



## **Bicester Exemplar Site**

### **Plot 313**

Design & Access Statement



Bicester Exemplar Site - Plot 313  
Design & Access Statement  
produced for A2 Dominion  
by PRP Architects LLP

# Contents

## 1.0 Introduction

- 1.1 Introduction
- 1.2 Project Background

## 2.0 Site Location & Design Proposals

- 2.1 Site Location & Context
- 2.2 Site Layout & Access
- 2.3 Site Parking & Refuse
- 2.4 Design Proposal
- 2.5 Design Appearance
- 2.6 Materials
- 2.7 Landscape
- 2.8 Design Guidance

## 3.0 Environmental

Appendix A - Real Time Information Systems

Appendix B - Cycle Storage

# Introduction

# 1

## 1.1 Introduction

This design and access statement has been prepared by PRP Architects on behalf of A2Dominion.

The purpose of this document is to support and form part of a detailed planning application for design changes to plot 313, one of 393 plots with detailed planning consent under planning consent ref. 10/01780/HYBRID. This Design and Access Statement should be read alongside Barton Willmore's covering letter, which sets the context for the planning application, the scope of which has been agreed with Cherwell District Council..

This statement sets out both the design development that has taken place within the context of a consented scheme and the design principles that underpin the proposal.

## 1.2 Project Background

This site forms part of the first phase of development of the exemplar site under the wider NW Bicester Eco town. The exemplar site will provide 393 residential dwellings, a primary school, commercial and retail units (all of which secured planning approval as part of application reference 10/01780/HYBRID, consented in July 2012).

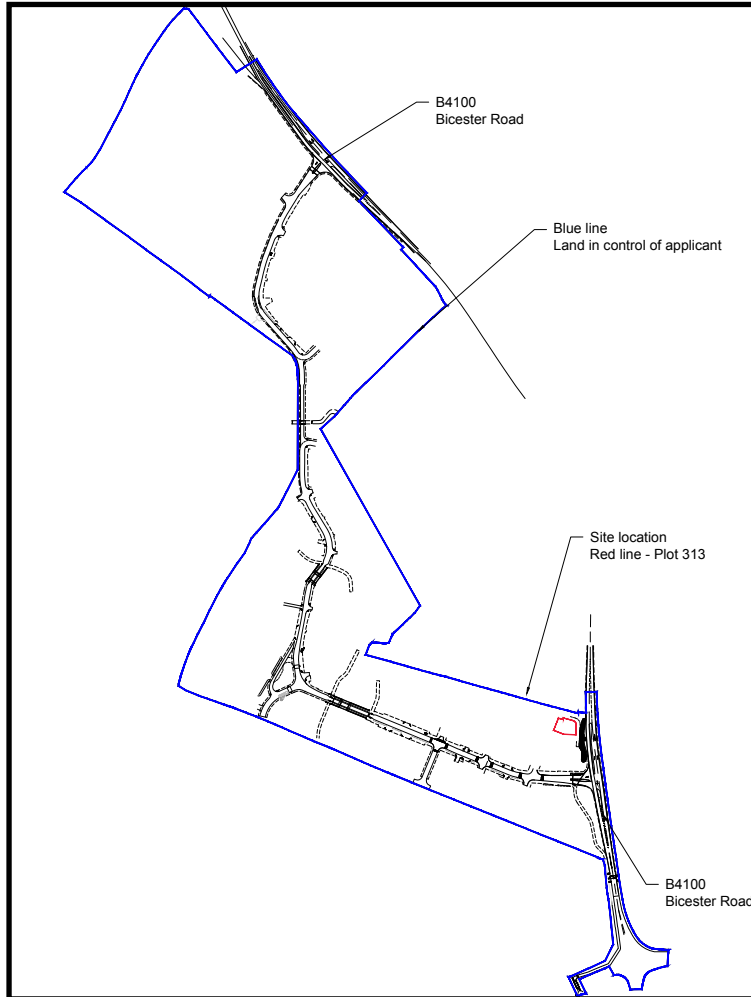
## 2.1 Site Location

The exemplar site will form one of the eastern most land parcels of NW Bicester and makes connections at two points with the B4100 via a spine road running through the consented development.

