Hole Farm, Essex
Design and Access Statement

May 2023

Planning and listed building consent application

375-FP-HF-DAS

Revision 10.0

fereday pollard

www.fereday-pollard.co.uk | 30 Kings Bench Street, London. SE1 0QX

Contents

This project presents a unique opportunity to create a biodiverse woodland habitat for wildlife, people and the environment through the transformation of former farmland.

1.0 Executive summary

This Design and Access document outlines the site context, design decisions and access arrangement for a unique project transforming former agricultural land of low-ecological value into a new community woodland at Hole Farm, Essex.

Fereday Pollard have been commissioned to coordinate the design for the planning and listed building consent application on behalf of the applicant Forestry England, who are taking on a long-lease to grow and nurture this piece of land, and landowners National Highways who seek to provide and support positive local community assets.

The primary objectives of the proposal are environmental and community benefits, extending the Thames Chase Community Forest woodland network and providing amenity for the local community. The design objectives stem from aspirations for low carbon and low energy use of minimal environmental impact, maximum ecological benefit and to set a precedent for responsible building practices into the future.

The masterplan for the woodland has been created by Forestry England and is subject to a separate Environmental Impact Assessment (EIA) for Afforestation application. The proposals in the planning and listed building consent application use this vision for the landscape as the proposed setting for the buildings and structures.

Planning and listed building consent application documents:

The document is to be read in conjunction with the following documents that comprise the planning and listed building consent application:

- Planning Statement, Jacobs
- Design and Access Statement, Fereday Pollard
- Transport Statement, Jacobs
- Road Safety Audit, Jacobs
- Designers Response to Stage 1 Road Safety Audit, Jacobs
- Sustainability Statement, Arcadis
- Equality Impact Assessment, Forestry England
- Health Impact Assessment, Jacobs
- Consultation Report, LUC (Land Use Consultants)
- Arboricultural Impact Assessment and Method Statement, TR33 Limited
- Archaeological Desk-based Assessment, Place Services
- Heritage Statement and Impact Assessment, Oxford Archaeology
- Interpretation Strategy, Forestry England
- Flood Risk Assessment, ICF
- Drainage Strategy Report, Cowi
- Ecological Impact Assessment, Jacobs
- Bat Survey Report, Atkins
- Badger Survey Report, Atkins
- Preliminary Ecological Appraisal Survey, Sonar Ecology
- Great Crested Newt Survey, SureScreen Scientifics
- Waterbody Concept Plan, Forestry England
- Security Plan, Forestry England
- Structural Survey Report, Imperium Engineering
- Asbestos Survey Report, Imperium Engineering

Consultant design team

Architecture and design - Fereday Pollard
Planning consultant - Jacobs
Landscape masterplan - Forestry England
Heritage - Oxford Archaeology
Highways engineer - Jacobs
Drainage - Cowi
Foul Drainage - Arcadis
BREEAM - Arcadis
Ecology - Arcadis
Structures – Arcadis
MEP & Services – Arcadis
Car park - LDA Design
Ecology - Arcadis
Flood - ICF

2.0 Project description

The creation of a community woodland facility comprising: vehicular access into a 94-space car park, with overflow area and access to a Public Right of Way; substation; an open sided visitor shelter; a modular café with covered outdoor seating area, bin store, cycle parking and WC facilities; demolition of a Grain Store and development of a community building including staff welfare and office facilities and outdoor terrace; informal car and cycle parking; demolition of an Agricultural Machinery Store and construction of a Forestry England Barn; service yard and vehicle turning circle; surfaced and unsurfaced woodland paths; creation of ponds; countryside heritage and interpretation and informal natural play areas at Hole Farm Lane, Great Warley, Brentwood, Essex CM13 3JD.

3.0 Introduction

The site is located just outside of the metropolitan administrative boundary of Greater London, adjacent to the M25 and within the varied landscape of countryside and settlement of South Essex.

The Hole Farm site was a working farm until September 2022. The former owners will retain ownership and residence of their farmhouse, a Grade II listed building within the central farmyard cluster of buildings. The modern industrial farming methods prevalent in this industry have rendered the land of low-ecological value with limited biodiversity.

The site is within policy areas of Metropolitan Open Land and as agriculture and within the vicinity of listed buildings, requires a sensitive response from the proposed landscape and architecture design. A contextually appropriate design fulfilling protective planning policy is crucial.

The climate emergency highlights requirement for architecture and construction to respond with innovative and imaginative proposals utilising low-carbon, low energy design, servicing and materials. The proposals take every opportunity for an environmentally sustainable and responsible approach.

The proposals are separate to but incorporate the landscape masterplan for the site by Forestry England, which is subject to a Environmental Impact Assessment (EIA) for afforestation application. This planning and listed building consent application includes proposals for demolition of some existing buildings; new buildings for Forestry England to manage and maintain the woodland; accommodation of and facilities supporting a community tree nursery and community space; a new access strategy including a new entrance and car park off Great Warley Street; modular café and toilets to the public entrance area; cycle parking; accessible pathways; upgrade to the existing Hole Farm Lane; turning circles; and T-bays to accommodate forest management and maintenance activity.

