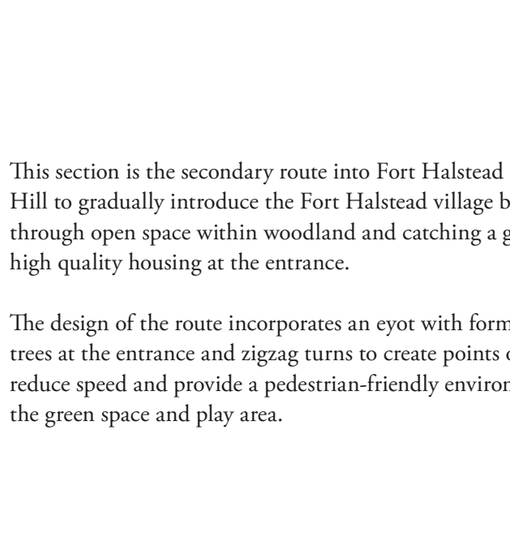


Indicative section 4 – 4

8.13 STAR HILL ENTRANCE

This section is the secondary route into Fort Halstead from Star Hill to gradually introduce the Fort Halstead village by going through open space within woodland and catching a glimpse of high quality housing at the entrance.

The design of the route incorporates an eyot with formal mature trees at the entrance and zigzag turns to create points of interests, reduce speed and provide a pedestrian-friendly environment with the green space and play area.



Location of Star Hill Entrance Section

STAR HILL ENTRANCE

HIGHWAY

Speed limit	20
Width of adopted highway	11.2 m
Minimum carriage width	6.75 m
Footway/ cycleway provision	2m footway on one side, 3m shared footway/ cycleway on the other side
Highway verge	N/A

HIGHWAY FEATURES

Bus route	Yes
On-street parking	No
Traffic-calming features	Yes – eyots, table tops, overrun strips and mini-roundabouts. Bus loop design to be incorporated into eyot feature.
Road markings	100mm
Centre line radii	Varies

STAR HILL ENTRANCE

ACCESS

Junction spacing	60m min for adjacent roads, 15m for opposite
Minimum junction visibility	2.4 x 43m
Kerb radius	Determined by swept path analysis, although a starting point should be less than 4m
Direct vehicular access to properties	Yes – restricted at junctions

PAVING MATERIALS

Carriageway	Asphalt
Kerbs and Edging	To be agreed with KCC
Footway	Asphalt/block paving

LIGHTING

Carriageway	To be agreed with KCC depending on tree coverage

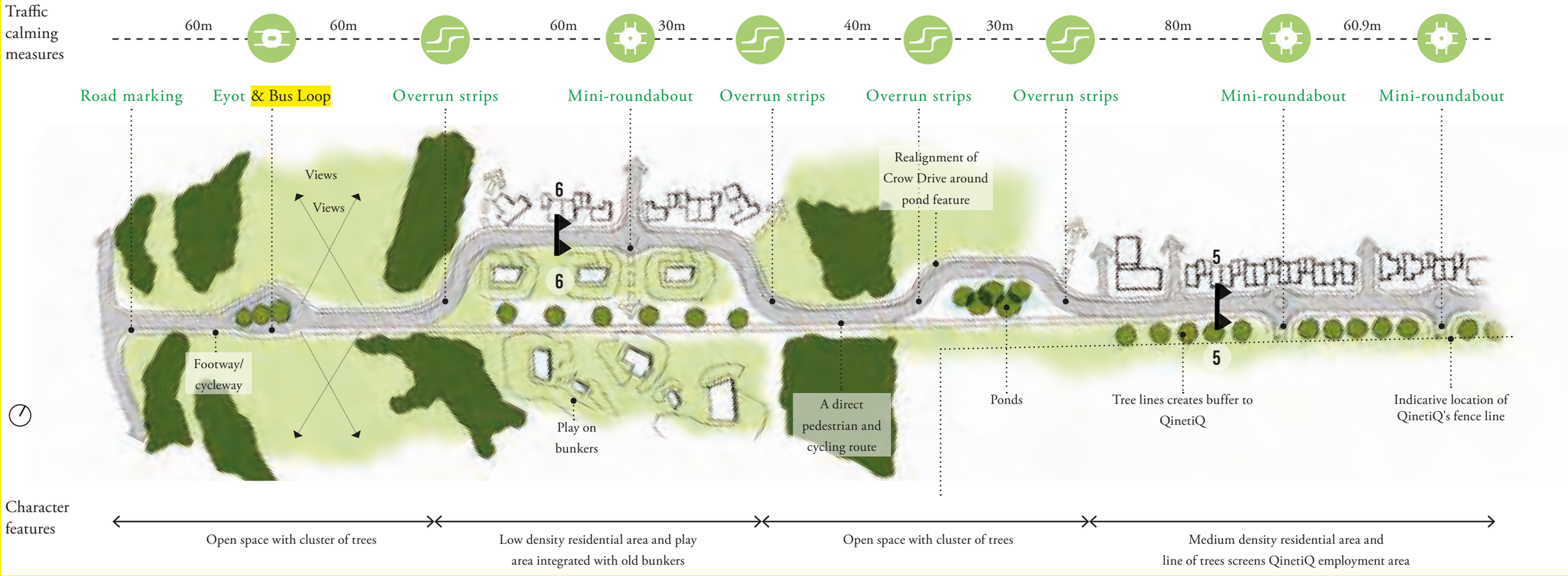
QINETIQ

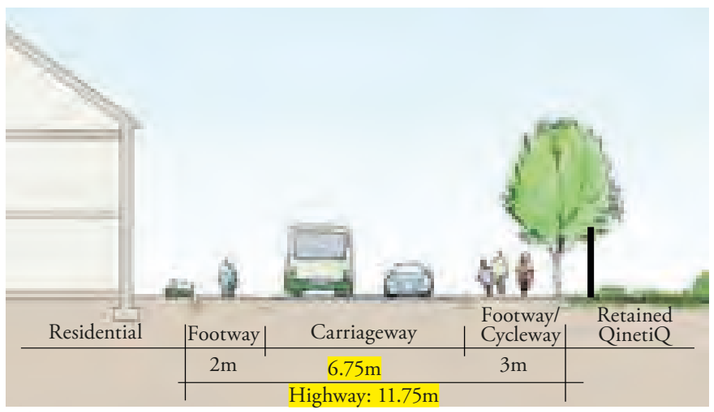
Security fence line	3m (max) high fence line with a service strip clear of vegetation, to be located 1m (min) from QinetiQ's demise

Artist's impression

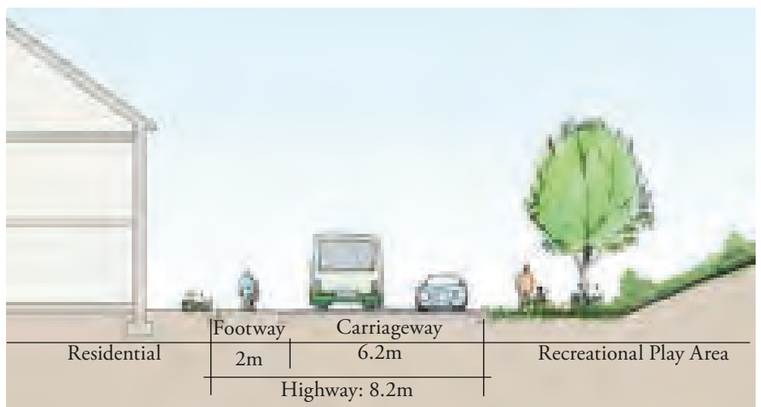
Shared footpath cycleway through landscape – Graylingwell Park, Chichester

8.13 STAR HILL ENTRANCE





Indicative section 5 – 5



Indicative section 6 – 6

8.14 SURFACE MATERIALS

The following materials represent a preferred palette for the public realm and open spaces at Fort Halstead.

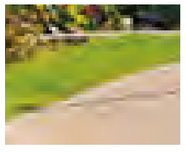
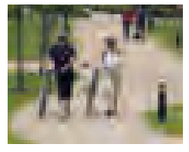
The adjacent table provides a matrix of streetscape materials, which sets out the typical standard required with specific products to be agreed at a later stage.

More bespoke materials for key public spaces should also be agreed at detailed stage. The landscape and public realm materials must be selected to uphold the highest standards of ethical and sustainable procurement.

Consideration should be given to the materials supply, durability, longevity and ease of replacement or replication.

PRINCIPLES:

- Material colours must be muted and of natural tones to complement rather than detract from the buildings and landscape setting.
- A range of appropriate adoptable materials should be used in order to reinforce the street hierarchy and create a safe, comfortable neighbourhood identity.
- The materials palette must also adapt to accommodate the evolving sustainable drainage strategy, for example, by using pervious paving or permeable bound surfacing systems.
- Unnecessary road markings should be avoided as much as possible to reduce road clutter and maintenance costs.
- Avoid white and yellow lining, except on Crow Drive and the Secondary Street.
- Where street lining are deemed absolutely necessary 50mm white centre lines and 50mm wide primrose or yellow lines should be used, not 100mm lines.
- The use of different coloured paving is encouraged to demarcate carriageways, footway/cycleways and parking spaces (particularly on shared surface streets).

STREET TYPE:	CARRIAGEWAY	KERBS/EDGING	SHARED FOOTWAY/ CYCLEWAY	CROSSING POINTS	RAISED JUNCTIONS
Primary roads	Asphalt 	Natural stone or textured concrete 	Asphalt or block paving 	Tactile blister paving or tactile corduroy paving or conservation tactile paving	Concrete road hump or block paving for raised table
Shared surfaces	Block paving 	Flush natural stone or textured concrete or conservation style kerbs 	Block paving 	N/A	Block paving
Parking	Asphalt or block paving 	Natural stone or textured concrete or conservation style kerbs 	N/A	N/A	N/A
Footpaths in public open spaces	Formal open space: surface course resin bound gravel or natural stone paving Informal open space: self binding gravel 	Aluminium edge restraint, concrete, pressure treated timber edging boards. 	Block paving or resin bound paving 	N/A	N/A
Community hub/ Civic spaces	Surface course resin bound gravel or concrete block paving	Aluminium edge restraint	N/A	N/A	N/A

8.14 SURFACE MATERIALS

HARD LANDSCAPE MATERIALS MATRIX

An example of primary roads in asphalt surface

An example of crossing points with tactile blister paving

An example of shared surface concrete block paving

An example of defined parking areas with concrete kerbs and block paving

An example of formal open space footway/cycleway – buff resin bound gravel with aluminium edge restraint

An example of informal open space footway – buff self binding gravel with timber edging

An example of village centre/square spill out areas featuring natural stone or concrete block paving

An example of carriageway/shared surface in resin bound gravel and block paving

8.15 OFF-SITE IMPROVEMENTS

PROPOSED NEW ROUNDABOUT AT THE POLHILL SITE ACCESS

The primary access point to the site is via Crow Drive and A224 Polhill to the north of the site. This junction will be upgraded as follows:

- New roundabout promotes the Polhill access as the main gateway to the site;
- Provides a safe means of negotiating the junction;
- Addresses perceived safety issues of the existing priority junction;
- Includes safety provisions for pedestrians and cyclists.