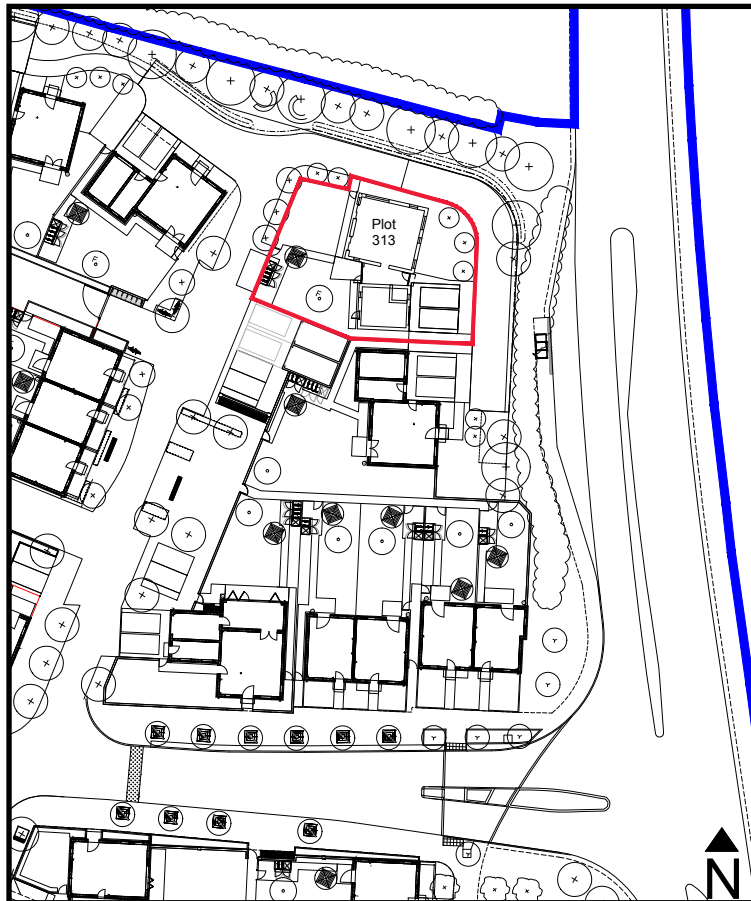
The consented scheme for the exemplar (reference HYBRID 10/01780/HYBRID) has been sub divided into four phases for ease of delivery and discharge of associated planning conditions. The phasing plan has been submitted to discharge planning condition 2 and forms part of the schedules to the Section 106 Agreement.



Exemplar Site Location



Plot 313 within the Exemplar Site



Plot 313 Red Line Boundary



## 2.2 Site Layout & Access

Plot 313 is located in the north east corner of the first phase. The approach to this dwelling is firstly by taking the spine road (indicated in Green, Figure 1) entrance from the B4100 which has been designed with traffic calming measures to encourage slower vehicular traffic speeds of approximately 20mph. From here one turns to enter one of the shared surface community streets (indicated in Blue, fig1). These areas too have been designed to actively encourage residents to use these outside spaces, encourage further slower traffic speeds and discourage on street parking. The final approach to the front of the plot is via the more informal 'green lanes' (indicated in Red, Figure 1) which look out onto the existing field hedgerows and beyond.



Figure 1 - Access Diagram



## 2.3 Site Parking and Refuse

Figure 2 below highlights both garage parking (1 space) and on plot - off street parking (2 spaces) within the layout design for Plot 313. These spaces have been indicated in Red.

Indicated in Green is the location of refuse Storage within the curtilage of the property. Refuse would be collected from the front/side boundary of the plot.