A suggested name for this new community woodland is ‘Pilgrims Wood’, however it is subject to further consultation by Forestry England prior to finalisation. It’s aim is to bring together these aspirations to connect the land to the network of Thames Chase Community Forest and to regenerate this piece of land into a harmonious, thriving natural hub for wildlife, trees and people to enjoy.

4.0 Context

4.1 Site location

The site is located within the county of Essex, just east of the administrative boundary dividing Greater London. The site falls under Brentwood Borough Council, within a mixed grain and scale of metropolis, suburbia, farmland, light industry and country park.

The geology of the area is relatively low-lying and gradually rising northwards of the river Thames in platforms referred to as the Romford Steps, noticeable in the gradient on the site creating gentle slopes and providing views from the north down towards the south. As part of the river plains, the area was historically marshy, earning the local name 'Land of the Fanns' relating to fenland. The site relies on ditches to drain the wet land.

The proximity to the city of London and to the River Thames means the area is steeped in history.

Aerial photograph of site in relation to wider context

Site location

The site is close to 100 Hectares of former agricultural land to the south-west of the village of Great Warley. It is 2.8km south west of the town of Brentwood. The site lies between the M25 London Orbital to the west and the B186 Great Warley Street to the east. Junction 29 of the M25 lies a mile to the south.

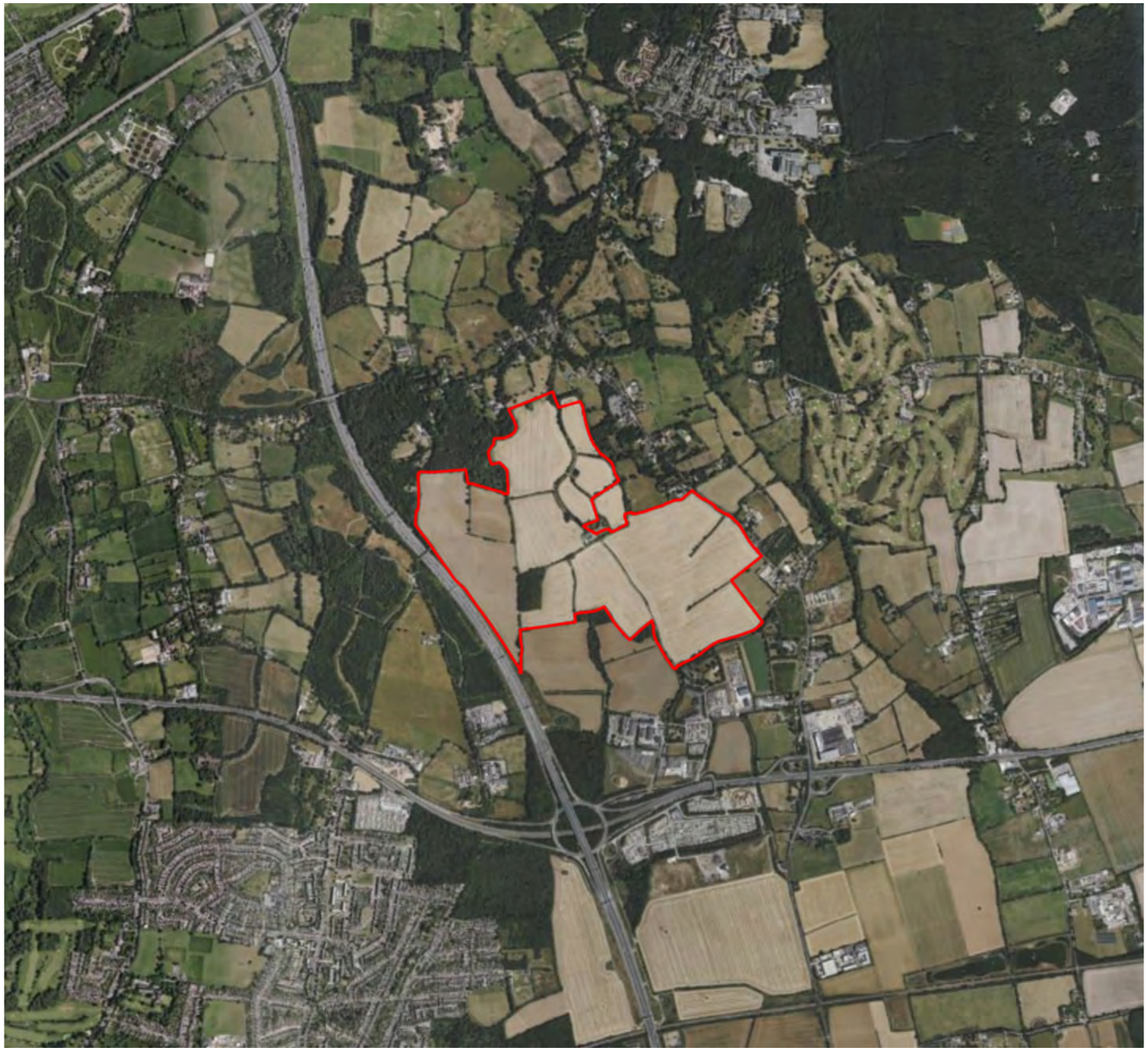
The northern boundary is predominantly residential, featuring large detached homes within private gardens, as well as some small businesses and De Rougemont Cricket Ground. The south-east section of the road meets Codham Hall lane, which is the primary entrance point for the farm. The south-west boundary features the Codham Hall Farm industrial estate and other surrounding light industry.

