Section
4.7

Aerial view from South

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Section
4.8

Aerial view from North

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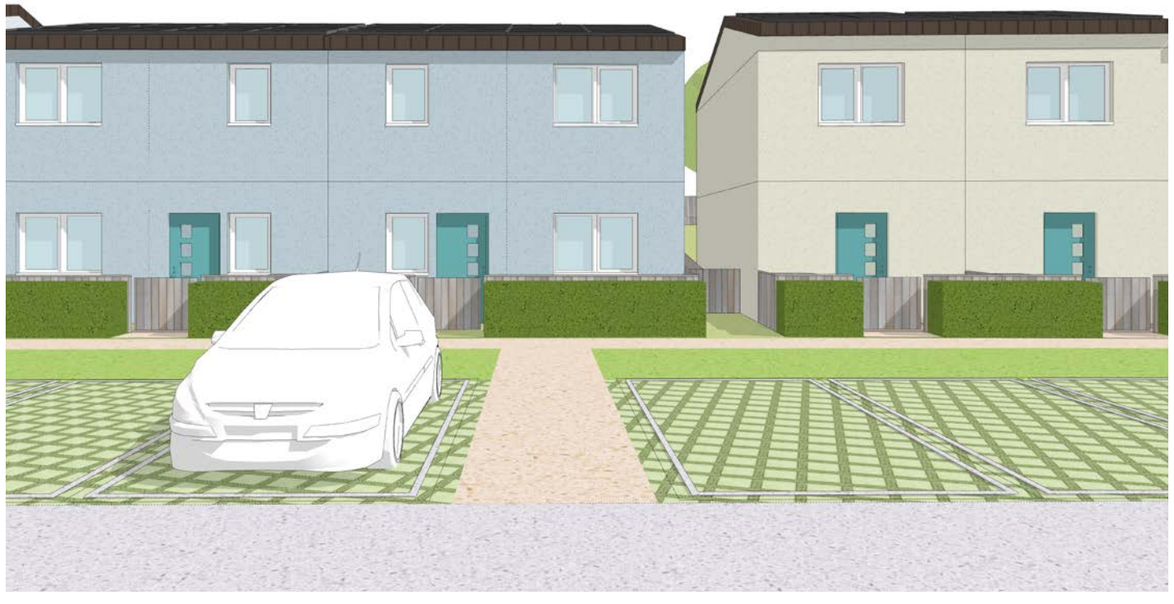
Section
4.9

Proposed Street Views

West Street view towards town

Veiw of parking up School Close



Typical Entrance Typology

Veiw of parking along Market Close

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Section

5.0

Sustainability & Strategies

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Section
5.1 | # Landscape Strategy

Existing Landscaping

The existing landscaping is of poor quality, comprising primarily amenity grassland and hard surfaces of concrete and tarmac. Existing structures on site do not contain any biodiversity enhancement measures such as green roofs or bird boxes. This proposal is supported by an ecological survey and report which assesses the benefits of the proposed landscaping over the existing.

Proposed Landscaping

The proposed landscaping seeks to increase the biodiversity of the site by providing a mix of amenity grassland, planted boarders with mix of native perennial flowering shrubs and plants, wildlife friendly planting of Specimen shrubs to attract bee and bug populations, hedgerows and trees. This will be maintained on a seasonal basis through clearing and seeding. Bird boxes can be attached to the proposed buildings providing nesting sites, and will be located on the advise of the ecological surveys and reports.

1 **Proposed Landscape Strategy**
1 : 200

Existing Landscaping

Native meadow planting

Tree Planting
Proposed native tree planting in groups increasing biodiversity into the development.

Proposed Landscaping

Grassed Amenity Area

Permeable Block Paver
Part of Sustainable Urban Drainage (SUDS)

GrassPark
Permeable Paving Grid - Part of Sustainable Urban Drainage (SUDS)