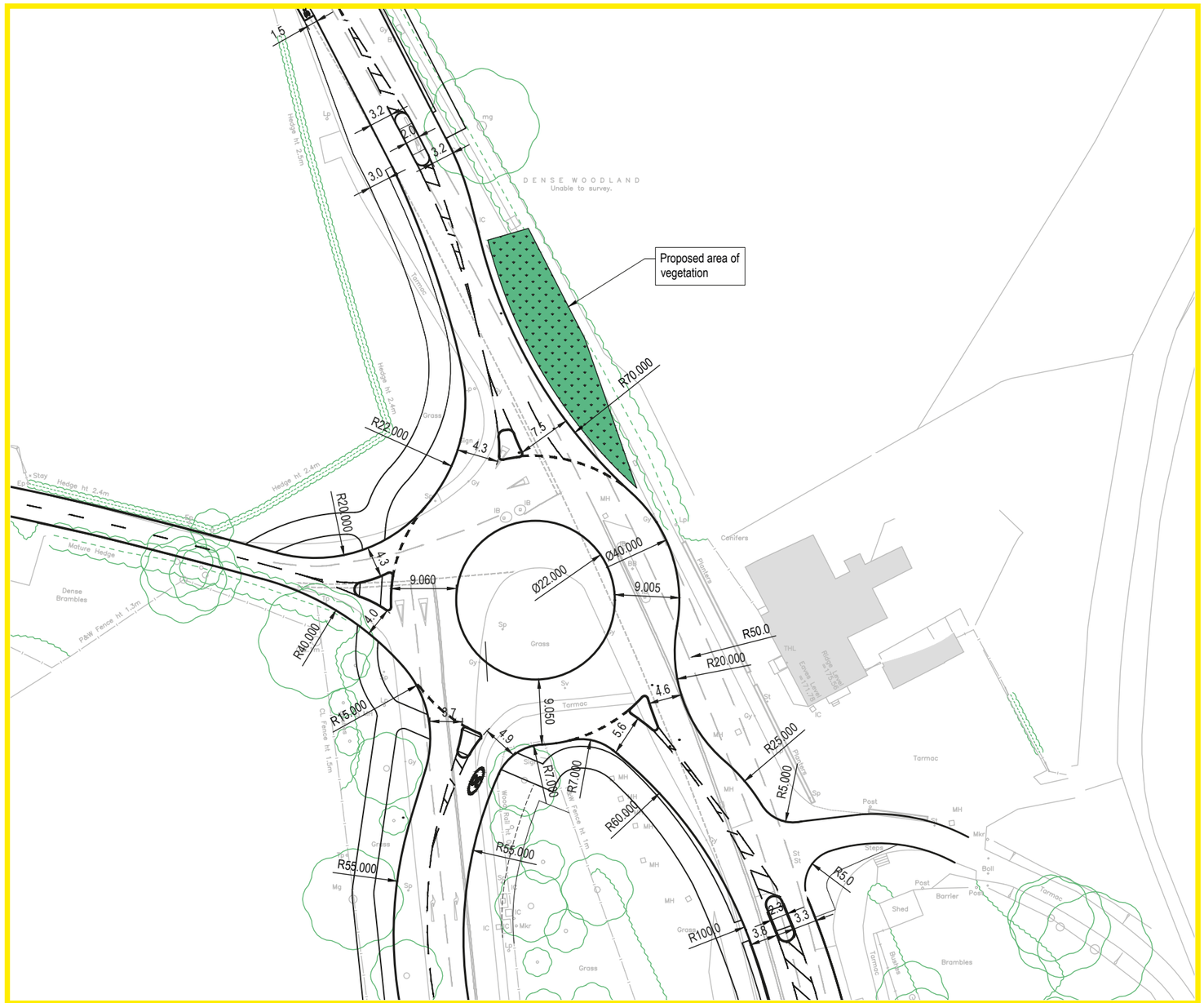


Diagram showing pedestrian and cycle provision around roundabout at Polhill site access.

Key

— Cycle and pedestrian shared footway

8.15 OFF-SITE IMPROVEMENTS

PROPOSED STAR HILL ROAD JUNCTION

In accordance with the requirements of the Kent Design Guide, for developments of more than 300 dwellings, the secondary access to the site will be improved to provide a safe access point at the site's south west corner. This junction will be upgraded as follows:

The speed limit on this section is unrestricted therefore speeds up to 60 mph are permitted. However, design speeds have been chosen based upon mean and 85th percentile speeds actually recorded on this section.

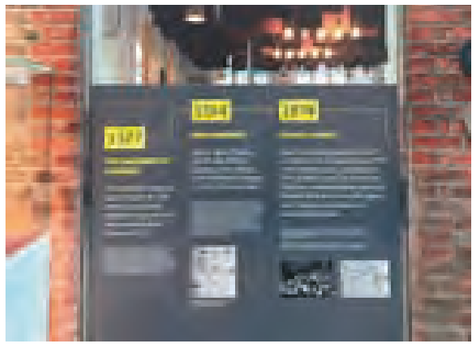
Visibility splays have been used based upon the parameters and formulas given in chapter 10 of Manual for Streets 2.

9. TECHNICAL STRATEGIES

9.1 HERITAGE & CONSERVATION STRATEGY

The proposed development will retain and enhance all designated heritage assets within the site, while those unlisted buildings of greatest importance will also be retained. The main Fort, which is designated as a scheduled monument and includes a number of listed buildings, will be converted to a heritage centre with associated conservation works to retain the structure and carry out necessary repair works. The other listed buildings within the site will be retained and repaired, with historic features reinstated to better reveal their significance.

These listed buildings will be carefully integrated into the new development by the considered design of the scheme and the provision of a heritage trail. The siting and design of the new buildings will retain or open up new views of the heritage assets, while the heritage trail will provide a key journey through the history of the site and the different listed and unlisted buildings, which date from the 19th century to the late 20th century. Interpretation boards will be provided which will assist in demonstrating the evolution of the site and the key buildings, activities and events that took place in Fort Halstead.



Key

1. Retained Q13, Q14, X2, X3 and X38 for office/ research
2. Retained bunkers R58 and R59
3. Bunker Park
4. The Fort
5. Retained buildings (A10, A11, A13 and A14) for office/ research and light industry
6. Retained buildings (A1 and A3) for office/ research and light industry

Diagram showing locations of and connections between heritage assets

9.1 HERITAGE & CONSERVATION STRATEGY

Photo map of heritage assets with movement connections

9.2 ECOLOGY STRATEGY

The Ecology Strategy proposed for Fort Halstead village is based on three key concepts:

1. Retention and Enhancement of Important Habitats

The ecological baseline data collected from a broad range of surveys completed between 2006 and 2020 has informed the design of the Fort Halstead village masterplan. Based on ecological advice Fort Halstead village has been designed to minimise potential impacts on important habitat features in accordance with the mitigation hierarchy (avoid, mitigate, compensate); most notable is the retention and protection of ancient woodland and calcareous grassland habitats.

In accordance with the Forestry Commission and Natural England's Standing Advice: "Ancient woodland, ancient trees and veteran trees" a 15m buffer will be implemented between all areas of retained ancient woodland and proposed built environment. This buffer will ensure no damage to roots, and will be planted with a range of native habitat types to provide ecotones between the woodland edge and adjacent habitat areas. Targeted woodland management will also be undertaken to enhance the structural diversity of the woodland area, including techniques such as coppicing, canopy thinning and planting of new native woodland flora.

The calcareous grassland located on the scarp slope to the southeast of the village footprint will be retained, protected and enhanced through the implementation of a programme of appropriate management. This management will include the use of targeted conservation grazing using sheep (where possible) and cutting regimes, with all arisings removed in order to keep the nutrient content within the substrate low. In addition, monitoring and management of encroaching coarse vegetation and scrub will be undertaken to maintain an open sward. Appropriate management will also be implemented for other semi-natural grassland habitats on site to ensure that their ecological value is preserved and enhanced.

The overall effect of the retention and enhancement of existing high value habitats will be not only to maintain a valuable habitat mosaic that is of intrinsic value, but also to provide optimal conditions for a range of protected and notable fauna including bats, dormice, breeding birds, reptiles and, importantly, pollinating insects.

2. Maintaining Favourable Conservation Status of Flora and Fauna

The baseline surveys and assessments completed at the Site have identified a broad range of notable ecological receptors, including roosting and foraging bats, badgers, dormice, breeding and wintering birds, reptiles and invertebrates. At the core of the Ecology Strategy for the Site is the need to avoid any breach of legislation relating to protected and notable species, whilst also implementing appropriate avoidance and mitigation measures in accordance with the mitigation hierarchy to maintain and enhance their favourable conservation status. The proposed approach to avoiding and mitigating for impacts on these key receptors includes:

- Roosting bats – decommissioning of bat roosts in buildings and trees under Natural England licence, coupled with the provision of new roosting opportunities within both the built environment and retained green space on site.
- Foraging bats – maintain and enhance habitat connectivity to avoid fragmentation, including sensitive design of lighting proposals to maintain dark corridors.
- A purpose-built bat barn is proposed to be located in the south-western part of the site, in proximity to suitable bat foraging habitats, including woodland, grassland and a SuDS feature. Roosting features suitable for crevice-dwelling and roof-void dwelling bat species will be incorporated into the bat barn. For example, the bat barn will comprise a loft space, approximately 2.8m in height and 5m in length and width, which will not be trussed, to provide an open flying area. No lighting will be installed in proximity to the bat barn, to ensure dark, connected corridors are maintained between roosting features and surrounding commuting and foraging habitat.
- Badgers – where loss of setts is unavoidable, replacement sett provision will be provided and setts will be decommissioned under Natural England licence. Retained setts will be protected from disturbance throughout the construction process.
- Dormice – habitat loss will be minimised but, where unavoidable, work will be completed under Natural England licence. Retained habitat will be enhanced to increase the carrying capacity of the site for this species.
- Birds – work with the potential to disturb nesting birds will be timed to occur outside the peak breeding window, or will be subject to appropriate ecological controls. Habitat for breeding and wintering birds will be enhanced through provision of a variety of new nesting features and appropriate habitat management.
- Reptiles – where work will disturb habitat that supports reptile species, mitigation will be implemented to ensure reptiles are removed from the area to be impacted. Appropriate habitat management, including the provision of a range of new hibernacula and refugia, will be implemented to ensure that the site continues to provide ample habitat to support the existing reptile population.
- Invertebrates – the Fort Halstead village has been designed to retain important invertebrate habitats, including several notable grassland areas. The future habitat management proposals will allow the value of the site to invertebrate species to be maintained and enhanced.

3. Green Infrastructure and Ecological Connectivity

At the core of the existing ecological value of the site is the size and connectivity of blocks of semi-natural habitats, most notably woodlands and grasslands but also including blocks of scrub, scattered trees and hedgerows. The overall effect is to create a coherent green mosaic that provides ecologically rich ecotones and has direct connectivity to woodland and farmland with strong boundary hedgerow networks off site.

The village has been designed to fall within existing built environment/ brownfield land,with impacts on existing green space minimised. Targeted landscaping, coupled with the enhancement of retained habitats through appropriate management, will ensure that fragmentation of habitat is avoided and the Site continues to provide an important ecological function in accordance with Chapter 15 of the National Planning Policy Framework. This will also be reflected in the design of the lighting strategy for the Site, which will take into account the presence of sensitive ecological receptors such as bats and badgers; and through the provision of appropriate features to ensure that species such as terrestrial mammals are able to permeate through the site without risk of harm from increased traffic and human presence.