Central to the eastern boundary is St Mary the Virgin churchyard featuring a Grade I listed church, an unusual and local church with a particularly special example of a carved Tudor gateway and a timber shingle clad turret.

The site has been a working agrarian farm utilising modern industrial farming methods over the second half of the twentieth century up to 2022.

Linked by a footbridge over the M25, Folkes Lane Woodland connects the site to the local network of Thames Chase Community Forest.

The aerial photograph illustrates the scale of the farm and proximity to the London Orbital.



Aerial photograph of site

4.2 Site photographs: Existing landscape

View of M25 in distance from northern boundary

View of farmyard from south

4.3 Site photographs: Existing setting

Building 1 left, Building 2 right

Building 3 in foreground

View along site western boundary

View over site from west with farmyard buildings in distance

4.4 Site photographs: Existing buildings

Building 1 – Grain Store (17m x 18m)

Steel framed construction on a block plinth with corrugated asbestos elevations, concrete floor, grain walling with a roller shutter door to front elevation and sliding doors to rear.

Building 2 – Agricultural Machinery Store (24m x 24m)

Timber frame construction with block plinth and timber clad elevations under corrugated asbestos sheet roof. Concrete floor to centre and hard-core either side. The building is open fronted and open to the rear.

The following buildings are part of the contextual setting but are not part of this application:

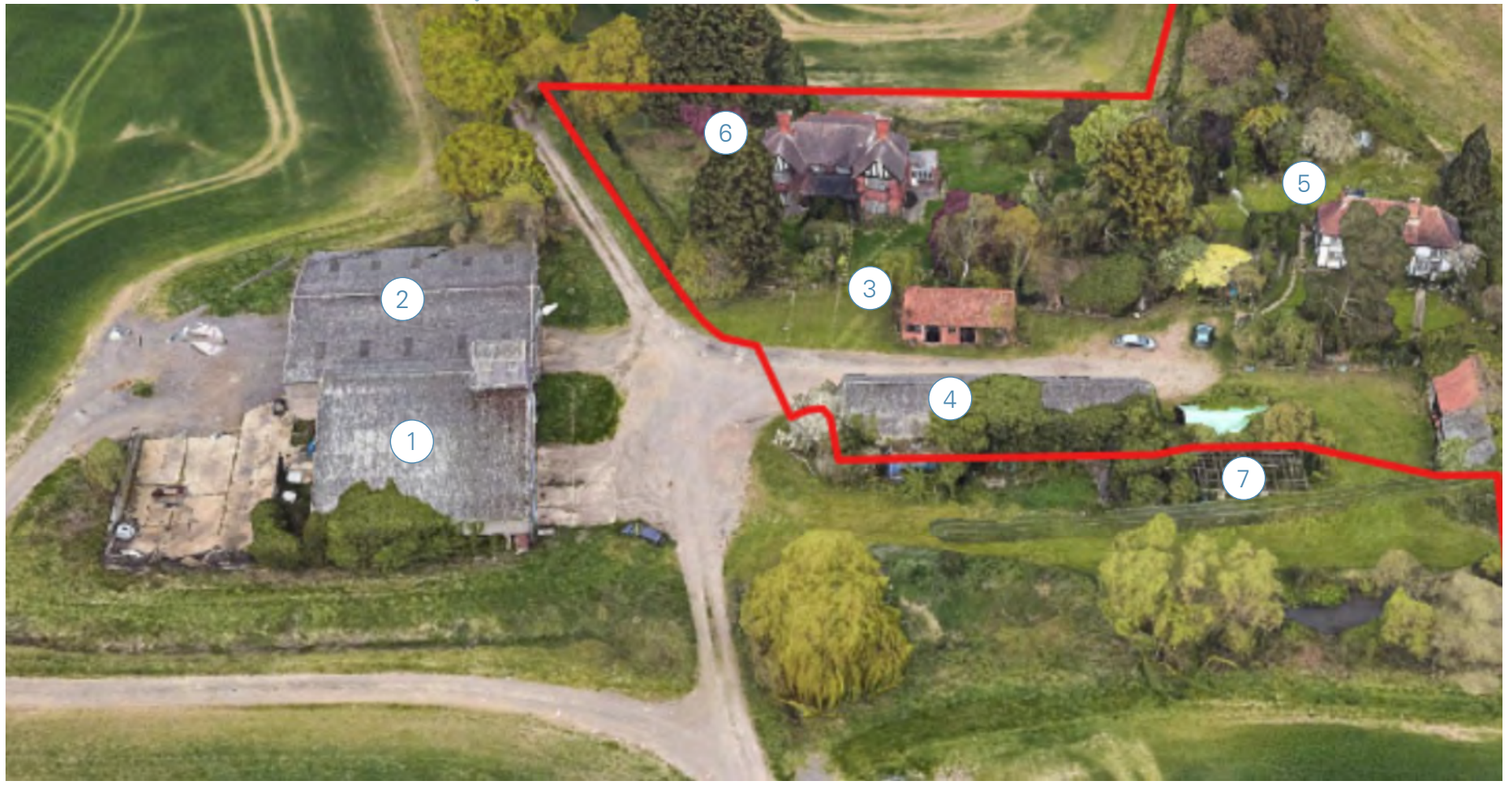
Building 3 – Small brick structure (10m x 5m)