Buzzard Bird Boxes
Promoting endangered bird species within local area

Swift Bird Nest Boxes
Promoting endangered bird species within local area

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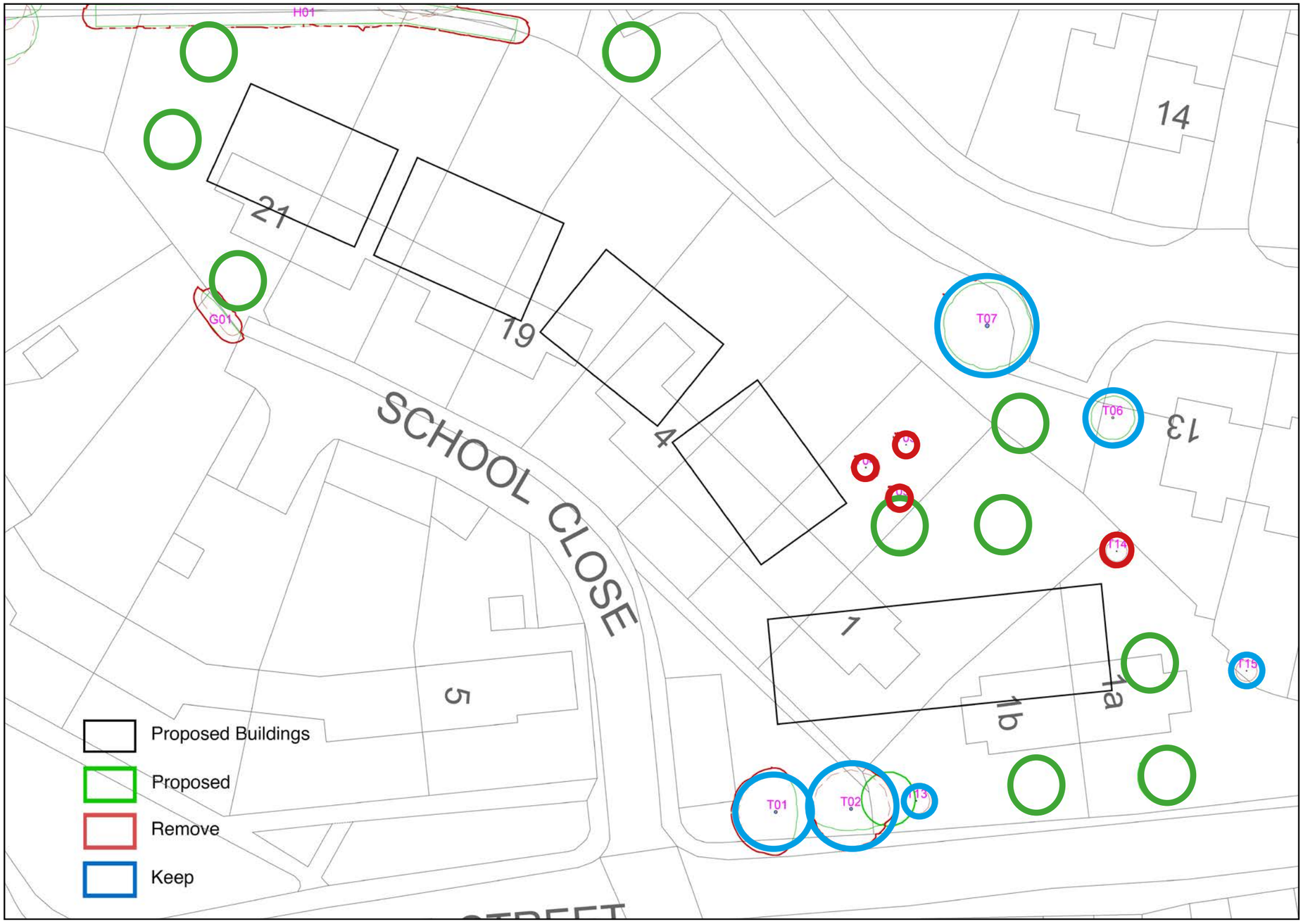
Arboricultural Strategy

Wherever possible existing trees, particularly those which provide privacy to surrounding buildings, will be retained. Small trees of Cat C and below will be removed to allow for construction, however these trees will be replaced with new planting both ground cover and tree.

The amount of trees on site, and corresponding biodiversity net gain will increase from the existing condition.