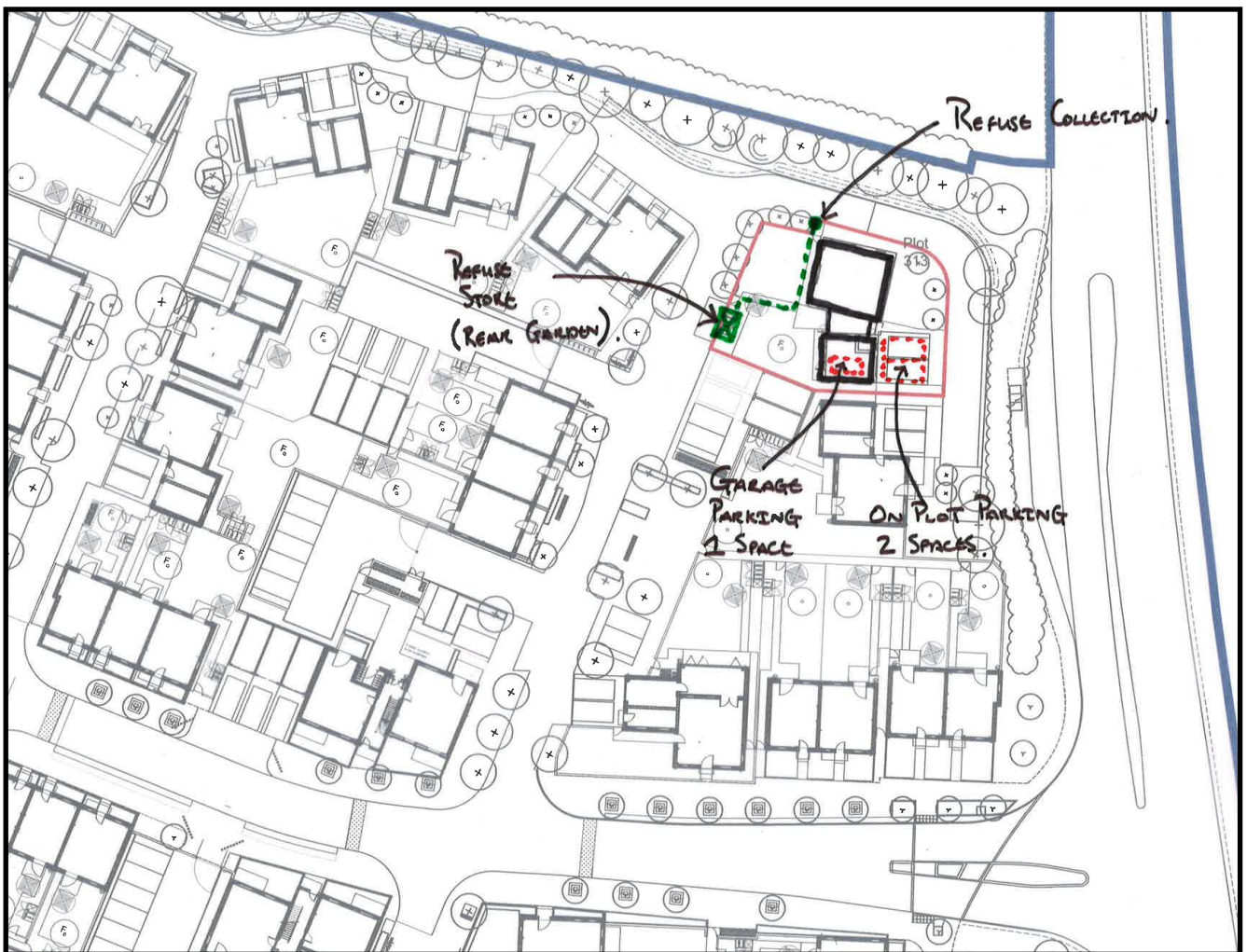


Figure 2 - Parking & Refuse

## 2.4 Design Proposal

The proposed new design for plot 313 seeks to be individual whilst at the same time paying due regard to the existing context in which the plot sits.

Many of the larger 5 bed dwellings in the Exemplar are situated on the perimeter edge of the southern field and offer views in/out across the adjacent farmland towards Home Farm. The design of these plots therefore has to be sensitive to the surrounding countryside.

The 5 bed homes in the Exemplar take the form of two connected blocks, one smaller than the other and arranged in a staggered formation to permit off street parking adjacent.

The proposed design for Plot 313 follows this massing principle. The accommodation is arranged over two floors and uses a flat roof element containing dwelling entrance and circulation spaces to divide the overall into two separated blocks with pitched roofs.

The majority of 5 bed dwellings in the Exemplar, have been designed in the 'Type 1' (fig 4) elevation style with a horizontal band at first floor window cill level separating a dominant material below from a band of render above. Detailing of openings and eaves / verges etc. The design follows a broadly traditional approach with expressed lintels and cills to openings, clipped verges to gable ends and corbels to terminate the ends of any eave projections.

Plot 313 seeks to create distinction between itself and other 5 bed units in the Exemplar by using the crisp, clean detailing, that can be seen in the 'type 3' elevation style (fig 5).

Plot 313 (fig 6) uses tall narrow windows are predominant, with some adjacent panels of horizontal timber cladding detailing where a relationship between ground and first floor windows is desired. To distinguish between roof styles, the roof material changes to standing seam, making this plot unique.

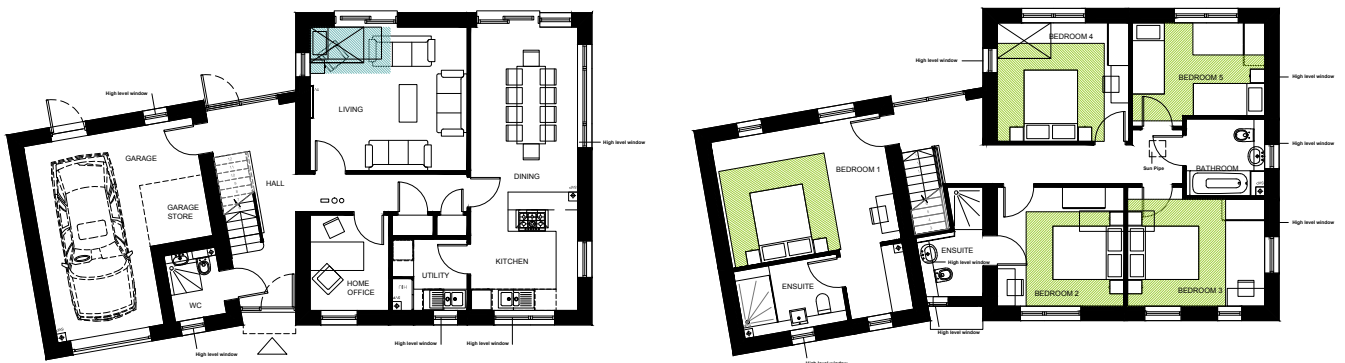


Figure 3 - Proposed Plot 313 Plans



Figure 4 - Type 1 Elevation

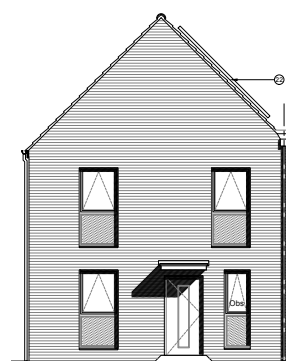
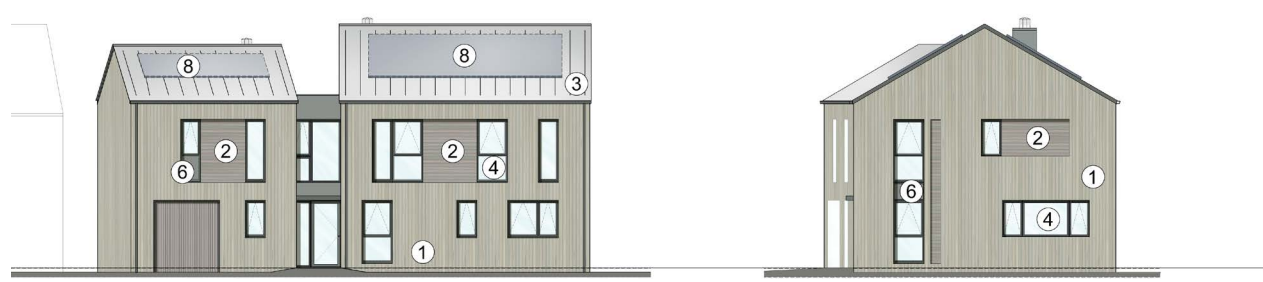


Figure 5 - Type 3 Elevation



Front

Side 1



Rear

Side 2

Figure 6 - Proposed Plot 313 Elevations

- ① Vertical timber cladding - Thermowood, untreated natural finish.