Building 4 – Open fronted shed (28m x 6m)

Building 5 – Grade II listed Farmhouse

Building 6 – 1930's Semi-detached cottages

Building 7 – Disused structure



Aerial view of farmyard building cluster (NB - redline denotes site boundary)

Site photographs: Existing buildings

Building 1

Building 2

Building 3 - not part of this application

Building 4 - not part of this application

Building 5 - not part of this application

Building 6 - not part of this application

4.5 Planning policy context

Please refer to Planning Statement for full report on the planning policy context.

The site falls within Brentwood Borough Council and Essex District Council. The design has evolved in line with policy to ensure a context-led, heritage sensitive, sustainable community project with a low-carbon environmental approach. Key policies are outlined below:

Green Belt Metropolitan Open Land Policy MG02

Paragraph 149 instructs local planning authorities to regard the construction of new buildings as inappropriate in the Green Belt. Exceptions to this include

a) buildings for agriculture and forestry;

b) the provision of appropriate facilities (in connection with the existing use of land or a change of use) for outdoor sport, outdoor recreation, cemeteries and burial grounds and allotments; as long as the facilities preserve the openness of the Green Belt and do not conflict with the purposes of including land within it;

Certain other forms of development are also not inappropriate in the Green Belt provided they preserve its openness and do not conflict with the purposes of including land within it. Relevant to this project is included

(b) engineering operations;

Brentwood Local Plan

- BE01 Carbon Reduction and Renewable Energy,
- BE02: Water Efficiency and Management,
- BE03: Establishing low carbon and renewable energy infrastructure network
- BE14: Creating successful places
- BE15: Planning for inclusive communities
- BE16: Conservation and enhancement of Historic Environment

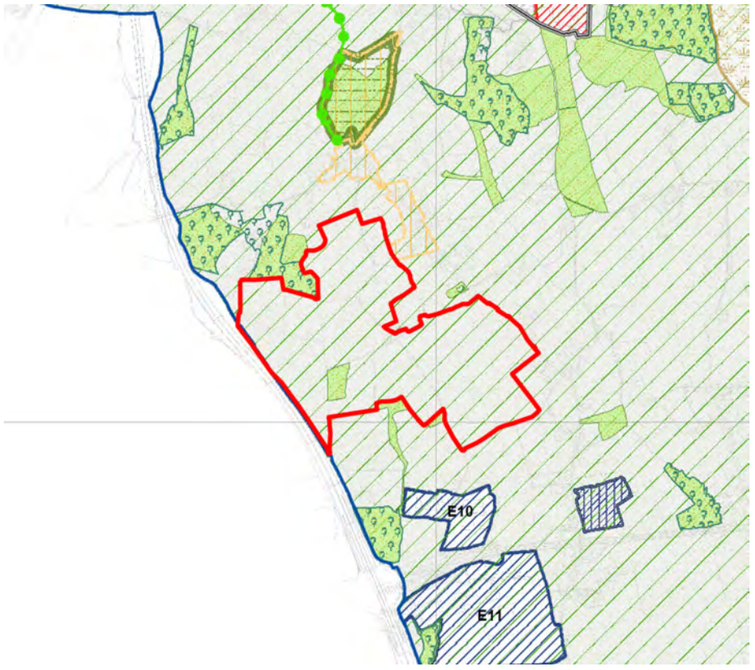
Major developments over 0.5Ha are required to achieve a **BREEAM Excellent** rating to ensure a suitably low-carbon, energy efficient design.

Major developments are also required to achieve a 10% reduction in carbon dioxide emissions above Park L Building Regulation requirements.

The proposal will be required to meet a minimum of 10% of the predicted energy needs of the development from renewable energy.

There is a Grade II listed farmhouse in the centre of the site, making the buildings cluster a heritage setting. The site is also bordered by the churchyard with Grade I listed church of St Mary the Virgin. The site is close to a Conservation area of Great Warley.

Further policy documents directing proposals include:



Thames Chase Community Forest (see page 17)

The Essex Design Guide

Essex Parking Standards

SuDS guidance

4.6 Ecology

Please refer to Ecological Surveys and Ecological Impact Assessment for further details on the below:

Preliminary Ecological Appraisal

This was carried out by Sonar Ecology in June 2021. The report found the majority of the dominant arable habitat on site of low-ecological value, due to the history of managed arable farming. However, there is moderate to high ecological value in the existing mature trees, tree lines, hedgerows and waterbodies on site.

There are no special policy areas on site, however, within a 2km radius there are 14 Local Wildlife Sites / Sites of Importance for Nature Conservation. There is 1 Site of Special Scientific Interest (SSSI) 2.2km northeast of the site and 1 Local Nature Reserve 1.9km south of the site. Liaison with the local Natural England team and good construction practices are recommended to mitigate any impact on these sites.

There was evidence found on site of badgers and owls, as well as, structures suitable for bats. This led to the commission of further surveys for bats, badgers, breeding and wintering birds, and great crested newts.