9.3 DRAINAGE STRATEGY

Surface water drainage strategy

Key

- Application boundary
- Forest
- Development parcels
- Road
- Water flow routes
- Attenuation pond
- Borehole
- Below ground storage hole

Existing site records show that surface water is collected by means of a piped drainage network to a series of outlets at the low-lying periphery of the site. The outlets facilitate dispersal of water to undeveloped land including woodland where it is allowed to infiltrate into the ground.

Whilst this method of surface water management offers sustainable benefits in terms of its ability to recharge the natural ground water system, support biodiversity and facilitate improvements to water quality through filtration, it is not considered robust enough to serve a future residential development.

In accordance with the hierarchical approach to sustainable drainage systems promoted by the National Planning Policy Framework, disposal at source by means of infiltration systems is the favoured solution for surface water management.

Ground investigations have concluded that soils within the depth range of a traditional chamber or trench soakaway are not conducive to an efficient drainage system. However, borehole soakaways, which are known to be effective in this area of the South East, have been chosen to meet the 'drainage at source' criteria mentioned above.

The alternatives to a borehole soakaway solution are less desirable as outlined below:

- Discharge to the nearest watercourse; the nearest watercourse is 1km away. Due to topographical constraints water would need to be pumped to a suitable outfall in order to reach the watercourse. Whilst technically feasible, this option is not favoured because of its reliance on pumps which require a constant source of power and regular maintenance.
- Discharge to the nearest foul sewer; the nearest foul sewer is close to the eastern edge of the Site. It comprises a 225mm diameter sewer which would not have capacity to receive surface water as well as foul. Notwithstanding, it is the policy of the Local Sewerage Undertaker to maintain separate systems of foul and surface water drainage for all new developments.

Based on initial borehole soakaway tests an infiltration rate of 2.138x10–4 m/s has been used to model an arbitrary drainage network aligned with the emerging masterplan. The model revealed that in order to prevent flooding in the 1 in 30 year rainfall event a series of strategically placed borehole soakaways would be required in conjunction with attached storage ponds. The modelling also concluded that any flooding caused by a 1 in 100 year rainfall event (plus a 40% allowance for climate change) can be contained within the boundary of the site.

The boreholes will be positioned to serve a particular catchment, which will assist with phased development of the site. The attached ponds will become active as the boreholes surcharge during peak events. The water level will then subside as the soakaways drain within the required criteria of half emptying within 24 hours. The ponds can also be adapted to incorporate a means of filtration by making the base deeper than the outlet, thus trapping silt and debris which can be periodically removed. This arrangement would ensure that a proportion of the pond remains wet which will support biodiversity, and when incorporated with landscaping and other green infrastructure can be a local amenity.

The proposed surface water drainage network leading to the borehole soakaways will incorporate connections for individual buildings as well as roads and paved areas. In accordance with SuDS best practice, the network will incorporate swales and filter drains wherever practicable.

Due to topographical constraints foul drainage will need to pumped to the nearest public sewer in the same way that the existing system does.

9.4 SITE LEVELS STRATEGY

Existing site levels range from a high of circa 218m AOD in the vicinity of the western entrance, to 191m AOD at the northern site boundary and 182m AOD at the eastern entrance. Gradients range from 1 in 13 in the north to 1 in 317 in the east.

Existing building levels vary according to their location and size. Many of the larger buildings span changes in level that allow level access at one end but are partially buried at the other. Most of them are detached and sporadically positioned to accord with existing topography.

Due to the nature of the proposed development buildings levels will need to be far more closely related to achieve appropriate density. To accomplish this, retaining features are needed to facilitate raising and lowering of site levels to form development areas with gradients of no more than 1 in 20.

In addition to forming developable areas due consideration is also given to retention of trees, particularly at the perimeter of the site, and maintaining existing levels along Crow Drive which is an arterial route through the site and a buffer to the scheduled monument and existing retained development to the south.

A ground modelling exercise was undertaken aimed at creating developable areas whilst reaching a balance of cut and fill to minimise off-site site traffic movements that might otherwise be required to import or export material. The resultant analysis of proposed site gradients is shown below.

Key

- Application boundary
- Wider site boundary
- Development parcel boundary
- Proposed retaining wall
- Existing retaining wall
- 15m buffer from ancient woodland

Proposed contours and levels

9.5 UTILITIES STRATEGY

WATER SUPPLY

A new water supply will be provided to the site by Thames Water.

The new water main will connect to the existing infrastructure in Knockholt Pound situated to the West of the site. The new main will run along Star Hill Road and enter the site at the Star Hill entrance.

New Thames Water distribution across the site following the road and footpath routes will supply all the new and existing properties.

There may be some off-site reinforcement of the network required as the result of this and other developments on the Thames Water network. If required, this will be part of Thames Water ongoing programme of renewing and reinforcing the network.

FOUL DRAINAGE

The existing Thames Water gravity foul drain system exits the eastern side of the site towards Polhill.

It has been advised by Thames Water that the existing outfall has sufficient capacity to serve the existing residential properties and the new proposed development.

A CCTV survey of the drainage system has indicated that the existing outfall is in a good and serviceable condition and suitable for re-use.

The gravity foul drainage system across the development site will be totally renewed to suit the layout of the new properties, all of which will be connected to the existing Thames Water network. Once the new sections of the gravity drainage system are installed and operational, the system will be adopted by Thames Water.

RAINWATER DRAINAGE

The existing system of soakaways / run off, will be retained for the existing residential properties.

For the new and refurbished properties which form part of the planning application, new surface water drainage will be provided incorporating above and below ground attenuation ponds discharging into a series of drainage bore holes.

The existing surface water drainage system serving the newly formed QinetiQ area will be retained.

No surface water will be discharged into the foul drainage system.

ELECTRICAL SUPPLIES

Separate to the infrastructure serving the existing residential properties, there is a High Voltage UKPN electrical supply which serves the existing DSTL site.

This supply Leaves the A224 and crosses the field South of the quarry and enters the development site East of the Fort.

UKPN will extend the High Voltage supply to feed a number of substations across the development site. The substations will each feed an area of residential and commercial properties depending on load and location.

All retained buildings will be provided with a new metered UKPN supply, which will allow the end users to choose and switch energy suppliers as required.

As part of the works it will be necessary to upgrade the supply to the site to meet the needs of the new development, the final design and timing of this reinforcement will depend on the final timescale and phasing of the development works.

TELECOMS

There is an extensive existing telecoms cable network serving the existing site. This telecoms network will be adapted and renewed as required to meet the requirements if the new development.

CONCLUSION

In conclusion, relatively early in the development process the existing residential properties will be provided with a new Thames Water supply which will allow them to be separate and not dependant on the existing DSTL site. This supply will also provide Fire Hydrants in the footpaths allowing the Fire Brigade access to water in the normal way.

The other utility services to the existing residential properties, including electricity, drainage, and telecoms, are supplied separately to the DSTL site and will remain unaffected by the development.

The development site will be provided with new utility services with power, water and foul drainage for each building being directly connected to the relevant utility provider.

All properties will have a utilities electrical meter which will allow the occupier to choose and switch – when required – their electricity provider.
All buildings (new and existing) in the final development will be supported with new infrastructure directly by the Utility providers.

9.6 ENERGY, WASTE & RECYCLING STRATEGIES

ENERGY STRATEGY

The following energy strategy is proposed:

- It is proposed that the buildings will be designed with high levels of energy efficiency. This is likely to include low fabric and window U-values, low air leakage and thermal bridging. These specifications will ensure that the development achieves a 7% improvement over a proposed regulated building regulations scenario.
- Decentralised energy measures have not been proposed because the site is not within an area where a district heat network exists and CHP has been shown to be economically unfeasible due to the lack of diversity in heat loads on the site and the high thermal performance criteria adopted.
- Air Source Heat Pumps and 1,120m^2 of solar PV, equating to a 160kWp solar PV system is specified, achieving a 49% improvement over a proposed regulated building regulations scenario.
- Cumulatively, the energy strategy specifications achieve a 56% reduction over the proposed building regulations scenario.

For further details, please refer to the Energy Strategy prepared by CBRE.

EMERGENCY ACCESS AND SERVICING

Emergency vehicles will be able to access the Site from either the A224 (Polhill) or from Star Hill Road. The design of the roads will allow for emergency access to all parts of the Site.

Servicing vehicles will be encouraged to access the Site via the A224. The masterplan minimises the need for service vehicles to turn.

There will also be some on-street parking available for visitors, deliveries and servicing if required. The servicing and parking requirements of the employment area have been discussed with KCC and they are sufficient to meet the current standards.

REFUSE COLLECTION AND STORAGE

Refuse storage and collection will be designed according to the relevant policies by KCC.

Housing layouts will be designed to minimise the need to reverse refuse collection vehicles (RCVs). An access route with site turning circles will be provided to ensure that RCVs will not be expected to reverse a distance in excess of 20 metres in order to gain access to either bin-stores or specified locations for the placement of household waste containers.

Solar PV system integrated into the roof tiles at Graylingwell, Chichester

Refuse and bike store at Upper Longcross, Surrey

9.7 DESIGNING OUT CRIME

Homes overlooking streets

Encouraging safe routes for walking to school

PRINCIPLES

Community safety is a key component of any successful place and an important design aim has been to establish the framework for a new neighbourhood that will feel safe and secure at all times, encouraging full use of its streets and spaces by all sections of the community.

In order to achieve this we have referred to key guidance documents prepared by the police as part of their Secured by Design initiative, and in particular the document 'Safer Places - The Planning System and Crime Prevention'. This sets out seven principles which help to design out crime and define successful, safe places.

1. Access and Movement

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

2. Structure

Places that are structured so that different uses do not cause conflict.

3. Surveillance

Places where all publicly accessible spaces are overlooked.

4. Ownership

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

5. Physical Protection

Places that include necessary, well-designed security features.

6. Activity

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

7. Management and Maintenance

Places that are designed with management and maintenance in mind, to discourage crime.

DESIGN RESPONSE

To ensure the village achieves these principles, the masterplan provides the following:

- A clear hierarchy of permeable routes. The local street network provides direct links along desire lines, connecting residents to both existing and new areas. Pedestrian, cycle and vehicular movement will be integrated within the site and to the surrounding areas.
- All routes will be overlooked to ensure safety. Landmark features will help people to navigate within the new neighbourhood. The movement network will connect to existing routes to provide an integrated community.
- A village centre providing a good mix of appropriate uses to support the needs of the whole community.
- An illustrative layout designed to facilitate the creation of a secure back-to-back perimeter block arrangement.
- Whilst respecting and responding to the existing landscape setting of the Site, the village has been designed to create attractive streets and usable spaces with good surveillance. Public spaces, SuDS and areas of woodland will be overlooked to maximise safety and create a safe and attractive setting for homes.
- A significant open space network providing a well-defined range of uses for exercise and leisure.
- Communal spaces will create focus points for the village and concentrate activity in these specific areas.
- There will be a clear definition between public and private spaces with a variety of boundary treatments such as planting or fencing. Rear gardens will provide high-quality intimate environments. Front gardens will have a clear definition between public and private. Shared amenity spaces are designed to foster local ownership.
- A new primary school with appropriately defined secure grounds.
- A detailed design and management plan for public open spaces will be undertaken and agreed with SDC.

There are also a wide range of security related issues which will need to be considered as part of the detailed design of subsequent reserved matters applications. These include:

- The arrangement of buildings on a plot and where the entrances and windows are located;
- Specification of doors and windows (particularly locks);
- The design of landscape spaces and boundary treatments; and
- Layout and location of parking spaces

10. DELIVERY

10.0 DELIVERY

INDICATIVE PHASING

Due to the scale of the site, the development will need to be delivered in phases. The following diagrams show how the development may come forward in the future and illustrates how key development infrastructure and open space will be delivered alongside the housing and employment space.