② Inset Horizontal timber cladding - Thermowood untreated natural finish

③ Metal standing seam roof
- ④ High performance triple glazed composite timber windows. Colour: Grey RAL 7015

⑤ Vertical timber door

⑥ Grey powder coated metal spandrel panel in composite timber frame. Colour: Grey RAL 7015
- ⑦ Indicative location of roof vent

⑧ Indicative location of PVs

## 2.5 Design Appearance - Corner Facade

Plot 313 acts as a marker building to the development and as such the side gable has been designed with a double height feature window with a saw tooth brick detailing to the side, whilst the front elevation responds with a series of punched apertures, with similar brick detailing to that of the gable.

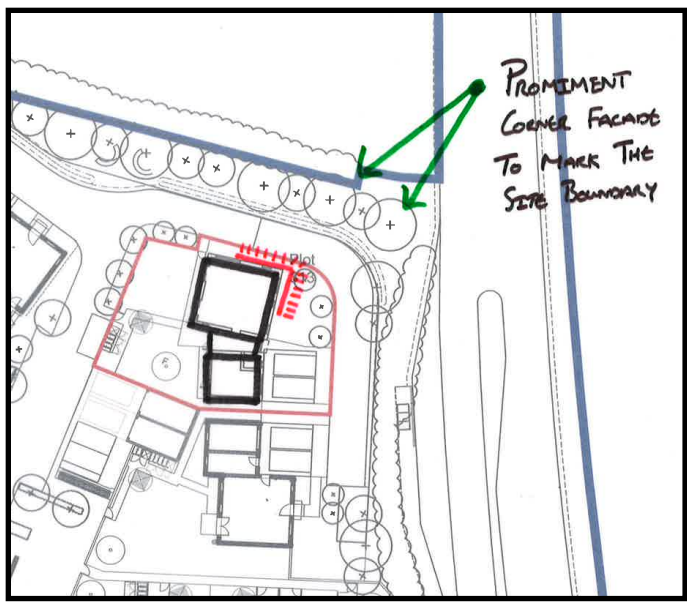
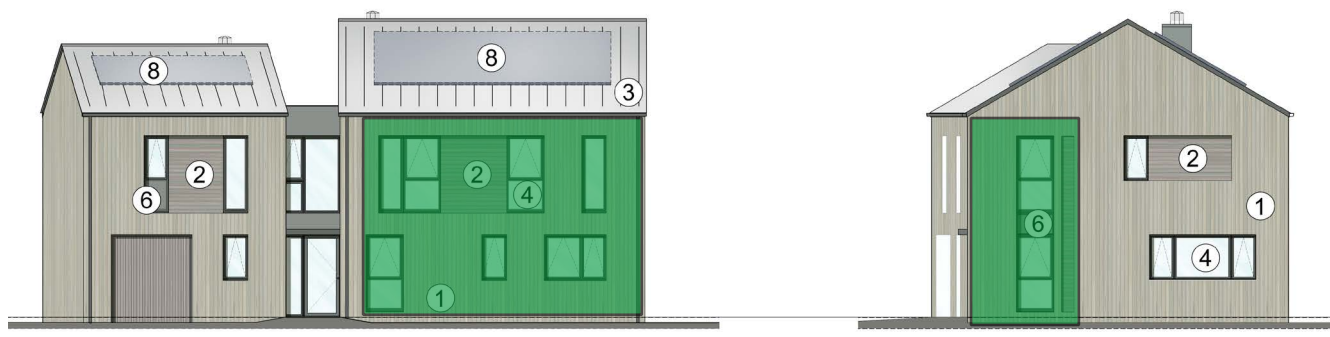


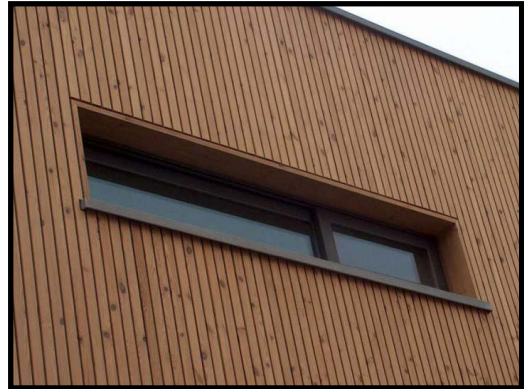
Figure .7 - Feature Gable Diagram



- ① Vertical timber cladding  
Thermwood, untreated natural finish.
- ④ High performance triple glazed composite timber windows. Colour: Grey RAL 7015
- ⑦ Indicative location of roof vent
- ② Inset Horizontal timber cladding - Thermwood untreated natural finish
- ⑤ Vertical timber door
- ⑧ Indicative location of PVs
- ③ Metal standing seam roof
- ⑥ Grey powder coated metal spandrel panel in composite timber frame. Colour: Grey RAL 7015

## 2.6 Materials

The thermowood shown opposite, allows the proposal to be in keeping with it's surrounding context of Home Farm, whilst doing something unique from the surrounding new buildings of the Exemplar. This change in material marks the boundary the Exemplar.