Ecological recommendations for additional enhancements to the early Forestry England masterplan were responded to with design adaptations to increase the diversity of new habitats for wildlife corridors, wildflowers, rough grasslands, waterbodies and connectivity as well as infill of native species to gaps in retained hedgerows and edge habitats and creation of logging related habitats for varied amphibians, reptiles, birds and insects.

Surveys, Outline Ecology Report

In 2022 Atkins carried out and reviewed surveys on the following species:

Bat roost presence

Common and Soprano pipistrelle bats were found in Buildings 1 and 2. Careful programming and licensing of demolitions will be required. Outside of the project boundary there was confirmed presence of brown long-eared bats in Buildings 3 and 4, including a maternity roost in [redacted]

Great Crested Newt presence

There were no findings by Forestry England's survey of existing ponds but given the drought experienced at the time of survey, June 2021, further eDNA sampling was taken in April 2023 by Arcadis and returned a negative result.

Badgers

Active badger setts were found off site, plus two partially active setts and an old sett now used by rabbits were identified. A disused sett and evidence of badger paths were found on site. This is good news for the biodiversity of the woodland and the proposals will all seek to avoid any impact upon the locations of these setts.

Construction management is crucial to the protection of this precious wildlife to a distance around the site. Exclusion zones will be setup where required. All recommendations for wildlife protection will be adhered to.

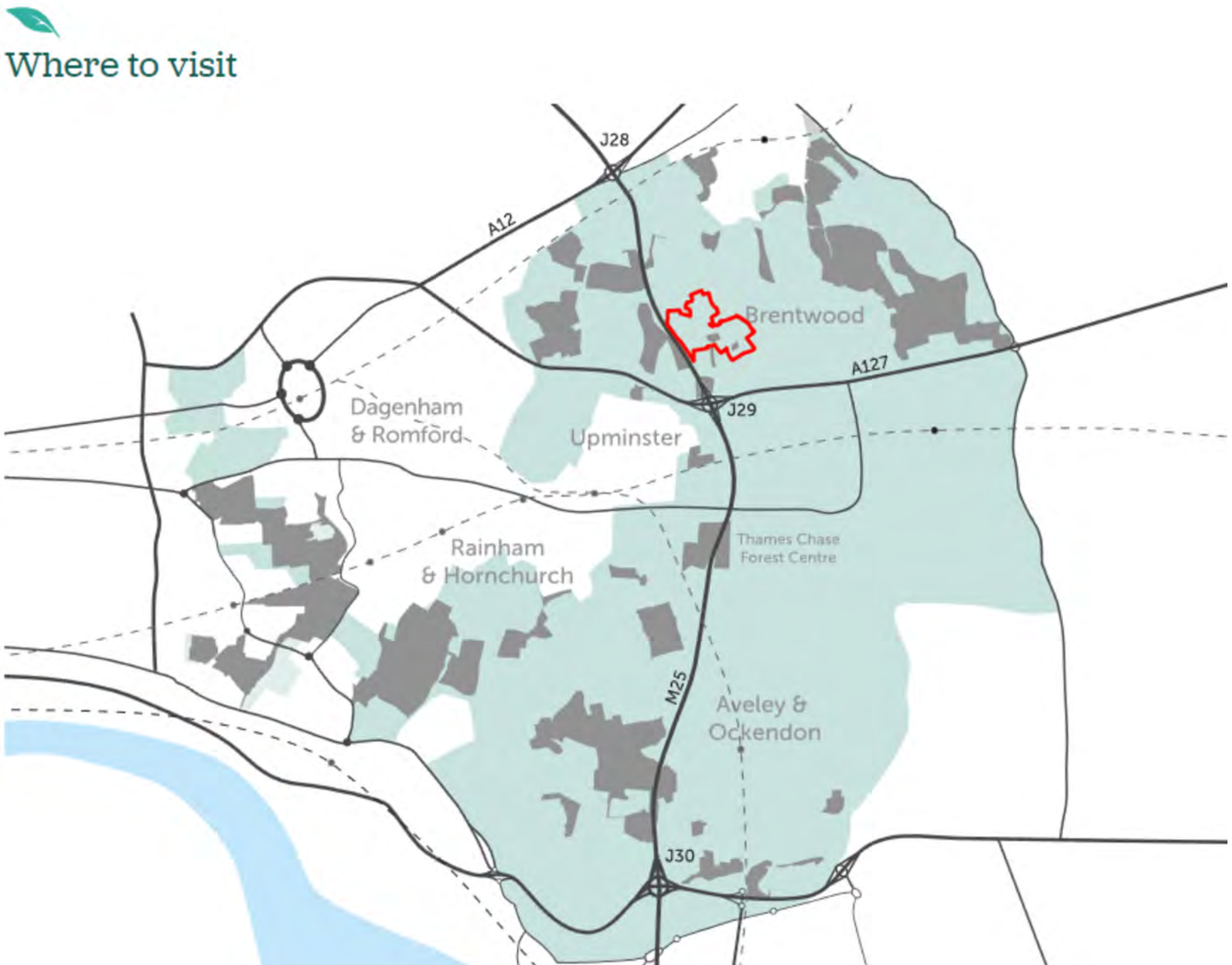
Brown long-eared bat, image: Woodland Trust