The indicative phasing has been considered in relation to a number of important factors:

- A realistic build rate for new homes;
- Early delivery of employment use;
- Access for construction traffic to and from the site;
- How this traffic will move through the site with minimum disturbance to residents when part constructed; and
- When non-residential buildings should be provided, to ensure there is sufficient demand to make them viable from the start.

MANAGEMENT

The development will be subject to the formation of a Management Company or Community Trust and the established of a Management Scheme.

The Section 106 will include provisions for the formation of a Management Company or Community Trust which will have responsibility for the management of, amongst others, the:

- Fort and Historic Interpretation Centre;
- The Community floorspace;
- Ecological areas, or areas of grassland and woodland identified in the LEMP;
- Open space areas and play areas; and
- All public roads, ways and paths not adopted by the highway authority.

PHASE 1 (2020–2023)

Infrastructure to be delivered:

- Securing QinetiQ in X-enclave and fence
- Securing and protecting buildings to be retained and trees/landscape
- Demolition of existing buildings and asbestos removal
- Remediation, cut and fill, and landscape management
- Primary road (Crow Drive, Penney Road) and secondary road

PHASE 2 (2023–2026)

Infrastructure to be delivered:

- Mixed-use Village Centre, including refurbished buildings Q13, Q14, X2, X3 and X38
- Village Green
- Village Square
- Innovation and Education Hub, refurbished buildings A1, A3, A10, A11, A13, A14, X2 and X3
- Green Link and public open space including LEAP, SuDs ponds and footway/cycleways

APPROX. NO. OF HOMES DELIVERED IN PHASE 2: 230
ACCUMULATIVE NO. OF HOMES: 230

PHASE 3 (2026–2029)

Infrastructure to be delivered:

- Green Link and public open space, including LEAP, MUGA, SuDs ponds and footway/cycleways
- Village Centre Employment Area
- The Fort

APPROX. NO. OF HOMES DELIVERED IN PHASE 3: 143
ACCUMULATIVE NO. OF HOMES: 373

PHASE 4 (2028–2030)

Infrastructure to be delivered:

- Public open space, including the community recreational area, LEAP, SuDs ponds and footway/cycleway
- Ecologically enhanced grassland/ mitigation zone
- Refurbished bunkers
- Land safeguarded for primary school

APPROX. NO. OF HOMES DELIVERED IN PHASE 4: 224
ACCUMULATIVE NO. OF HOMES: 597

PHASE 5 (2029–2031)

Infrastructure to be delivered:

- Public open space, including SuDs ponds and footway/cycleways

APPROX. NO. OF HOMES DELIVERED IN PHASE 5: 38
ACCUMULATIVE NO. OF HOMES: 635

11. EVALUATION

11.1 HEALTHY PLACEMAKING

Public Health is an increasingly important matter on the agendas of local, national and international policy makers. This emerges in parallel with an increasing realisation that the way neighbourhoods of all sizes are planned and connected has a major part to play in alleviating a wide range of 'avoidable' health problems.

Built form, open space, movement and parking strategies all need to be balanced to create sustainable, liveable, healthy environments. Research shows that well-designed places that encourage regular exercise in daily life reduce our susceptibility to a wide range of diseases including heart problems, type 2 diabetes and cancers, whilst good air quality limits asthma and other respiratory illnesses.

Better health improves life quality and reduces time lost at work, thereby raising the productivity of businesses and the prosperity of employees. Reduced traffic congestion saves time and avoids boredom, tiredness, frustration and 'road rage'. Good placemaking produces convenient and harmonious environments that overcome many of these negative impacts and create healthier, wealthier societies.

The table to the right demonstrates some of the main health problems that can be positively influenced by good placemaking. It shows how the design of the masterplan has the potential to enable people to lead healthier lives, benefitting both new and existing residents.

The health problems and the active ways to address, which have been shown in the table, have been identified through research into multiple publications; primary sources which include:

- Halpern, D. (1995) 'Mental Health and The Built Environment'. London, Routledge.
- Jones, R. & Yates, G. (2013) 'The Built Environment and Health: an evidence review'. Glasgow, Glasgow Centre for Population Health.

	Main Health Problems	Cardiovascular diseases, type 2 diabetes, (often referred to as 'avoidable' diseases), several forms of cancer		Respiratory illnesses including asthma	Mental health problems	Transport related accidents
	Causes	Sedentary lifestyles and lack of exercise	Poor diet and food poverty	Poor air quality	Loneliness and isolation through limited social interaction and fear of crime	Interaction of vehicles, cycles, pedestrians
	Active ways to address causes	Enable exercise in normal patterns of daily life	Provide education, accessible facilities and available green spaces such as community gardens	Limit the causes and effects of vehicular emissions	Provide community facilities and safe, sociable and productive environments	Good urban and transport design
	Measures included at Fort Halstead					
1	Walkable neighbourhood—walking, cycling and use of public transport have priority over the car	✓		✓	✓	✓
2	Cluster of community uses including a community building on the village green with potential uses for a drop-in GP, pharmacy, flexible space for classes, meetings and community events and a food store for healthy eating	✓	✓	✓	✓	✓
3	Community orchards will be a local source of fresh food and improvement of life quality	✓	✓	✓	✓	
4	New primary school in central location accessible via green routes, and with limit to parking for drop-off/pick-up zones	✓	✓	✓	✓	✓
5	Play-on-the-way scheme to encourage parents to walk their children to school	✓	✓		✓	✓
6	The Innovation Hub provides a new high quality, R&D and technology focussed business campus	✓		✓	✓	✓
7	A series of 'Green fingers' extending throughout the residential area, provides areas of public open space, pedestrian links, allows for tree retention, and provides habitat corridors between areas of Ancient Woodland	✓	✓	✓	✓	✓
8	Provide a new, attractive and well-lit off-road cycle route through the site between the Polhill Site access and Knockholt Pound	✓		✓	✓	✓
9	Reroute bus service to directly serve the Fort Halstead site linking the wider area (Sevenoaks and Orpington)	✓		✓		✓
10	The provision of a new high quality, community bus service	✓		✓	✓	✓
11	Controls on size and access times of heavy goods vehicles to commercial units			✓		
12	Slow speed shared spaces, 20mph or less throughout	✓			✓	✓
13	Main street has been designed with traffic calming—pinch points and crossings—to encourage walking and reduce the likelihood of transport related accidents.	✓		✓	✓	✓
14	The mews streets are designed to be pedestrian priority to encourage walking and cycling and reduce likelihood of accidents through lower vehicular speeds.	✓		✓	✓	✓
15	Secure bike storage at home and at new bus stops in village centre to encourage cycling	✓		✓	✓	✓
16	A car-club will be made available within the proposed Fort Halstead village encouraging less vehicle ownership			✓		
17	Encourage community stability and diversity through 'Lifetime Homes' compliance and 100% wheelchair designed dwellings	✓		✓	✓	✓

11.2 SUSTAINABILITY MATRIX

METHODOLOGY

JTP have developed a matrix to review environmental responsiveness under a number of broad categories. Each category includes features at a variety of scales from site wide issues to those at the level of individual homes.

The matrix is used as a design tool, allowing early discussions among the project team about the feasibility and appropriateness of various strategies for a specific site. It also encourages early consideration of significant cost constraints and allows sensible decisions to be made about the most cost effective way of achieving an environmentally responsive scheme.

ASSESSMENT

The Fort Halstead masterplan incorporates a significant number of environmentally responsive design features as set out in the adjacent table.

EFFICIENT USE OF RESOURCES	ENERGY STRATEGY	WASTE STRATEGY
The site itself is currently occupied by Dstl and QinetiQ as a military research complex. The development will make use of brownfield land. The complex cut and fill strategy minimises the amount of material being taken off site. Through the design process vehicle journeys were reduced from 6920 to 250, (equating to 3,250m^3 of material rather than 90,000m^3). A number of existing buildings are being retained and converted, including concrete bunkers. The Village Centre incorporates the restoration of two existing buildings Penney (Q14) and The Q (Q13). The proposed development will ensure the retention of mature trees and other established landscape features; new connections and improvements for pedestrians and cyclists throughout; preservation and enhancement of the site's character. The site will be remediated and decontaminated prior to redevelopment. The proposal retains the historic tank roads and uses these are future streets within the new neighbourhood. All non-developable land is being used as public open space.	Building orientation and layout have been designed to maximise natural lighting, maintaining a good level of privacy through orientation and location of parking and planting. The energy strategy supports a fabric first approach to new development, minimising energy demand from the outset. All buildings within the application will exceed Building Regulations Part L by energy efficiency measures alone. Sevenoaks DC policy SP5.2 requires 10% reduction in total carbon omissions through on-site installation of decentralised, renewable or low carbon energy sources. Sevenoaks DC Draft Local Plan July 2018 requires all new non-domestic development (including conversion) to achieve BREAAM Excellent. This will be applicable for all the non--residential buildings at Fort Halstead. Under current Building Regulations the strategy consists of 1,120m^2 of PV (160kWp) and building level Air Source Heat Pump systems equating to an 8% improvement over baseline regulated CO2 combined with 4% saving from energy to 12% saving. Under the proposed Building Regulations scenario where the carbon factor of electricity is reduced to 0.23 this 12% saving increases to 56%.	Refuse stores and collection points have been designed into the layout and conveniently located for both residents and refuse vehicles on collection day. Refuse swept path analysis has been checked to ensure the development is accessible to refuse vehicles. Composting facilities are proposed in the community garden and adjacent to the community orchard. Design guidance requires that refuse stores to employment areas are discretely placed and that the servicing strategy is to the rear or side of buildings rather than the front.