Precedent - Thermowood

The standing seam roof precedent shown opposite will provide a unique roof material to plot 313, enhancing the character of this plot, making it a feature building to define the edge of the development. The standing seam references the 'barn like' element of this plots design.



Precedent - Standing Seam Roof

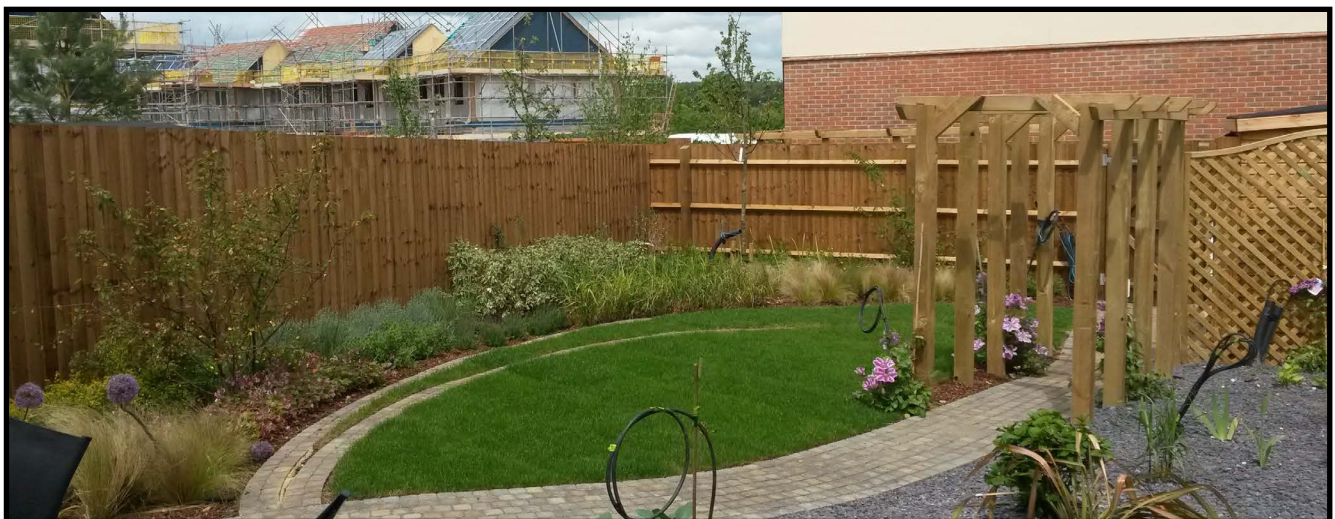


## 2.7 Landscape

Plot 313 will have access to both a rear and front garden with landscaped paths for access around the garden to the cycle (appendix B) and refuse store and to a gated access on the northern side of the property. The rear boundary of the property will be a 1.8m fence. The rear garden will have an area of 170 sqm whilst the front and side garden will be 74 sqm. The diadram (fig 8) below indicates the front and rear garden and the access paths within it. Also shown below is a precedent image of the design intent for the landscaped gardens.



Fig .8 - Landscape Diagram



Rear garden precedent of design intent

## 2.8 Design Guidance

### Lifetime Homes

The proposed dwelling has been designed to meet all 16 points of the Lifetime Homes criteria. This will permit most dwelling occupants to use, or with small adaptations, stay in their homes for longer and not be impeded by the need for large scale costly alterations to meet their changing requirements

A brief summary of some of the features include:

- Off street parking with potential for future adaptation to increase width for wheelchair use
- Level (or gently sloping) approach to entrances and level thresholds to all doors
- Minimum entrance level facilities including Living room & WC (with future adaption to a wetroom)
- Min. clear widths of internal doors to permit improved circulation by wheelchair users
- Provision for dealing with circulation between floors
- Adequate circulation around furniture
- Accessible services and window / door controls

## 3.1 Environmental

Attached to the Hybrid planning permission is Condition 11 which states:

"Plots 2, 30, 113, 114, 115, 126, 127, 128, 129, 130, 131, 172, 173, 174, 226, 227, 281, 282, 283 and 313 the house designs shall be constructed with passive ventilation and thermally massive floors to reduce heat gain and loss as set out in the Design and Access Statement accompanying the application, in accordance with details that have first been agreed in writing by the Local Planning Authority."

### **Passive ventilation strategy**

It is proposed to use a proprietary passive ventilation with heat recovery (Ventive) to provide ventilation for plot 313. This system combines passive stack ventilation system with heat recovery and so provides a non-mechanical alternative to MVHR. A passive ventilation strategy (especially night time cooling) needs to work in conjunction with thermally massive elements to generate a flow of air through the dwelling. This will provide a self-regulating environment and reduce the risk of overheating.