Mark-up of Arboricultural Plans

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Section
5.3 | **Materiality**

1

Silicone Thin Coat Render 1.5mm
Colour: Cream
10 Years Guarantee

2

Entrance Door
(Obscured glazed)
Colour: Anthracite Grey
Manufacturer: Rationel
60 Years Guarantee

3

Patio Door
Colour: Anthracite Grey
Manufacturer: Rationel
60 Years Guarantee

4

Triple-glazed Windows
Colour: Anthracite Grey
Manufacturer: Rationel
60 Years Guarantee

5

Metal Standing Seam Roof
Manufacturer: TATA Steel
Range: Catnic® Urban
55 Years Guarantee

6

Solar Photovoltaic Panels
Manufacturer: JA Solar
12 Years Guarantee

7

Garden Fence Panel
1800mm high
Vertical Featheredge Boards

8

Flat Top Tall Wooden Gates
Manufacturer: Jacksons Fencing
25 Years Guarantee

7

Rooflight
Manufacturer: Velux
10 Years Guarantee

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Section
5.4 | **Access & Waste Management**

Proposed Bin Storage Schedule		
Bin Type & Size (Ltr)	General Waste	Recycling
	240	55
1 Bed 2 Person	2	2
2 Bed 3 Person	2	2
3 Bed 6 Person	2	2
4 Bed 8 Person	2	2

Car/Cycle Parking Schedule	
Existing car parking spaces	7
Proposed car parking spaces	38
Proposed Cycle Spaces	48

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Section
5.4 | **Access & Waste Management**

Proposed Bin Storage Schedule		
Bin Type & Size (Ltr)	General Waste	Recycling
	240	55
1 Bed 2 Person	2	2
2 Bed 3 Person	2	2
3 Bed 6 Person	2	2
4 Bed 8 Person	2	2

Above: Market Close

Above: School Close turning head

Above: School Close / West St Junction

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Section
5.5 | **Secured by Design**

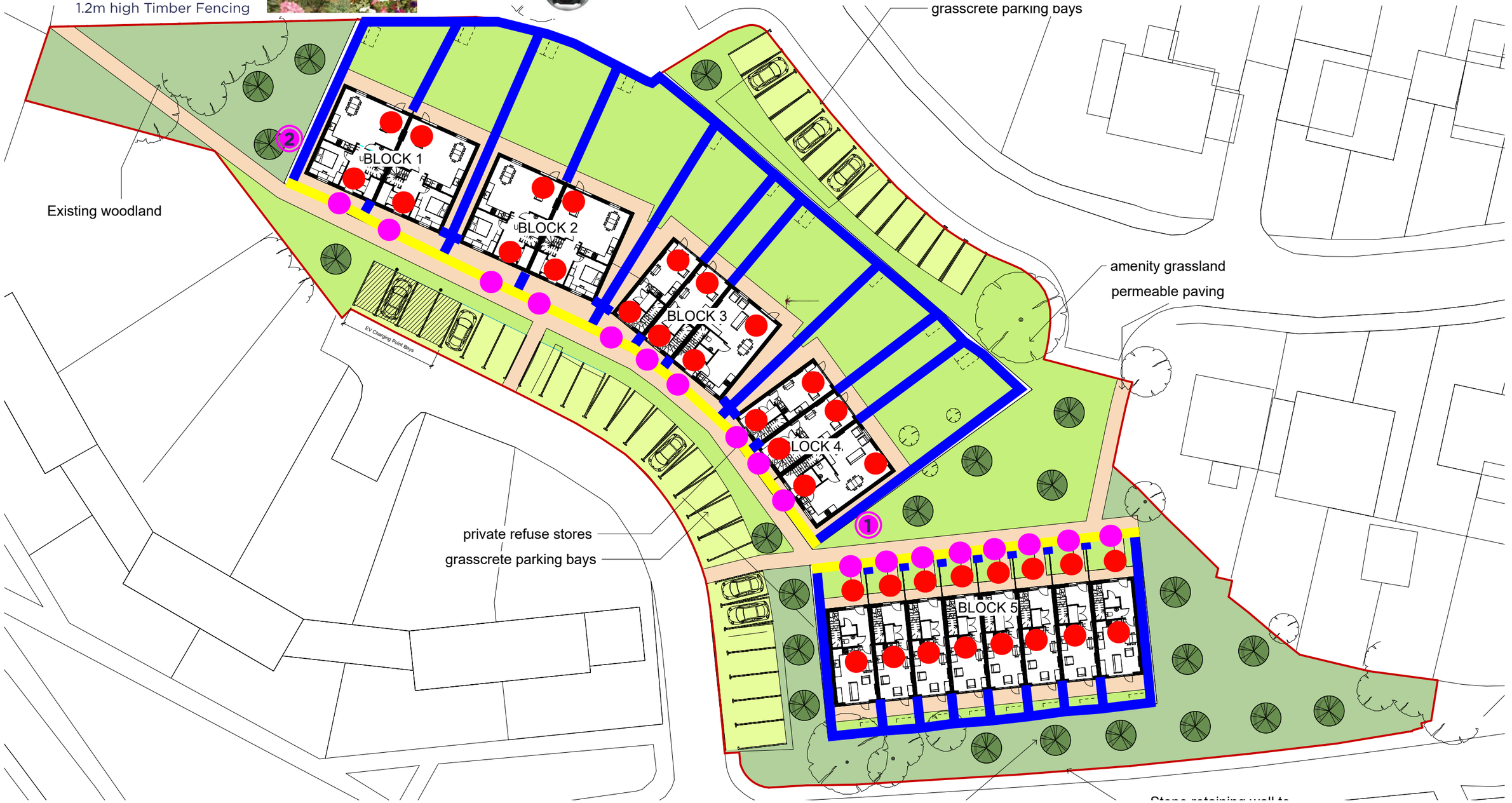
PAS 24 Security Door
Fitted as per Secured by Design guidelines