Badger, image: Scottish SPCA

4.7 Thames Chase Community Forest

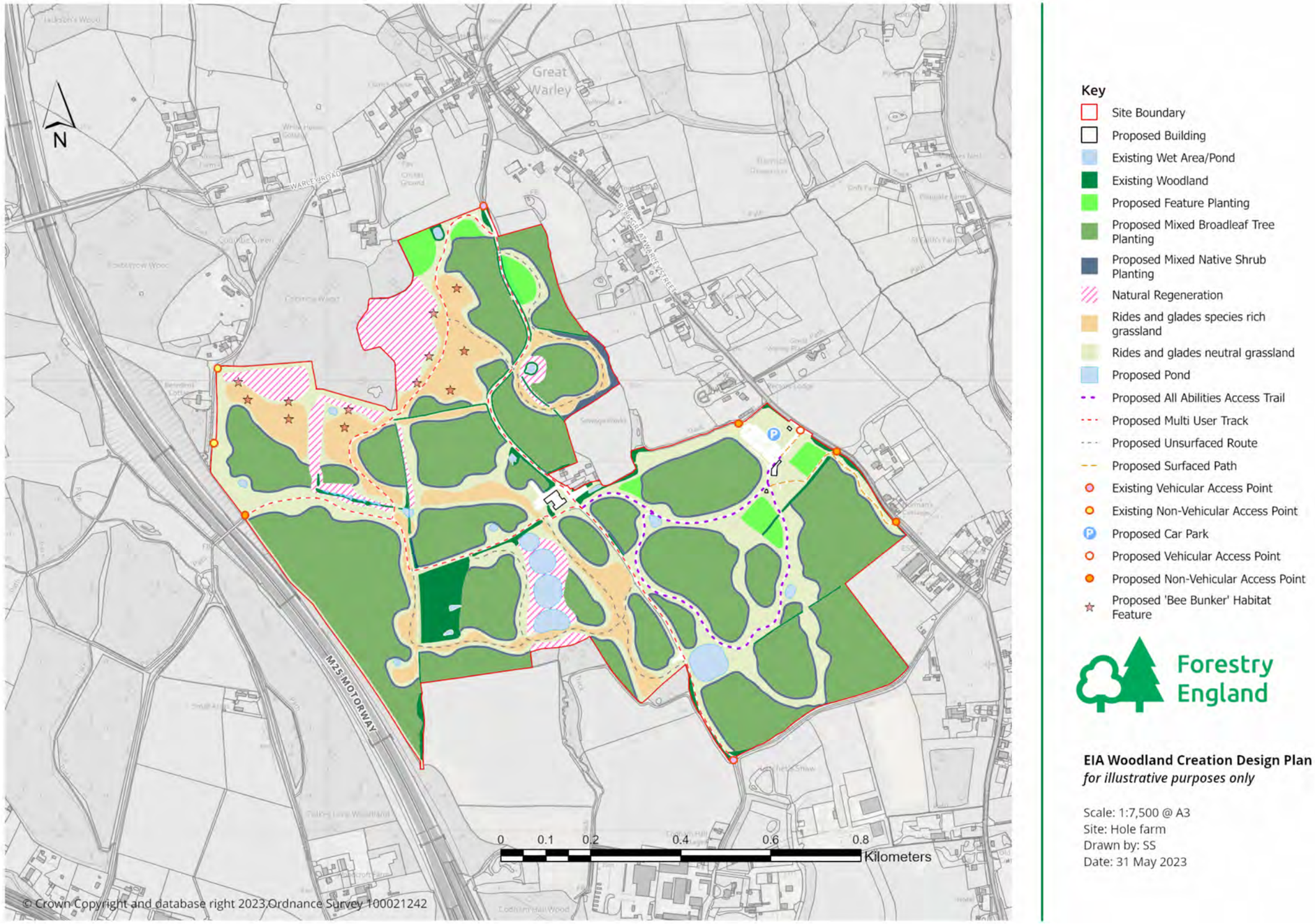
The Thames Chase Community Forest covers 70 square miles across Brentwood, Havering, Thurrock, and Barking and Dagenham. Established in 1990 to improve landscapes, it is today one of thirteen community forest initiatives across England which aim to regenerate and enhance the natural environment.

The Thames Chase Trust is the registered charity responsible for promoting the Community Forest. Forestry England have been a key strategic and delivery partner across this landscape over the last 30 years in creating new woodland, joining up areas of forest for the community and establishing an increasingly connected wildlife habitat for biodiversity. As outlined in the National Planning Policy Framework (NPPF), the approved Thames Chase Community Forest Plan "may be a material consideration in preparing development plans and in deciding planning applications".



Thames Chase Community Forest overview plan, courtesy of Thames Chase Trust

4.8 Forestry England site masterplan



Woodland Creation Design Plan, Forestry England

Forestry England site masterplan

The following description of the landscape proposal for Hole Farm by Forestry England is subject to a separate Environmental Impact Assessment for afforestation application and is not part of this planning and listed building consent application. However, it describes the future setting for the proposal outlined in this document and the proposed plan is illustrated on the preceding page.