11.2 SUSTAINABILITY MATRIX

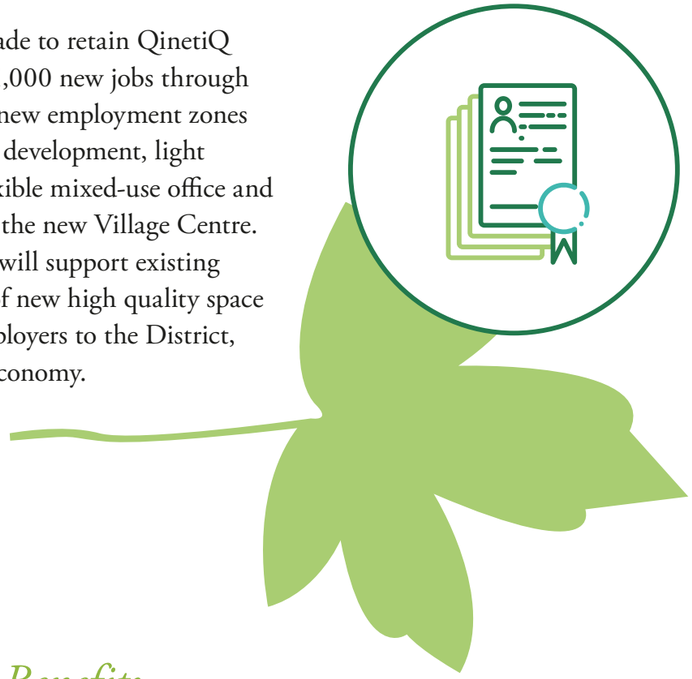
GREEN INFRASTRUCTURE		BLUE INFRASTRUCTURE	MOVEMENT STRATEGY	SOCIAL INFRASTRUCTURE
The site sits within the High Weald Area of Outstanding Natural Beauty and Green Belt. Development is limited to brownfield land to minimise impact in this sensitive landscape setting. The development proposes the retention and enhancement of existing ancient woodland, other woodlands and chalk grasslands. New green links are proposed which connect landscape assets i.e. woodlands and recreation areas. The new linear Green Link connects the heart of the neighbourhood to the countryside beyond, providing corridors for wildlife and play. New footpath routes around and through the neighbourhood are provided which all connect into the wider network. Existing trees and hedgerows have been retained where possible. Additional native woodland and tree planting will be incorporated. A long term management plan for open space will be established in order to protect and enhance ecologically valuable habitats for the future. The provision of a community orchard helps to connect future residents with nature and provide access to seasonal produce.	The Play strategy includes the provision of an informal kick-about area to the west of the site, a MUGA, 4 LEAPs and a number of LAPs. The proposal also includes a number of other walking routes, cycling routes, running routes and a recreational route all of which are illustrated in the DAS. The design of the lighting strategy for the Site, which will take into account the presence of sensitive ecological receptors such as bats and badgers; and through the provision of appropriate features to ensure that species such as terrestrial mammals are able to permeate through the site without risk of harm from increased traffic and human presence. The masterplan proposes the retention and enhancement of existing high value habitats. This will deliver a valuable habitat mosaic that is of intrinsic value, but also provide optimal conditions for a range of bats, dormice, breeding birds, reptiles, and, importantly, pollinating insects.	The site is located in high ground. The risk of fluvial flooding is low and therefore no special measures are required to mitigate this risk in the design of development. There is a significant reduction in hard standing on the site enabling more porous surfaces and reducing surface run-off. There are a number of new ponds and basins proposed across the masterplan as part of the drainage strategy, furthermore, there are a number of borehole soakaways, underground tanks and swales all of which reduce surface water run-off and assist with attenuation and infiltration. Swales are integrated along the Green Link adding to the landscape amenity and providing flood storage.	The masterplan has been designed in such a way to favour the primary Polhill access and ensure that the Star Hill is used less frequently and intensively. The re-routing of an existing bus service and provision of a specific community bus provision will support non-car modes of transport. The proposals include a wide range of traffic calming measures throughout the scheme reducing vehicular speed and ensure a safe and pedestrian-friendly environment for residents and discouraging through movement of vehicles. The layout includes raised surface at prominent key junctions in the Village Centre that aim to calm vehicular traffic and provide safe places to cross for pedestrians and cyclists. The proposals include a new attractive and well-lit off-road cycle route through the neighbourhood between the Polhill Site access and Knockholt Pound. New sustainable movement routes are proposed including a 8km cycling route, 6.9km of walking routes, 5.9km running route and a 3.6km recreational route linking a range of new facilities on site. Policy compliant cycle storage is provided in the buildings included in the detailed planning application. The Polhill access improvements assist with pedestrian and cycling movement at the entrance to the site.	Significant employment opportunities are provided as part of the proposals reducing need to travel. The Village Centre forms the heart of the village as both an employment area and a community hub for the new residents including a community building, flexible working accommodation, a gym, a nursery, a food store, a café and a primary school. The development will provide a range of much-needed market and affordable housing of different sizes, including the potential for over-55 housing. The proposals include an interpretation trail explaining the site's history and reinforcing its identity and character as part of the new village. The mix and variety of housing proposed enables people to down-size and up-size without leaving the Village community. All new homes are likely to include space for home working, include natural ventilation, have balconies to all apartments and meet the BRE guidelines on daylight/sunlight. 10% M4(3) dwellings are proposed.

12. CONCLUSION

12.1 SUMMARY OF BENEFITS

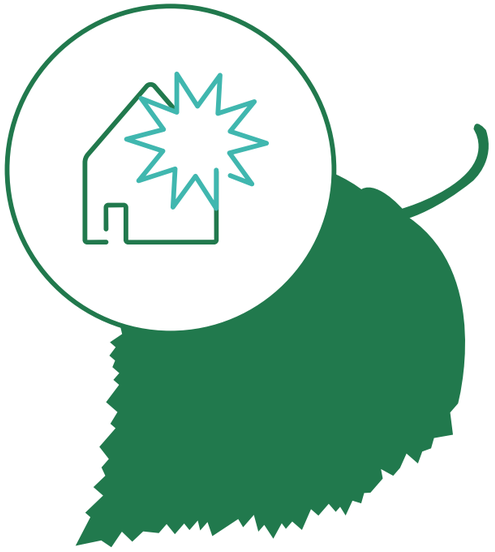
New Jobs

Provision will be made to retain QinetiQ on site and create >1,000 new jobs through the creation of two new employment zones of office/research & development, light industrial space, flexible mixed-use office and innovation space in the new Village Centre. The space provided will support existing businesses in need of new high quality space and attract new employers to the District, boosting the local economy.



New Homes

Fort Halstead village will provide a range of much-needed market and affordable housing types, including the potential for over-55 housing. The site will contribute to meeting Sevenoaks District Council's housing need and its required five year housing land supply.

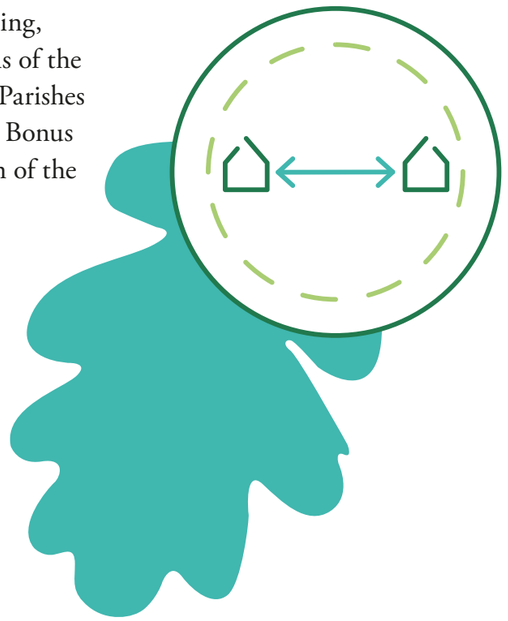


Community Benefits

The site will provide facilities to support and integrate the new residents and employees, centred around the Village Centre hub of mixed-use community space, nursery and usable managed open space for a range of recreational uses. Now secured and private, post-development, the site will be accessible to the public via footpath and bridleway connections. This provides access not only to the built development, jobs, homes and services but also the open recreational land for the enjoyment of the local landscape.

District-wide Benefits

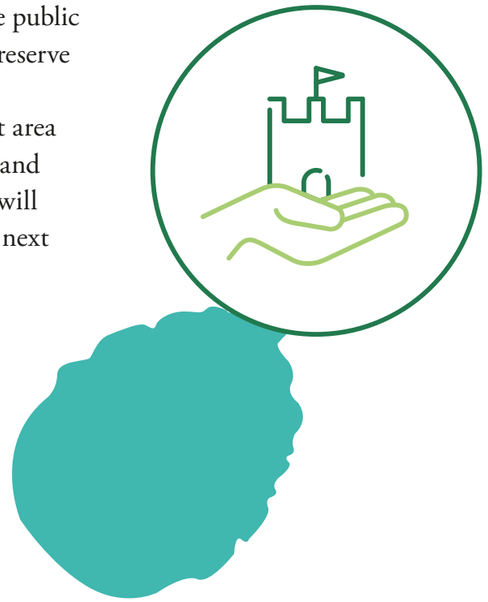
The scheme will provide affordable housing, CIL and S106 contributions. Obligations of the infrastructure needs of the District and Parishes will be met and significant New Homes Bonus payments made throughout the duration of the delivery of Fort Halstead village.



11.1 SUMMARY OF BENEFITS

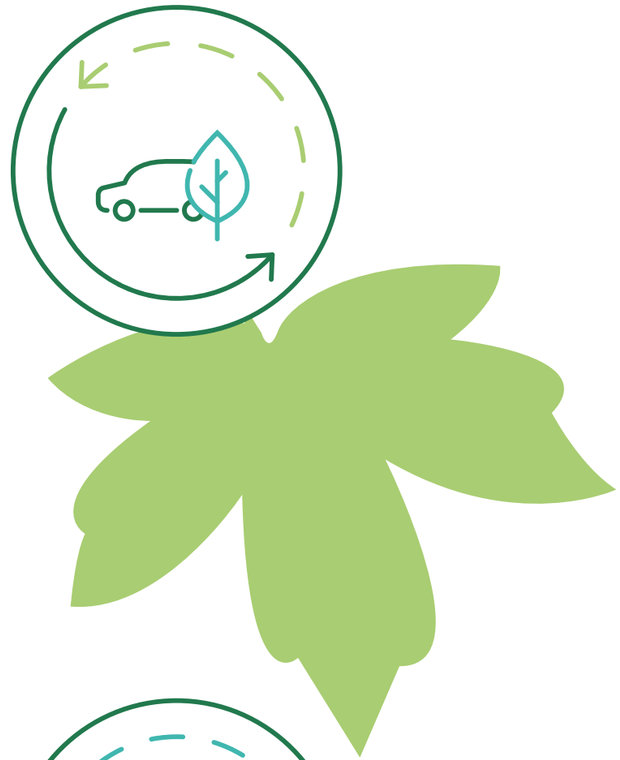
Heritage conservation

The opening of the site and Fort to the public offers significant heritage benefits to preserve the story of Fort Halstead, its heritage assets and setting. The Fort area will be managed as a heritage feature, and existing key and significant buildings will be refurbished and reused to form the next chapter in the site's important history.



Sustainable Transport

The proposals have been thoroughly assessed from a transport perspective, in conjunction with pre-application engagement with Kent County Highways officers. The masterplan has been designed in such a way to favour the primary Polhill access and ensure that the Star Hill access is used less frequently and intensively. A number of off-site measures are proposed which will enhance the local area and network, and the re-routing of an existing bus service and provision of a specific community bus provision will support non-car modes of transport.



Infrastructure

Through the Fort Halstead village, major utilities will be upgraded, including water, electricity and high speed broadband. This is a critical early phase and will manage the impact of the site as it is developed out and occupied. Detailed conversations are underway with a number of statutory authorities in relation to site-wide infrastructure installation.

Landscape & Biodiversity

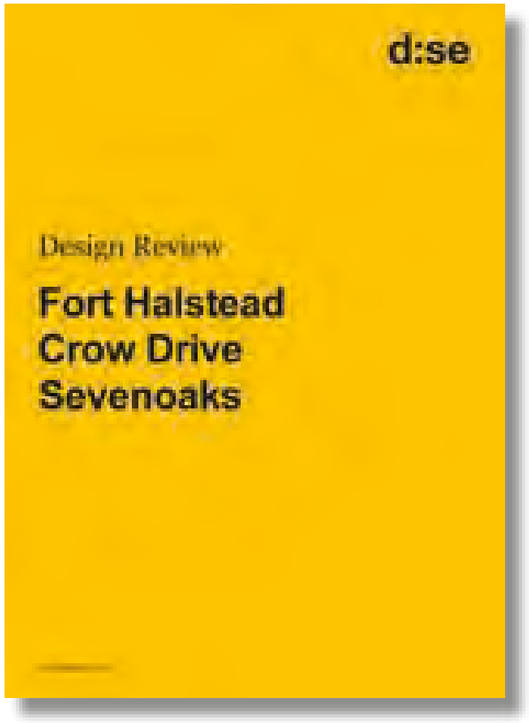
The overall landscape character of the site, within the broader AONB context, will be protected and enhanced in perpetuity as part of the scheme. The key biodiversity features, including the ancient woodland, will remain untouched by Fort Halstead village and a long-term package of management benefits will be secured through the planning permission. The AONB context of the site has informed the proposals in terms of ensuring that its natural beauty and identified special qualities are protected and enhanced, and new recreational opportunities provided.