Secured perimeter:
1.8m high Timber Fencing

Secured perimeter:
1.2m high Timber Fencing

1
3
Proposed CCTV Locations

Flat Top Tall Wooden Gates



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Section
5.6

Fire Strategy Ground Floor

PODs modular units are built with best in class non combustible materials which provide 60-minute fire protection for external walls and suspended floors above under croft spaces and 30-minute fire ratings between units.

Materials

15mm fire resistant Plasterboard

Separating floors 28mm GIFA board

12.5mm wall board (party walls)

Sheathing external walls & party walls. Fire classification of A1 (EN 13501-1)

Stone Wool Insulation Fire classification of A1 (EN 13501-1)

FD 30 fire-rated Internal Doors

Photoelectric Smoke Alarm

Heat Alarm

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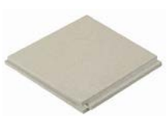
Fire Strategy First Floor

- Standalone Smoke Detector
- Heat Detector
- **FD30** Internal Fire Doors (Providing 30 mins fire resistance)
- 60 mins Fire Protected Ext. Wall
- 60 mins Fire Protected Party Wall
- 30 mins Fire Protected Int. Wall
- Primary Route
- Emergency Exit Route

Materials

15mm fire resistant Plasterboard



Separating floors 28mm GIFA board

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Photoelectric Smoke Alarm

Heat Alarm

FD 30 fire-rated Internal Doors

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Section

6.0

Sustainable Construction

Interiors

Zero Carbon Strategy

Why Choose Modular Construction?

MMC - Modular Construction

Quality Assurance & Warranty Scheme

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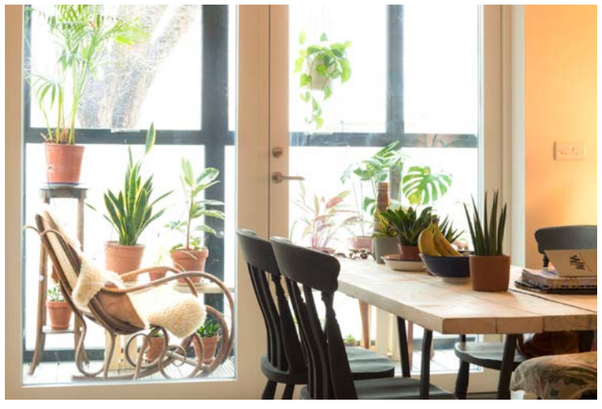
Section
6.1 | **Interiors**

Exceptional Quality
Precision-engineered, using best in class materials;
Super-inslulated, air-tight homes; minimum 60-minute fire ratings

Customising Interiors
All homes have standard interior specifications with options to upgrade. The apartments are delivered fully furnished, including floor finishes, A-rated appliances fixtures and all fittings.

Open plan living & Sunshine filled rooms
Promote excellent daylighting for healthy living, healthy sleep patterns, minimise artificial daylight.



Smart & healthy living
Smart heating / cooling / lighting system; exception acoustic attenuation; dual aspect dwellings for cross ventilation.

Superior Energy Efficiency
- Smart mechanical ventilation
- Water saving tap & shower
- Ultra-low energy consumption

Building Low-carbon Future
- Solar panels generating renewable electricity in the day
- The quiet running thermodynamic Solar Assisted Heat Pump for affordable, low-energy water / space heating systems.