Project description from Forestry England:

"Hole Farm will become a new community woodland with a mosaic of habitats comprising of woodland, rides and glades species rich grassland, rides and glades neutral grassland, ponds, and wet woodland areas. In addition to these new habitats the site has also been designed to include a mix of surfaced and unsurfaced paths for use by visitors and the local community. The site will increase connectivity across the landscape for both people and wildlife and extend the Thames Chase Community Forest, providing a link between sites in London and Essex.

The woodland creation proposals comprise of a combination of natural regeneration and predominantly native species tree planting. Tree planting will be of mixed species managed as continuous cover woodland with some areas proposed for coppice management. Areas set aside for natural regeneration have been identified adjacent to the ancient woodland or close to an existing seedbank.

Working with Forest Research we have developed a species mix based on the latest climate change thinking to create a robust and resilient broadleaf woodland. Site geology, soil condition, climate (general, local, and projected) have been taken into account in the species selection process to optimise resilience to climate change, biodiversity and amenity value.

Existing mature trees and hedges will be retained and protected for biodiversity value and as features in the landscape. The existing hedgerows which are in places derelict and/or species poor hedgerows will be retained, reinforced, and either infilled or allowed to naturally regenerate into broad shrub corridors. Shrub planting will bound each of the woodland planting areas which in coordination with the hedgerows and the utility wayleaves will form a coherent connected habitat network across the land parcels.

The design approach has been led by the guidance provided within the UK Forestry Standard and informed by Landscape Visual Appraisal, alongside consultation with statutory stakeholders and community groups who have been engaged through a programme of public consultation. The arrangement of planting and open space has been laid out to include vantage points which will maintain open views accessed from a network of surfaced paths and grass rides. The routes have been designed to incorporate and to connect with Public rights of way to improve connectivity for neighbouring communities and enhancing connectivity across the Thames Chase community woodland sites.

The native shrub and smaller tree species planted around the edges of the woodland blocks will soften the transition between the mature tree height and rides and glades / paths. This will contribute to visual diversity along with the organic shapes of the planting areas enhancing visitors experience moving around the site. Species selection will create a range of distinct planting mixes that reflect the character local to the location, in addition specific areas of feature planting composed of low-density tree planting will add character, mark access points and produce fruit for the benefit of the community. Feature tree planting and the pond creation at key nodal points on the network of surfaced routes and grass rides will aid site navigation/legibility."

- Forestry England

4.9 Heritage

Background history of the site

Hole Farm is located 800m south of the village of Great Warley and 400m west of Great Warley Street, which is thought to be a medieval routeway.

The 1838 Great Warley Tithe Map shows Hole Farm, known then as Holy Farm, comprising of farm buildings with a yard, surrounded by arable fields, pasture meadows and a plantation. It is thought that at least part of Hole Farm was once part of the Coombe Lodge estate, as it was listed in sale particulars of the estate in 1910, but is currently a separate entity. The main house, Coombe Lodge, is located north west of Hole Farm and is a Grade II listed building, built in 1854. It was a family home until 1971 (when the estate was broken up and sold) and in 1998 the building was turned into a care home. The care home closed in 2017 and in 2019 was sold to a private owner who now wishes to return the Lodge to a private family home.

Hole Farm was a privately-owned working farm until it was put up for sale and purchased by National Highways in 2020.

1838 Great Warley Tithe Map showing Hole Farm

1967 OS Map showing Hole Farm

Coombe Lodge entrance (east elevation)

Grade II listed Farmhouse, Hole farm

Heritage

Existing Building Description

The Grade II listed farmhouse (Building 5) is located in the rear north corner of the farmyard. It is a two storey, timber framed structure of four bays orientated south-west to north-east. Its elevations are painted off-white between dark, exposed timber framing. It has a hipped, terracotta tile roof with one large, red brick chimney stack. The multi-pane, casement windows are modern replacements. This building is excluded from the application.

To the west of the farmhouse, set back from the north side of the farmyard and bounded by the access road on the west side are the 1930's semi-detatched cottages (Building 6). These are two large, adjoining, two-storey houses that mirror each other and each has a forward projecting bay with a Tudorbethan gable facing the farmyard on the south side. Their ground floor elevations are brick built and the first floor elevations are faced with hanging tiles. Their multi-pane casement windows are modern replacements. These cottages are excluded from the application.

Between the listed farmhouse and the cottages, positioned forward into the north side of the yard is a small, single-storey, red small brick structure (Building 3). In the south elevation are doorways into three stables and three multi-pane windows. This building is excluded from the application.

Along the south side of the yard is a large modern open fronted shed (Building 4) that is open on its north side with gables end on the east and west side. It has breeze block walls on the east, west and south sides, with corrugated asbestos sheeting between these and the corrugated asbestos roof covering. This building is excluded from the application.

On the west side of the farmyard, across the access road, are two large 20th-century barns that are built breeze blocks, timber framing and corrugated, asbestos sheeting. They face eastwards towards the farmyard with large openings. That on the south side is a grain store (Building 1) and that on the north side is an agricultural machinery store (Building 2). According to available map data, these were built sometime between 1967-1999. These buildings are within the application boundary and are proposed to be demolished.

Buildings 3, 5 and 6 (image: Savills) - not part of application

Buildings 1 and 2


Building 4 - not part of application.