### **Thermally massive floors (TMF)**

The objective of a thermally massive floor is to absorb daytime heat gains until exposed to the cooler evening/night environment when the heat is released. This works mainly through the ability of internal mass to capture and recycle heat gains from south and West facing windows. To be effective TMF's rely on direct exposure to the sun's rays through the glass. In addition the thermal mass should ideally be at ground floor level so that heat may rise through the first floor and out of the dwelling through open windows by means of passive stack effect. Thermally massive floors are provided for unit 313 in the form of the beam sand block concrete floors at ground level.

### **Fabric Energy Efficiency (FEE)**

The proposed redesign of unit 313 reduces the level of thermal bridging compared to the consented design and allows the building to achieve the required FEE standard of <46 kWh/m<sup>2</sup>/yr.

### **Real Time Information Systems.**

The Shimmy product for real time information updates will be provided for this plot. Please see appendix A for further details.







# Shimmy



## Product Description

Version 014-1215  
William Box, Carnego Systems

## Introduction

This document is the Product Description document for Shimmy from Carnego Systems Ltd. It provides a description of the main product features, details of the Shimmy Screen and associated information.

This document is provided for information. It does not form part of any agreement between Carnego and its customers unless explicitly stated in agreed set of contract terms and conditions. Where there is any disagreement between this document and an agreed set of contract terms and conditions, the statements within the agreed contract terms and conditions take preference.

## Overview

Shimmy is a home based system to provide real-time data and information to residents. It is primarily designed to support complete communities rather than individual houses and as such is offered for sale to developers / owners / designers of both new-build and existing housing. There is no minimum number of houses that can be supported but it believed to be most effective for 10+ homes in a clearly defined community. The principal target group is communities of 100+ homes.

Shimmy is a cloud-based internet application. Data is collected from a number of sources (including residents' houses) and stored in a cloud-based database. The live data (and static information) is then used to provide a tailored resident interface. This interface can be normally accessed via a dedicated Shimmy Screen within the home. It can also be securely accessed online via computer / smartphone etc.

There are also a range of management and admin features that allow Carnego and its client to manage and monitor the usage of the system and provide capabilities for updates. As the system is internet based, the content and capabilities of the system can be expanded remotely without the need to upgrade or reinstall devices in the home.

The Shimmy application runs in the cloud. There are 2 dedicated apps that run in background on the Shimmy Screen but these are only to facilitate the monitoring of the device and future upgrades.

## Shimmy Screen

### Device

The Shimmy Screen device is a standard Android tablet. The recommended range of sizes are 7", 8" and 10" from major manufacturers. The tablet should have a forward facing camera (i.e. facing the user) for all features to be supported..

### Mounting

The Shimmy Screen can be:

- permanently mounted via a fixed wall bracket
- demountable via a fixed wall bracket that allows for device removal.
- shelf / table-top via a cradle / mount (with power connection to standard 230V socket)

## Data Management

Data is stored in a secure, 'cloud-based' database.

Personal information (if any) is not stored in the same database as home details, energy data and other data.

Access to the stored data is provided for designated users only and is subject to a terms of access statement.

Further technical details of data structure, API, backup / archive etc. can be supplied to customer technical representatives upon request.

## Product Feature Summary

### Home Energy Management & Behaviour

Home Energy Management & Behaviour		
Electricity Meter Data Management & Display	Collection of metering information. Details of meter interface to be agreed on case-by-case basis. Includes support of PV generation information where appropriate. The intention is to support SMETS2 smart meter integration as this technology is deployed in the UK.	√
Gas Meter Data Management & Display	Collection of metering information. Details of meter interface to be agreed on case-by-case basis. The intention is to support SMETS2 smart meter integration as this technology is deployed in the UK.	√
Water Meter Data Management & Display	Collection of metering information. Details of meter interface to be agreed on case-by-case basis.	√
Heat Meter Data Management & Display	Collection of metering information. Details of meter interface to be agreed on case-by-case basis.	√
Multi-Energy Visualisations	Multi-visual representations of energy usage based on behavioural research (i.e. not a single interface display)	√
Code for Sustainable Home	Supports ENE3 requirements (2 credits possible)	√