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CLOSING THE PERFORMANCE GAP

Factory Built Quality Control

BOPAS Approved QC System
In-house quality control covering all parts of the systems from design to manufacture, reduced tolerances/increase precision of build and design control.

Designed vs Built Performance

As built energy analysis and testing has proven that the scheme closely achieves the levels of performance specified at the design stage.

Performance Built In

Roof Mounted photovoltaic panels provide a minimum of 2kWp per housing unit to meet and exceed demands, grid feed for surplus.

REDUCED ENERGY CONSUMPTION

Natural Daylighting

BS EN 17037:2018
Designed for the outset to increase the amount of natural daylighting with shadow analysis and daylighting analysis. Reducing Artificial Light.

Water Efficacy

Maximum of 100L/Person/Day
Water saving facets and fixtures using water calculations and specifications from design stages to reduce consumption.

Energy Efficient Appliances

Specifying A+ Ratings
Highly efficient appliances specified with hot fill washing machines and reduced electricity consumptions.

RENEWABLE PRODUCTION

Photovoltaic Panels

Roof Mounted photovoltaic panels provide a minimum of 2kWp per housing unit to meet and exceed demands, grid feed for surplus.

System 1 — under 40sqm

Centralised MVHR Unit
Separated thermodynamic panels and hot water supply.

Solar assisted heat pump
Externally mounted thermodynamic panels exchange heat from external air to provide hot water and space heating

System 2 — over 40sqm

Combined MVHR & Heat Pump
The Nilian unit maximizes the efficiency of heat recovery by combining the functions of MVHR Unit whilst using excess heat to meet hot water demand,

REDUCED HEAT LOSSES

Conduction

1. Reduced U-Values
Thick wall and insulation build-ups, insulated suspended floors result in all element U-Values below 0.15W/m²K. Triple-glazed windows and doors.

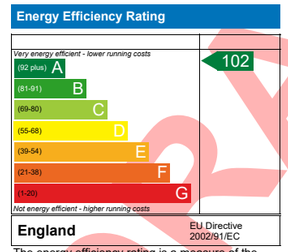
2. Thermal Bridging & Approved Details
In-house developed details and externally approved energy performance modelling to reduce thermal bridging in junctions.

Infiltration

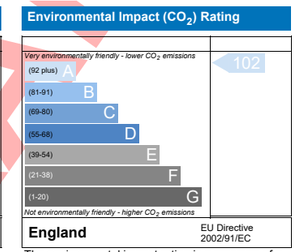
1. Airtightness Membranes & Taping
Every module installed with airtightness membrane, wall build ups designed to reduce penetrations and taping applied to all breaks. Airtightness: Target of 2m³/m²-hr @ 50 Pa test pressure

2. Mechanical Ventilation
Wall mounted and centralized MVHR units recovering more than 80% of outgoing heat and constant fresh air supply

Energy Performance Certificate



The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be.



The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO_2) emissions. The higher the rating the less impact it has on the environment.

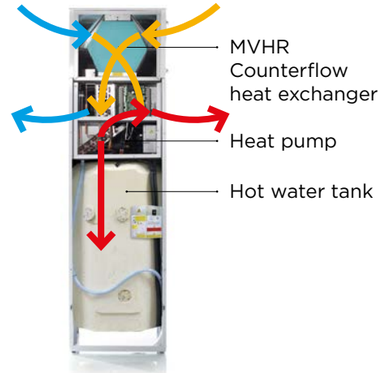
Triple-glazed low-e windows & doors

Stone wool insulation
Achieves a reaction to fire classification of A1 as defined in EN 13501-1.

Centralised MVHR Unit

Solar Assisted Heat Pump

A



The Nilian Unit — Combined MVHR & Heat Pump

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Section
6.3 | # Why choose modular construction?

Some of the benefits of MMC:

Health and safety benefits both in production and asset management
The opportunities to monitor health and safety protocols in the production process, as well as in subsequent asset management, makes off-site housing construction an important element of a safer regulatory system for the future.

Reduced local disruption
Modular construction creates less disruption for the local area and residents, including reductions in noise, dust, and road blockages. Modular deployment of homes requires up to 60% fewer operatives on site, increasing site safety and causing less disruption for surrounding residents, with fewer materials and less construction traffic.