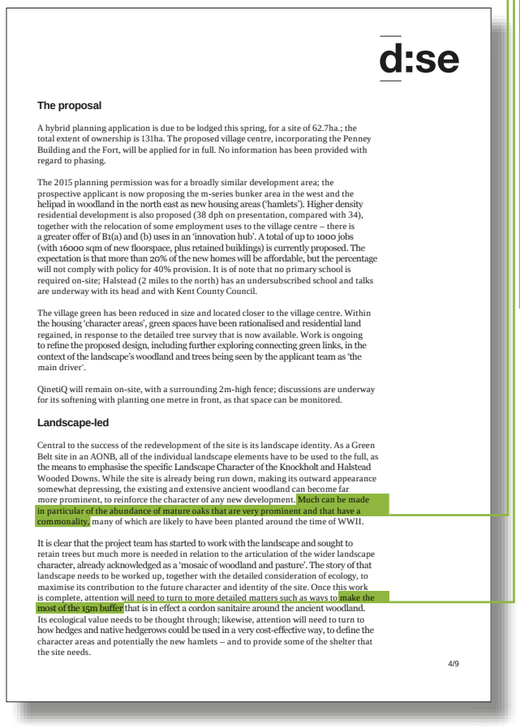
APPENDIX

APPENDIX A: DESIGN REVIEW PANEL SUMMARY

The following text was provided as a report summary by the Design South East panel following the Design Review Meeting held on 23 January 2019.

The Design Team Response to comments are found below the relevant quoted passage.

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The proposal

A hybrid planning application is due to be lodged this spring, for a site of 62.7ha.; the total extent of ownership is 131ha. The proposed village centre, incorporating the Penney Building and the Fort, will be applied for in full. No information has been provided with regard to phasing.

The 2015 planning permission was for a broadly similar development area; the prospective applicant is now proposing the m-series bunker area in the west and the helipad in woodland in the north east as new housing areas ('hamlets'). Higher density residential development is also proposed (38 dph on presentation, compared with 34), together with the relocation of some employment uses to the village centre – there is a greater offer of B1(a) and (b) uses in an 'innovation hub'. A total of up to 1000 jobs (with 16000 sqm of new floorspace, plus retained buildings) is currently proposed. The expectation is that more than 20% of the new homes will be affordable, but the percentage will not comply with policy for 40% provision. It is of note that no primary school is required on-site; Halstead (2 miles to the north) has an undersubscribed school and talks are underway with its head and with Kent County Council.

The village green has been reduced in size and located closer to the village centre. Within the housing 'character areas', green spaces have been rationalised and residential land regained, in response to the detailed tree survey that is now available. Work is ongoing to refine the proposed design, including further exploring connecting green links, in the context of the landscape's woodland and trees being seen by the applicant team as 'the main driver'.

QinetiQ will remain on-site, with a surrounding 2m-high fence; discussions are underway for its softening with planting one metre in front, as that space can be monitored.

Landscape-led

Central to the success of the redevelopment of the site is its landscape identity. As a Green Belt site in an AONB, all of the individual landscape elements have to be used to the full, as the means to emphasise the specific Landscape Character of the Knockholt and Halstead Wooded Downs. While the site is already being run down, making its outward appearance somewhat depressing, the existing and extensive ancient woodland can become far more prominent, to reinforce the character of any new development. Much can be made in particular of the abundance of mature oaks that are very prominent and that have a commonality, many of which are likely to have been planted around the time of WWII.

It is clear that the project team has started to work with the landscape and sought to retain trees but much more is needed in relation to the articulation of the wider landscape character, already acknowledged as a 'mosaic of woodland and pasture'. The story of that landscape needs to be worked up, together with the detailed consideration of ecology, to maximise its contribution to the future character and identity of the site. Once this work is complete, attention will need to turn to more detailed matters such as ways to make the most of the 15m buffer that is in effect a cordon sanitaire around the ancient woodland. Its ecological value needs to be thought through; likewise, attention will need to turn to how hedges and native hedgerows could be used in a very cost-effective way, to define the character areas and potentially the new hamlets – and to provide some of the shelter that the site needs.

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LANDSCAPE-LED

"Much can be made in particular of the abundance of mature oaks that are very prominent and that have a commonality".

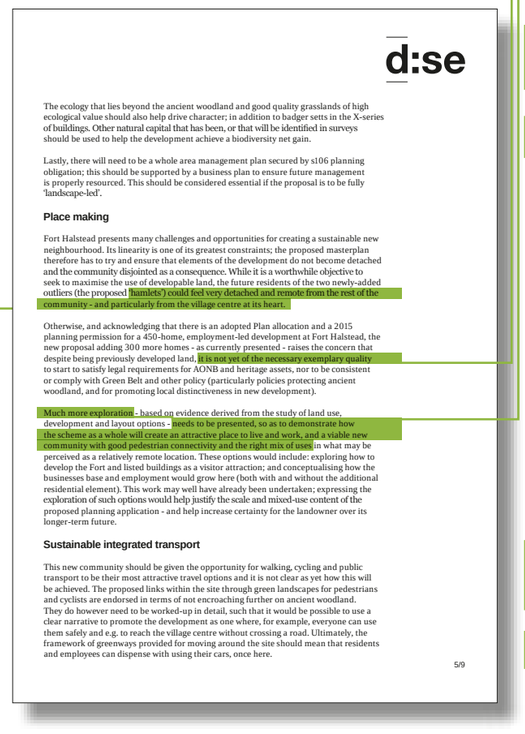
"...make the most of the 15m buffer".

"...[hamlets] could feel very detached and remote from the rest of the community – and particularly from the village centre at its heart."

Response

Following the DRP the design team reviewed the approach to landscape and have developed a much more coherent network of green routes, seeking to preserve trees and better connect the landscape assets across the site. The Green Link has been enlarged significantly, creating a more substantial central green way and is directly linked to the Village Green.

APPENDIX A: DESIGN REVIEW PANEL SUMMARY



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The ecology that lies beyond the ancient woodland and good quality grasslands of high ecological value should also help drive character; in addition to badger setts in the X-series of buildings. Other natural capital that has been, or that will be identified in surveys should be used to help the development achieve a biodiversity net gain.

Lastly, there will need to be a whole area management plan secured by s106 planning obligation; this should be supported by a business plan to ensure future management is properly resourced. This should be considered essential if the proposal is to be fully 'landscape-led'.

Place making

Fort Halstead presents many challenges and opportunities for creating a sustainable new neighbourhood. Its linearity is one of its greatest constraints; the proposed masterplan therefore has to try and ensure that elements of the development do not become detached and the community disjointed as a consequence. While it is a worthwhile objective to seek to maximise the use of developable land, the future residents of the two newly-added outliers (the proposed 'hamlets') could feel very detached and remote from the rest of the community - and particularly from the village centre at its heart.

Otherwise, and acknowledging that there is an adopted Plan allocation and a 2015 planning permission for a 450-home, employment-led development at Fort Halstead, the new proposal adding 300 more homes - as currently presented - raises the concern that despite being previously developed land, it is not yet of the necessary exemplary quality to start to satisfy legal requirements for AONB and heritage assets, nor to be consistent or comply with Green Belt and other policy (particularly policies protecting ancient woodland, and for promoting local distinctiveness in new development).

Much more exploration - based on evidence derived from the study of land use, development and layout options - needs to be presented, so as to demonstrate how the scheme as a whole will create an attractive place to live and work, and a viable new community with good pedestrian connectivity and the right mix of uses in what may be perceived as a relatively remote location. These options would include: exploring how to develop the Fort and listed buildings as a visitor attraction; and conceptualising how the businesses base and employment would grow here (both with and without the additional residential element). This work may well have already been undertaken; expressing the exploration of such options would help justify the scale and mixed-use content of the proposed planning application - and help increase certainty for the landowner over its longer-term future.

Sustainable integrated transport

This new community should be given the opportunity for walking, cycling and public transport to be their most attractive travel options and it is not clear as yet how this will be achieved. The proposed links within the site through green landscapes for pedestrians and cyclists are endorsed in terms of not encroaching further on ancient woodland. They do however need to be worked-up in detail, such that it would be possible to use a clear narrative to promote the development as one where, for example, everyone can use them safely and e.g. to reach the village centre without crossing a road. Ultimately, the framework of greenways provided for moving around the site should mean that residents and employees can dispense with using their cars, once here.

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QUALITY AND DISTINCTIVENESS

"... it is not yet of the necessary exemplary quality".

"Much more exploration ... needs to be presented, so as to demonstrate how the scheme as a whole will create an attractive place to live and work, and a viable new community with good pedestrian connectivity and the right mix of uses".

"... the site's wider context and its connections with existing movement corridors are key".

"... Crow Drive becoming a through route."

Response

Since the DRP the design team have worked closely with SDC to develop detailed design guidance for all the character areas which seeks to capture the quality of the proposals and the distinctive differences in character across the neighbourhood. Overall this guidance—which is extensive—will help to ensure the quality of the scheme is exemplary and specific to Fort Halstead's unique context.

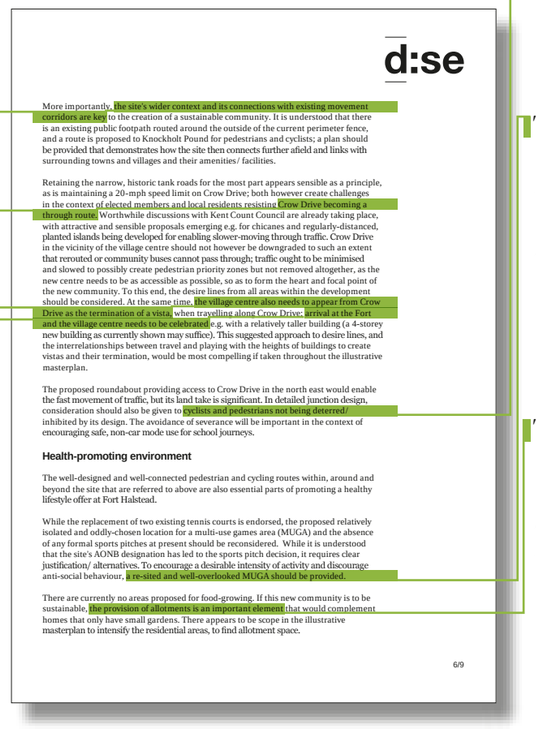
ARRIVAL TO THE VILLAGE CENTRE

"... the village centre also needs to appear from Crow Drive as the termination of a vista",

"... arrival at the Fort and the village centre needs to be celebrated".

Response

The revised layout to the Village Centre considers the arrival through a sequence of unfolding views the last of which is terminated by a feature building (Block 2) which addresses the square. The walk-through animation that has been developed helps to illustrate this sequence and demonstrate that the Village Centre is suitably celebrated.



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More importantly, the site's wider context and its connections with existing movement corridors are key to the creation of a sustainable community. It is understood that there is an existing public footpath routed around the outside of the current perimeter fence, and a route is proposed to Knockholt Pound for pedestrians and cyclists; a plan should be provided that demonstrates how the site then connects further afield and links with surrounding towns and villages and their amenities/ facilities.