## Communication & Community Development

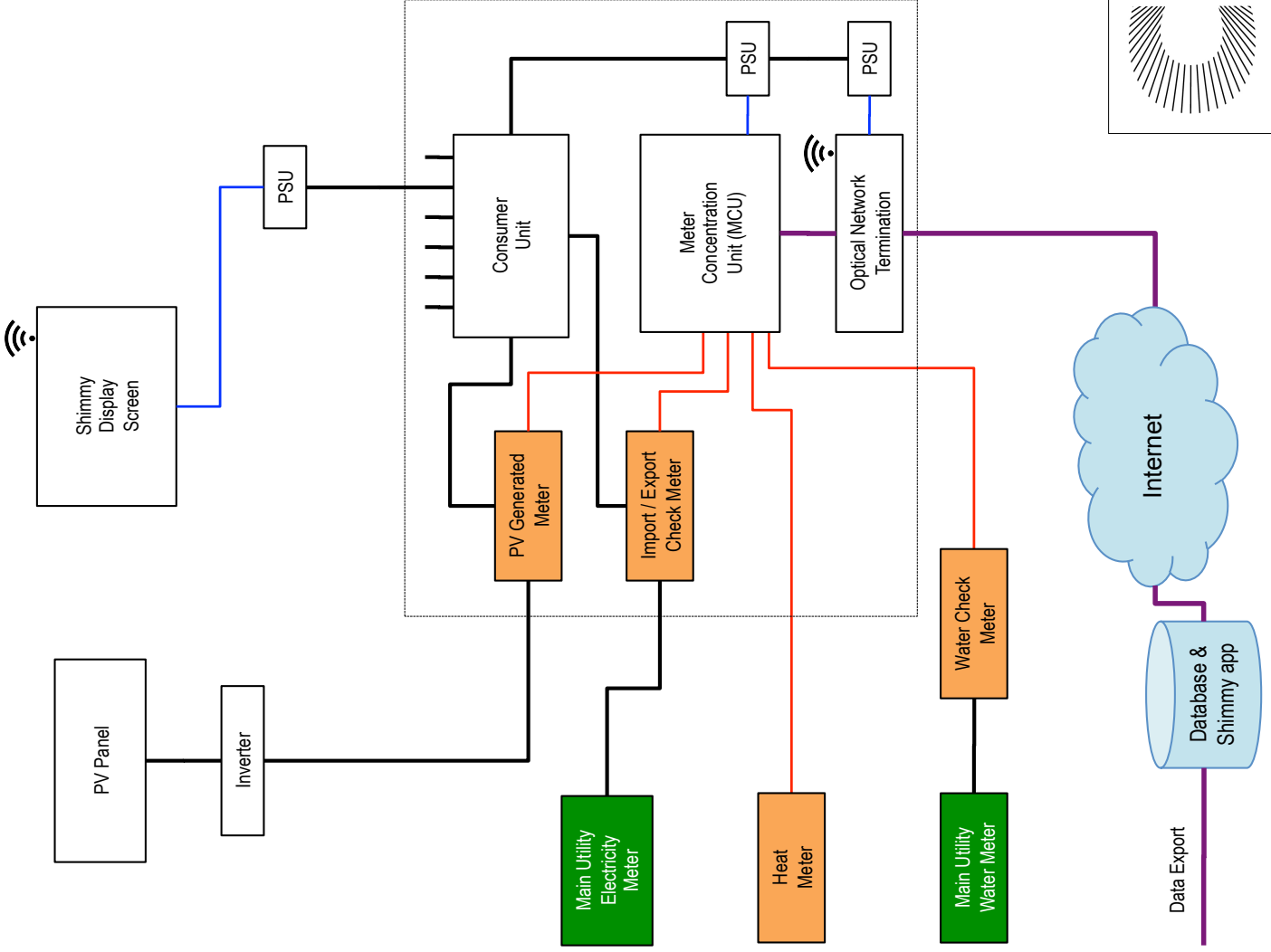
Communication & Community		
Bus Information		
Community messaging	Exchange of messages between groups of homes and between homes and owner/landlord.	√
Community calendar	Integration and display of community calendar via Google calendar and /or other mechanisms.	√
Classified Community Ads	Classified ads board similar to boards often found at rear of supermarkets.	√
Home Information	Integration of information about the home, the systems within it and how it should be used. Text, images and video all supported. Recommended to be used for 'How To' videos for residents.	√
Internal environment sensing	Collect, storage, analysis and display of internal environment data (e.g. temp, humidity). Requires additional in-home sensors.	√
Community information	Local community information (vast range of potential sources).	√
Notes & reminders	Reminders can be created in house using 'sticky pad'.	√
Alerts	Alerts can be provided ad-hoc or scheduled by developer / owner.	√



## Transport

Transport Information		
<b>Bus Information</b>		
Real-time information	Real time feed showing 'next bus' information for routes serving the development utilising transport provider published via UK government arrangements.	√
Timetable information	Fixed (but updatable) information showing 'next bus' information for routes serving the development.	√
Custom solution	Integration with customised vehicle tracking applications.	√§
Link(s) to transport provider information	Links to web-based info from transport providers	√
<b>Road Traffic Information</b>		
Local traffic information	Real-time feed from local publishers of live traffic information	√
Major road network traffic information	Real-time live information on conditions on major road network.	√
Local Car Park Occupancy	Real-time occupancy levels in local car parks. Dependent upon data collection & publication by car park operator.	x
<b>Cycling Information</b>		
Local cycling maps	Viewable maps from local sources	√
Cycling workshops	Details of workshops that can be co-ordinated with local providers	√
General information	Other relevant information	√
<b>Walking Information</b>		
Local walking route information	Viewable maps and route information from local sources	√
Routes to Schools	Any recommendations published by local schools / authorities on the best ways to walk to school. Information on any school walking clubs etc.	√
<b>Journey Planning / Decision Making</b>		

Online journey planner	Connection to UK government online journey planner.	√
Transport carbon calculator	Link to carbon calculator for journeys by various modes.	√



**CABLE SCHEDULE**

Ref	Description	Protocol
-----	-------------	----------

Data cables – Belden shielded

- |   |                                    |                       |
|---|------------------------------------|-----------------------|
| 1 | PV generation meter to MCU         | Modbus / MBus / pulse |
| 2 | Import / Export Check meter to MCU | "                     |
| 3 | Heat meter to MCU                  | "                     |
| 4 | Main water meter to MCU            | "                     |
| 5 | Rainwater meter to MCU             | "                     |