New skills
Compared to traditional construction, the different knowledge and skills needed for modular construction provides an opportunity to improve diversity in the construction workforce and to attract more young people (HM Government 2018).

New geographies of production
The shift to off-site construction provides an opportunity to rebalance the spatial distribution of economic benefits associated with construction in the UK. This has the potential to be an important step towards reducing regional inequalities in line with the government's 'levelling up' agenda.

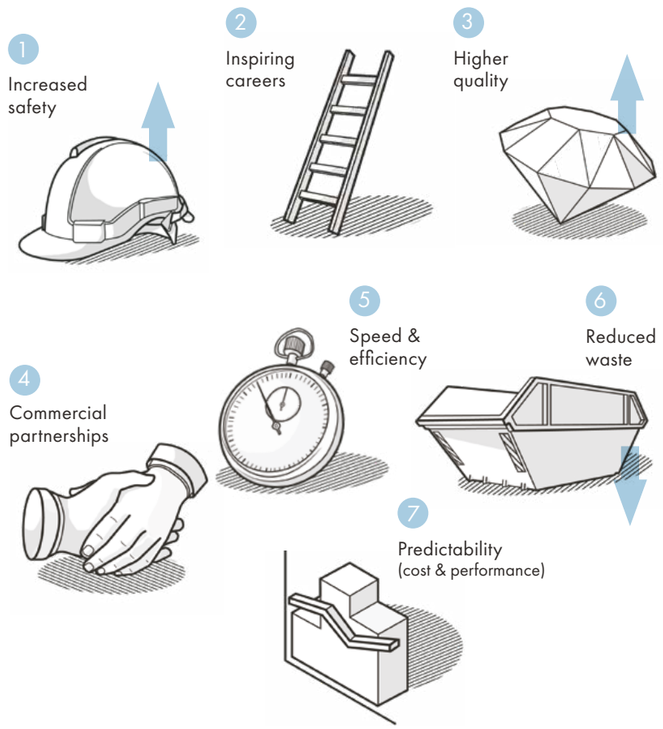
Collaborative business models
The use of off-site construction will require a significant paradigm shift towards more collaborative procurement routes, highly coordinated design processes and early-stage design finalisation (Burgess et al. 2020).

New aesthetics and greater diversity
The government-funded competition, Home of 2030 (HM Government 2020), sought to bring innovation to housing design and provision, and particularly encouraged designs that show how housing in the UK could be reimagined. Many modular manufactured houses highlight possibilities for delivering such innovations, as the new technologies allow for the adaptation and customisation of designs.

Reduced carbon emissions
Modular housing offers improvements in embodied CO2 compared with traditional construction. Research demonstrates that off-site technology can generate nearly 40% lower emissions than traditional construction. Modular housing can contribute to meeting the current ambitions for zero carbon in housing development and achieve the proposed Future Homes Standard (MHCLG 2019c), which is crucial for the UK's committed target of net zero carbon by 2050.

Housing as a service, enabling customisation and user feedback
Off-site construction and MMC open up opportunities for developing the housing industry into a broader service provider that is not only restricted to the production and sale of a unified housing unit, but rather one that offers a life-cycle service. This would enable the production of tailored housing solutions based on customer preferences and feedback to original designs.

Source: Cambridge Modular Housing Report



Source: HTA: Build Homes, Build Jobs, Build Innovation

Defining Modern Methods of Construction

MMC is a 'catch-all' phrase that means different things to different people. With this in mind in 2019 the Ministry for Housing Communities and Local Government published a definition framework. This set out seven categories for defining MMC, the first five of which use offsite construction

CATEGORY 1
Volumetric modular
Segments of buildings manufactured offsite in 3D and fitted together onsite.

CATEGORY 2
Structural panelised
Wall and ceiling panels or frames that are manufactured offsite and assembled onsite.

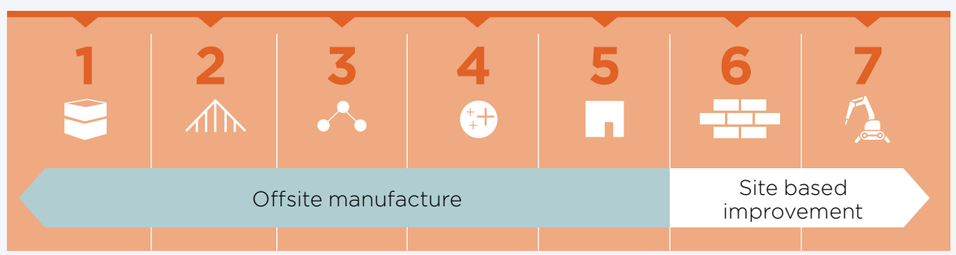
CATEGORY 3
Offsite components
Structural elements, such as load bearing beams, columns and slabs that are built offsite.