Retaining the narrow, historic tank roads for the most part appears sensible as a principle, as is maintaining a 20-mph speed limit on Crow Drive; both however create challenges in the context of elected members and local residents resisting Crow Drive becoming a through route. Worthwhile discussions with Kent Count Council are already taking place, with attractive and sensible proposals emerging e.g. for chicanes and regularly-distanced, planted islands being developed for enabling slower-moving through traffic. Crow Drive in the vicinity of the village centre should not however be downgraded to such an extent that rerouted or community buses cannot pass through; traffic ought to be minimised and slowed to possibly create pedestrian priority zones but not removed altogether, as the new centre needs to be as accessible as possible, so as to form the heart and focal point of the new community. To this end, the desire lines from all areas within the development should be considered. At the same time, the village centre also needs to appear from Crow Drive as the termination of a vista, when travelling along Crow Drive, arrival at the Fort and the village centre needs to be celebrated e.g. with a relatively taller building (a 4-storey new building as currently shown may suffice). This suggested approach to desire lines, and the interrelationships between travel and playing with the heights of buildings to create vistas and their termination, would be most compelling if taken throughout the illustrative masterplan.

The proposed roundabout providing access to Crow Drive in the north east would enable the fast movement of traffic, but its land take is significant. In detailed junction design, consideration should also be given to cyclists and pedestrians not being deterred/ inhibited by its design. The avoidance of severance will be important in the context of encouraging safe, non-car mode use for school journeys.

Health-promoting environment

The well-designed and well-connected pedestrian and cycling routes within, around and beyond the site that are referred to above are also essential parts of promoting a healthy lifestyle offer at Fort Halstead.

While the replacement of two existing tennis courts is endorsed, the proposed relatively isolated and oddly-chosen location for a multi-use games area (MUGA) and the absence of any formal sports pitches at present should be reconsidered. While it is understood that the site's AONB designation has led to the sports pitch decision, it requires clear justification/ alternatives. To encourage a desirable intensity of activity and discourage anti-social behaviour, it re-sited and well-overlooked MUGA should be provided.

There are currently no areas proposed for food-growing. If this new community is to be sustainable, the provision of allotments is an important element that would complement homes that only have small gardens. There appears to be scope in the illustrative masterplan to intensify the residential areas, to find allotment space.

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CROW DRIVE ENTRANCE ROUNDABOUT

"... cyclists and pedestrians not being deterred".

Response

The roundabout design has been developed to ensure safe routes and crossings for both pedestrians and cyclists detailed drawings can be found in Chapter 8 of this document.

MUGA LOCATION

"... a re-sited and well-overlooked MUGA should be provided."

Response

We have reviewed the position of the MUGA and it has been relocated to the western end of the Green Link near the NEAP. This focuses play and recreation areas together with direct access to the adjacent residential neighbourhoods.

FOOD GROWING

"... provision of allotments is an important element".

Response

The masterplan now includes a community orchard area to the West of the masterplan near bunker park and a community growing area to the rear of Block A/B.

APPENDIX A: DESIGN REVIEW PANEL SUMMARY

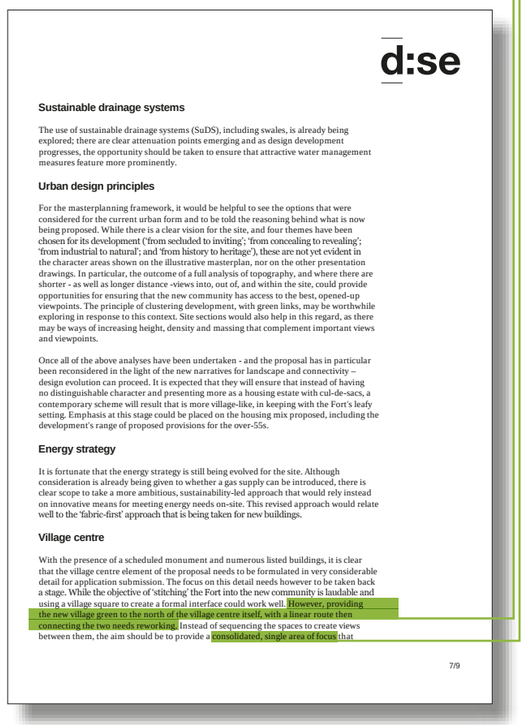
VILLAGE CENTRE LAYOUT

"However, providing the new village green to the north of the village centre itself, with a linear route then connecting the two needs reworking."

"...provide a consolidated, single area of focus".

Response

Following the DRP we reviewed the layout of the Village Centre and the links to the Village Green and in collaboration with SDC we relocated the Village Green to the east of Q14 on Crow Drive. This serves to place it in the heart of the neighbourhood directly opposite the Fort and immediately visible upon arrival into Fort Halstead. The has served to create a more consolidated single area of focus as recommended by the DRP.



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Sustainable drainage systems

The use of sustainable drainage systems (SuDS), including swales, is already being explored; there are clear attenuation points emerging and as design development progresses, the opportunity should be taken to ensure that attractive water management measures feature more prominently.

Urban design principles

For the masterplanning framework, it would be helpful to see the options that were considered for the current urban form and to be told the reasoning behind what is now being proposed. While there is a clear vision for the site, and four themes have been chosen for its development ('from secluded to inviting'; 'from concealing to revealing'; 'from industrial to natural'; and 'from history to heritage'), these are not yet evident in the character areas shown on the illustrative masterplan, nor on the other presentation drawings. In particular, the outcome of a full analysis of topography, and where there are shorter - as well as longer distance -views into, out of, and within the site, could provide opportunities for ensuring that the new community has access to the best, opened-up viewpoints. The principle of clustering development, with green links, may be worthwhile exploring in response to this context. Site sections would also help in this regard, as there may be ways of increasing height, density and massing that complement important views and viewpoints.

Once all of the above analyses have been undertaken - and the proposal has in particular been reconsidered in the light of the new narratives for landscape and connectivity – design evolution can proceed. It is expected that they will ensure that instead of having no distinguishable character and presenting more as a housing estate with cul-de-sacs, a contemporary scheme will result that is more village-like, in keeping with the Fort's leafy setting. Emphasis at this stage could be placed on the housing mix proposed, including the development's range of proposed provisions for the over-55s.

Energy strategy

It is fortunate that the energy strategy is still being evolved for the site. Although consideration is already being given to whether a gas supply can be introduced, there is clear scope to take a more ambitious, sustainability-led approach that would rely instead on innovative means for meeting energy needs on-site. This revised approach would relate well to the 'fabric-first' approach that is being taken for new buildings.

Village centre

With the presence of a scheduled monument and numerous listed buildings, it is clear that the village centre element of the proposal needs to be formulated in very considerable detail for application submission. The focus on this detail needs however to be taken back a stage. While the objective of 'stitching' the Fort into the new community is laudable and using a village square to create a formal interface could work well. However, providing the new village green to the north of the village centre itself, with a linear route then connecting the two needs reworking. Instead of sequencing the spaces to create views between them, the aim should be to provide a consolidated, single area of focus that

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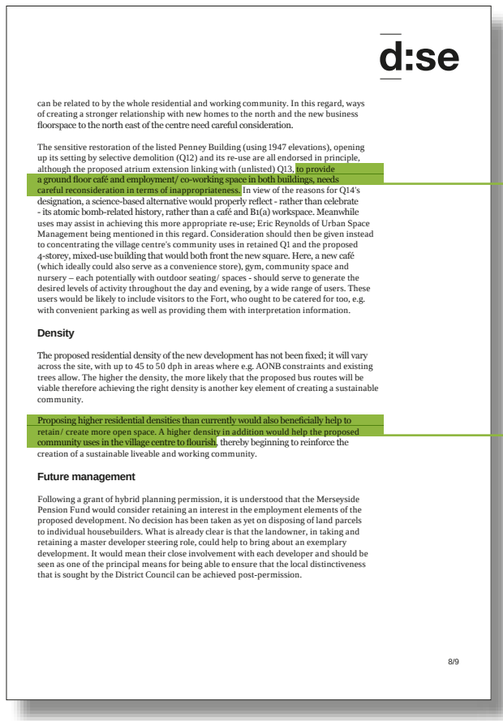

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can be related to by the whole residential and working community. In this regard, ways of creating a stronger relationship with new homes to the north and the new business floorspace to the north east of the centre need careful consideration.

The sensitive restoration of the listed Penney Building (using 1947 elevations), opening up its setting by selective demolition (Q12) and its re-use are all endorsed in principle, although the proposed atrium extension linking with (unlisted) Q13, to provide a ground floor café and employment/ co-working space in both buildings, needs careful reconsideration in terms of inappropriateness. In view of the reasons for Q14's designation, a science-based alternative would properly reflect - rather than celebrate - its atomic bomb-related history, rather than a café and B1(a) workspace. Meanwhile uses may assist in achieving this more appropriate re-use; Eric Reynolds of Urban Space Management being mentioned in this regard. Consideration should then be given instead to concentrating the village centre's community uses in retained Q1 and the proposed 4-storey, mixed-use building that would both front the new square. Here, a new café (which ideally could also serve as a convenience store), gym, community space and nursery – each potentially with outdoor seating/ spaces - should serve to generate the desired levels of activity throughout the day and evening, by a wide range of users. These users would be likely to include visitors to the Fort, who ought to be catered for too, e.g. with convenient parking as well as providing them with interpretation information.

Density

The proposed residential density of the new development has not been fixed; it will vary across the site, with up to 45 to 50 dph in areas where e.g. AONB constraints and existing trees allow. The higher the density, the more likely that the proposed bus routes will be viable therefore achieving the right density is another key element of creating a sustainable community.

Proposing higher residential densities than currently would also beneficially help to retain/ create more open space. A higher density in addition would help the proposed community uses in the village centre to flourish, thereby beginning to reinforce the creation of a sustainable liveable and working community.

Future management

Following a grant of hybrid planning permission, it is understood that the Merseyside Pension Fund would consider retaining an interest in the employment elements of the proposed development. No decision has been taken as yet on disposing of land parcels to individual housebuilders. What is already clear is that the landowner, in taking and retaining a master developer steering role, could help to bring about an exemplary development. It would mean their close involvement with each developer and should be seen as one of the principal means for being able to ensure that the local distinctiveness that is sought by the District Council can be achieved post-permission.

8/9

CAFÉ LOCATION

"... a ground floor café and employment/ co-working space in both buildings, needs careful reconsideration in terms of inappropriateness."

Response

The café is now proposed in Block C fronting the Village Green and is no longer in Q14.

DENSITY

"Proposing higher residential densities than currently would also beneficially help to retain/ create more open space. A higher density in addition would help the proposed community uses in the village centre to flourish"."

Response

Since the DRP we have reviewed the proposed developable areas and densities. We were proposing an average density of 38 dph, this has now been increased to 43.6 dph. This has been achieved by increasing the density of parcels in and close to the Village Centre and also by giving more space over to landscape and water attenuation in more sensitive areas of the site.

Following the submission of the planning application in September 2019, a number of objections were submitted from both statutory and non-statutory consultees, regarding the proposed number of units and density across the application site. In response to this, we have reduced the proposed number of units to 635 homes which provides an average of 38.35dph.