Low voltage power (5 - 24V)

- |   |                                    |     |
|---|------------------------------------|-----|
| 6 | LV cable to Shimmy Screen (hidden) | n/a |
| 7 | PSU power cable to MCU             | n/a |
| 8 | PSU power cable to Network         | n/a |

Networking

- |   |                                 |  |
|---|---------------------------------|--|
| 9 | Network cable to Network Router |  |
|---|---------------------------------|--|

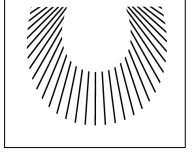


Utility company meter

NW Bicester project meter

**NOTES**

- 1 Assumes physical network connection to house. Could be site-wide overlay wifi network.
- 2 Assumes reading taken from main water meter. Could use an internal check water meter with data cable to MCU
- 3 Heat meter to be battery, or mains / LV powered?
- 4 All connected meters to have maximum available granularity of readings (e.g. elec meters to 0.001 kWh if possible).



**Shimmy / Metering Schematic**

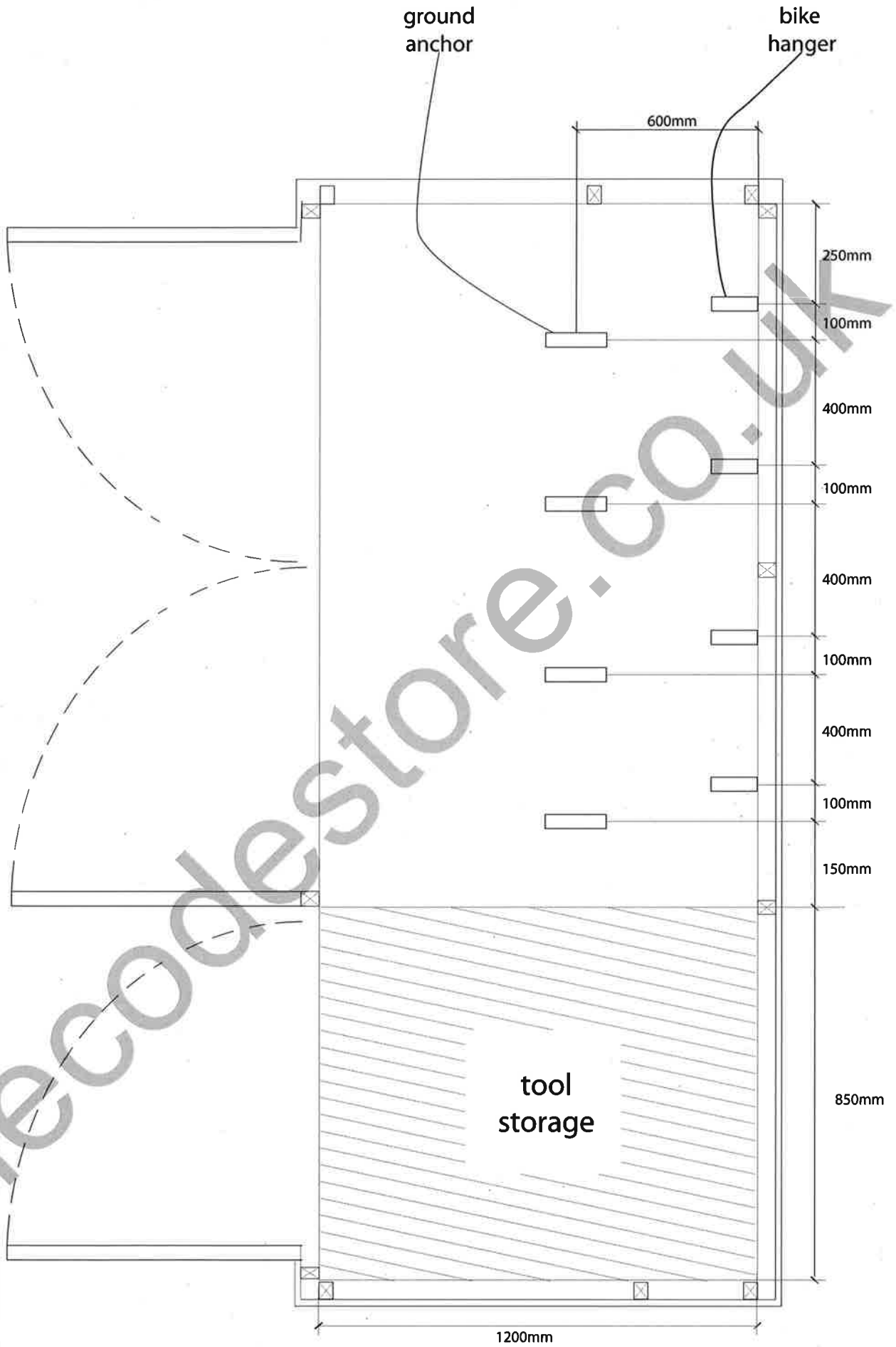
Project: NW Bicester

Draw No: NWB/001/E

Date: 2nd April 2013

Status: For comment





DWG TITLE: Code Shed Plan		SCALE: 1:10 (@A3)	
www.thecodestore.co.uk		DWG. NO. CS1P	

External Dimensions: 2950mm x 1300mm

Code Hanger Shed - 4 bike

Not to Scale





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