CATEGORY 4
Additive manufacture
Printing parts of buildings, either on or offsite.

CATEGORY 5
Non-structural assemblies and sub-assemblies
Non-structural components that are manufactured offsite, such as pods, utility cupboards and risers.

CATEGORY 6
On-site building material improvements
Ways to reduce on-site labour by using new materials, such as large format blocks or pre-cut components.

CATEGORY 7
On-site process improvement
Use of innovative techniques, such as lean construction, digital augmentation, robots, drones and exoskeletons.



Source: Savills Spotlight: Modern Methods Of Construction

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Section
6.4 | **MMC** — Modular Construction

All ZED PODs units are built as fully fitted steel framed modules in a BOPAS approved factory before being transported down to site for assembly. The modular nature of the development present numerous benefits:

REDUCED TIME

- On site Ground works and off-site construction of the modules will occur concurrently reducing the time-frame of the build by as much as 50% compared to conventional builds.
- Build at UK-based factory with a scalable production capacity that ensures as many as 3,300 homes can be delivered per year.

REDUCED RISK

- All modules are build fully insulated in an off-site factory, this prevents delays occurring due to on site weather conditions.
- With a carefully controlled production system oversight of the build is more rigorous.
- Installing units early to several stories early reduces working at height requirements and increases safety on site.

REDUCED DISRUPTION

- Minimising on-site works reduces the amount of noise pollution generated by machinery for cutting, drilling.
- Fitting out the modules off site means that far less materials and components are stored on site helping to the keep the area clean and tidy.
- Off-site material cutting and processes reduce the amount of airborne dust created during works, improving air quality.

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Section
6.5

MMC — Quality Assurance & Warranty Scheme

ZED PODs has a range of approvals and memberships designed to ensure the quality, durability and insurability of our modular system and project specific works.

Considerate constructors was founded to raise the standards and practice across the construction industry. ZED PODs is committed to upholding the code of considerate practice by maintaining the **3** key values:

1. **Respect the Community**
2. **Care for the Environment**
3. **Value the Workforce**

Checkmate are ZED PODs chosen warranty provider. Their innovative online platform and inspection apps are used to keep detailed logs of all building works and schedule in inspections to ensure that. Checkmate were founded in 2010 with a highly experienced team and is also a registered Carbon Neutral company.

Technology or Product name	Approval status
Zed Pod CLT system	Approved
Zed Pod steel system	Approved

Above: ZED POD CLT & Steel Frame System — BLP 60 years durability assessment

Zed Pods Ltd	Designer PM Constructor PM Manufacturer

Above: ZED POD as BOPAS Approved Designer / Constructor / Manufacturer

BOPAS is a quality assurance scheme that focuses on offsite production. Their rigorous testing and evaluation process ensures that all materials and components will last for at least 60 years. ZED PODs steel framed modular system has received BOPAS approval setting it apart from lower quality prefabricated units and providing that modular build can be even more durable than traditional onsite building methods.

The Q assure policy is a structural warranty provider that has support from a range of financial institutions and lenders ensuring that ZED PODs units are mortgageable. Their project engagement ensures that risk is constantly managed and reduced throughout the process

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CONSTRUCTING EXCELLENCE SECBE AWARDS 2022 WINNER

CONSTRUCTING EXCELLENCE South West CE SOUTH WEST AWARDS 2022 WINNER MMC AWARD

CONSTRUCTING EXCELLENCE South West CE SOUTH WEST AWARDS 2021 WINNER INNOVATION AWARD

INSIDE HOUSING DEVELOPMENT AWARDS 2021 WINNER

2021 CN AWARDS WINNER

Housing Digital_ Innovation Awards

RES AWARDS HIGHLY COMMENDED

STRUCTURAL TIMBER AWARDS 2020 WINNER

INSIDE HOUSING DEVELOPMENT AWARDS WINNER

insider RESIDENTIAL PROPERTY AWARDS 2020 WINNER

Building AWARDS 2020 Finalist

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