SCHEDULE OF AMENDMENTS

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CHAPTER	PAGE	BEFORE CHANGE	AMENDMENT
Chapter 1	Page 4	"With 750 new homes [...]"	"With 635 new homes [...]"
Chapter 1	Page 5	"New primary school on site"	"Land safeguarded for a new primary school on site."
Chapter 2	Page 8	"Development of up to 750 residential dwellings;"	"Development of up to 635 residential dwellings;"
Chapter 2	Page 11	Local Plan text	Updates to Local Plan text
Chapter 2	Page 12	"[...] a new mixed-use development up to 750 new homes [...]"	"[...] a new mixed-use development up to 635 new homes [...]"
Chapter 2	Page 12	"(for up to 750 new homes)"	"(for up to 635 new homes)"
Chapter 2	Page 18	Key Plan	Removed helipad
Chapter 2	Page 19	Site photo of helipad	Updated to entrance to employment area
Chapter 3	Page 37	Annotation	"Land safeguarded for Primary School"
Chapter 3	Page 59	Diagram	
Chapter 3	Page 60	Text added	"and an updated Ecological Walkover and Updated Badger Survey 2020."
Chapter 3	Page 63	Diagram	Redline & Developable Areas updated
Chapter 3	Page 73	Key	"Land safeguarded for 1FE Primary School"
Chapter 4	Page 74–75	Insert new page & additional text	"Revised Density Masterplan (March 2020)
Chapter 4	Page 76–77	Multiple Diagrams	North-east Gateway Hamlet removed
Chapter 5	Page 80	Table	Table figures updated
Chapter 5	Page 80	Key	"Land safeguarded for Primary School"
Chapter 5	Page 81	Diagram & Pie Chart	Redline and Residential updated Bus loop added and key updated
Chapter 5	Page 82	Additional diagrams and responding keys	'Existing building ridge heights' and 'existing building storey heights' added
Chapter 5	Page 83	Diagram	Redline, Residential and key updated Bus loop added
Chapter 5	Page 85	Diagram	Redline, Development Parcels updated
Chapter 5	Page 87	Diagram	Redline
Chapter 6	Page 90	"Up to 750 mixed-tenure homes in a variety of sizes;"	"Up to 635 mixed-tenure homes in a variety of sizes;"
Chapter 6	Page 90	Updated Key	"Land safeguarded for 1FE Primary School", "Disused Helipad Site"
Chapter 6	Page 90	"[...] the site can accommodate 750 units"	"[...] the site can accommodate 635 units"
Chapter 6	Page 90	"A new primary school site with dedicated sports pitches"	"A potential new primary school site with dedicated sport pitches"
Chapter 6	Page 91	Illustrative Masterplan	Updated to reflect new layout
Chapter 6	Page 92	"[...] to achieve 750 dwellings"	"[...] to achieve 635 homes"
Chapter 6	Page 92	Indicative Density Schedule	Updated to reflect new layout
Chapter 6	Page 93	Diagram	Redline & Residential layout updated
Chapter 6	Page 94	Additional text	To the south of these two restored existing buildings, a new village square is proposed which will be the main focus for social and community activities as well as pedestrian/cycle movements. To the rear of these buildings parking, servicing, refuse collection and emergency fire access will be prioritised.
Chapter 6	Page 96	Table and pie chart	Table figures and pie chart updated.
Chapter 6	Page 96	Diagram and fenceline cross section	New diagram fenceline cross section to show illustrative fenceline for the QinetiQ enclave.

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CHAPTER	PAGE	BEFORE CHANGE	AMENDMENT
Chapter 6	Page 96	"At the centre of the main employment area, will be a single form entry primary school."	"At the centre of the main employment site, there will be area safeguarded for a potential single form entry primary school."
Chapter 6	Page 96	Additional text	"Due to the sensitive nature of QinetiQ's operations, their demise to the south of the site, will be contained by a 3m high secured fenceline. The extent and details of the proposed fenceline has been indicatively illustrated below. The exact alignment of the fenceline will be establish at reserved matters stage."
Chapter 6	Page 97	Key	"B1a/B1b/D1 – Office / Research / Land safeguarded for Primary School"
Chapter 6	Page 98	Additional Text	"Although it is not possible [...]"
Chapter 6	Page 99	Updated plan	Developable areas updated on plan
Chapter 6	Page 100–101	Annotation/Diagram	Remove reference to NE Gateway Hamlet
Chapter 6	Page 103	Diagram	Helipad Removed from developable area
Chapter 6	Page 105	Diagram	Redline, residential layout & LAP locations in NE Gateway Hamlet updated
Chapter 7	Page 108	Additional text	"[...] which could potentially deliver a primary school alongside [...]"
Chapter 7	Page 109	Diagram	North-east Gateway Hamlet removed & Residential layout updated
Chapter 7	Page 111	Diagram	Residential layout updated
Chapter 7	Page 111	Key	"Land safeguarded for Primary School"

CHAPTER	PAGE	BEFORE CHANGE	AMENDMENT
Chapter 7	Page 112	"Indicative density range: 15–25 dph"	"Indicative density range: 20–30 dph"
Chapter 7	Page 112	Diagram	North-east Gateway Hamlet removed
Chapter 7	Page 116	"Indicative density range: 30–40 dph"	"Indicative density range: 25–35 dph"
Chapter 7	Page 117	Illustrative Masterplan	Updated Crow Drive
Chapter 7	Page 120	"The hub includes a primary school [...]"	"This area also has the potential to deliver a primary school to serve the new and existing residents of Fort Halstead village. With secure grounds it will be located directly adjacent to the key facilities within the village centre."
Chapter 7	Page 121	"Primary school located [...]"	"Potential primary school located [...]"
Chapter 7	Page 121	Updated annotation	"Land safeguarded for Primary School"
Chapter 7	Page 125	Vignette	Education building heights amended
Chapter 7	Page 126	Illustrative Masterplan	Updated Crow Drive and Village Mews
Chapter 7	Page 128	Illustrative Masterplan	Updated Crow Drive and Village Mews
Chapter 7	Page 130	"Indicative density range: 50–60 dph"	"Indicative density range: 35–55 dph"
Chapter 7	Page 131	Frontage Character Table: Regular Frontage "[...] terraced dwellings or [...]"	"[...] semi-detached houses with [...]"
Chapter 7	Page 131	Frontage Character Table: Regular Frontage "[...] communal/shared courtyard."	"[...] on-plot between dwellings, communal/shared courtyard."
Chapter 7	Page 131	Frontage Character Table: Mews Frontage "[...] terraced dwellings [...] on-plot between dwellings, on-street visitor parking."	"[...] terraced or linked dwellings [...] on-plot between dwellings, on-plot frontage, on-street visitor parking"

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CHAPTER	PAGE	BEFORE CHANGE	AMENDMENT
Chapter 7	Page 131	Car Parking Typology Table	Updated to reflect changes in parking
Chapter 7	Page 131	Frontage Diagram and Illustrative Masterplan	Updated to reflect new layout
Chapter 7	Page 132	Section and plan	Updated to reflect new layout
Chapter 7	Page 132	"Indicative density range: 35–45 dph"	"Indicative density range: 25–55 dph"
Chapter 7	Page 133	Built Form Table "On the mews street, street-facing gables will be no wider than 4.5m and parking zones a maximum of 3.5m."	"On the mews streets, innovative compact housetypes are encouraged, with narrow street-facing gables (ie. 4.5m wide) with integrated parking zones."
Chapter 7	Page 134	"Indicative density range: 35–45 dph"	"Indicative density range: 25–55 dph"
Chapter 7	Page 138	"Indicative density range: 20–35 dph for Beaumont Glade, and 50 dph for Dutchmore Wood"	"Indicative density range: 25–45 dph for Beaumont Glade, and 45–50 dph for Dutchmore Wood"
Chapter 7	Page 139	Illustrative Masterplan	Updated Village Mews
Chapter 7	Page 142	Diagram	North-east Gateway Hamlet removed & updated to reflect new layout
Chapter 7	Page 143	Table	Remove references to North-eastern Gateway Hamlet
Chapter 8	Page 146	Diagram	Redline & residential parcels updated
Chapter 8	Page 146	Amended Text	"[...] interventions will be introduced to reduce speeds [...]"
Chapter 8	Page 147	Reference to 431 Bus	Updated to No. 3 Bus
Chapter 8	Page 147	Amended Text	"[...] along with other school services [...]"
Chapter 8	Page 147	Additional text	"and be flexible so as to address the most frequent needs of the residential and business site communities as they evolve."

CHAPTER	PAGE	BEFORE CHANGE	AMENDMENT
Chapter 8	Page 148–149	Diagrams	Remove reference to NE Gateway Hamlet and update to street hierarchy Added indicative bus loop
Chapter 8	Page 150–1	Multiple Diagrams	Residential parcels updated
Chapter 8	Page 154	Map amended	
Chapter 8	Page 155	Carriageway width	Updated to 6.75m
Chapter 8	Page 156	Traffic calming measure table: Squares precedent	Update photo and add text: "Raised shared surfaced table located at a junction, with the alignment of the road deflecting horizontally on the approach of the turning." Squareabout removed, deflected junction added.
Chapter 8	Page 157	Traffic calming measure table: Eyot	Point added "Potential bus loop to be incorporated into the design of an eyot."
Chapter 8	Page 158–9	Diagram	Updated to reflect changes to Crow Drive
Chapter 8	Page 160–61	Diagrams	Updated to reflect changes to Crow Drive
Chapter 8	Page 162–3	Diagram	Updated to reflect changes to Crow Drive
Chapter 8	Page 164–5	Diagram	Updated to reflect changes to Crow Drive
Chapter 8	Page 166	Table	"Bus loop design to be incorporated into eyot feature."
Chapter 8	Page 166–7	Diagram	Updated to reflect changes to Crow Drive
Chapter 8	Page 170	Diagrams	Updated
Chapter 8	Page 171	Star Hill Access Drawing	Updated
Chapter 9	Page 174	Diagram	Updated to reflect changes to masterplan
Chapter 9	Page 176	"[...] between 2006 and 2019."	"[...] between 2006 and 20."
Chapter 9	Page 178	Diagram	Redline & residential parcels updated

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CHAPTER	PAGE	BEFORE CHANGE	AMENDMENT
Chapter 10	Page 184–185	Multiple Diagrams	Redline & masterplan updated
Chapter 10	Page 184	"[...] including primary school [...]"	Updated phasing sequence "[...] including a potential primary school [...]"
Chapter 10	Page 184	"Approx. No. of homes delivered in Phase 2: 250 | Accumulative no. of homes: 250"	"Approx. No. of homes delivered in Phase 2: 230 | Accumulative no. of homes: 230"
Chapter 10	Page 185	"Approx. No. of homes delivered in Phase 3: 200 | Accumulative no. of homes: 450"	"Approx. No. of homes delivered in Phase 3: 143 | Accumulative no. of homes: 373"
Chapter 10	Page 185	"Approx. No. of homes delivered in Phase 4: 250 | Accumulative no. of homes: 750"	"Approx. No. of homes delivered in Phase 3: 224 | Accumulative no. of homes: 597"
Chapter 10	Page 185	"Approx. No. of homes delivered in Phase 4: 50 | Accumulative no. of homes: 750"	"Approx. No. of homes delivered in Phase 4: 38 | Accumulative no. of homes: 635"
Chapter 11	Page 190	Illustrative Masterplan	Updated to reflect new layout
Appendix A: Design Review Panel Summary	Page 200	"Since the DRP we have reviewed the proposed developable areas and densities [...]"	Additional statement included addressing the reduced number of proposed homes and density.

jtp