Heritage

Summary and conclusions

Refer to the Heritage Statement and Impact Assessment prepared by Oxford Archaeology for further details. The report assessed the heritage significance of Hole Farm and the impacts of the proposals for a community woodland on this site. The findings are summarised below;

Impact on existing buildings

The Grade II listed farmhouse (Building 5) and the surrounding land are very characteristic of traditional agricultural settings. The 1930's semi-detached cottages (Building 6) are good examples of vernacular architecture from their period. The outbuildings themselves are of little architectural merit and mostly modern altered in modern times. As such, they are of little historic significance beyond their association with the listed farmhouse and the form of its yard.

Impact on Great Warley Conservation Area & Church of St Mary the Virgin

The site is largely hidden from the Conservation Area and its setting by the lie of the land and mature tree growth but it does have some associative value as part of the historic agricultural community in which it was formed. Overall, the site is of moderate significance to the conservation area.

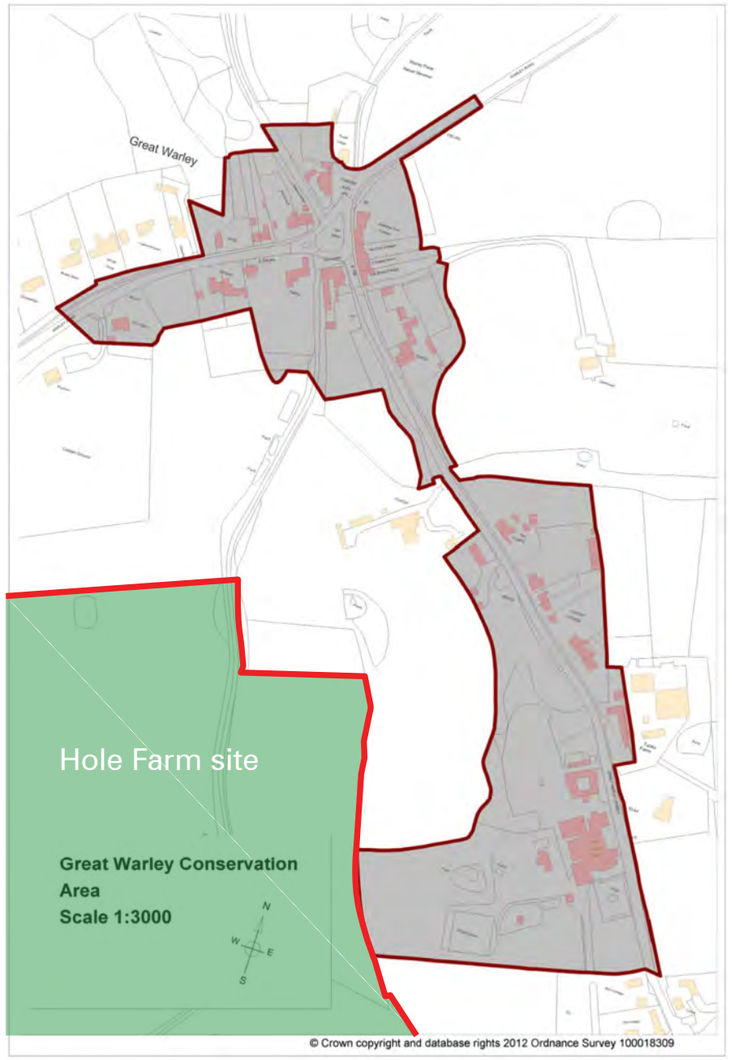
The proposed increased communal use of the site at Hole Farm has the potential to bring more visiting public to Great Warley Conservation Area and increase community engagement and awareness of its heritage. The car park and associated amenities have the potential to increase footfall to the Grade I listed Church of St Mary the Virgin, which currently has little room for parking and is hidden from the public road. Furthermore, the interpretive approach to the amenities at the car park will incorporate the cultural heritage of the area as well as environmental education.

Impact to communal value

The design of the community woods optimises access for the public to the site from three directions, increasing communal value, and so will have a positive impact on awareness of the heritage value of Hole Farm. Replacement of the farm buildings (Buildings 1 and 2) will improve the aesthetic and communal value of the building cluster. Additionally, their operations as part of the community woodland and the footfall they will bring to the site will increase public appreciation of its heritage value.

Conclusion

"The project is thoughtfully designed and considerate of any issues that may impact the heritage. Indeed, it will enhance awareness and community engagement with features of historic interest at both Hole Farm and Great Warley. It is considered that the creation of a community woodland will have an overall positive impact on Hole Farm, its setting, and Great Warley Conservation Area." - Oxford Archaeology



Great Warley Conservation Area Map (Not to scale)

4.10 Consultation summary

A Consultation Report was prepared by Land Use Consultants Ltd (LUC) for Forestry England in November 2022, to present the engagement process of local stakeholders and outcomes from this on the proposals.

The engagement process included;

- Stakeholder analysis & mapping
- 'Temperature Check' questionnaire and website – The 'temperature check' was a questionnaire sent to 7000 households in the surrounding area
- Stakeholder engagement workshops
- Drop in days
- Stakeholder roundtable
- Final public consultation

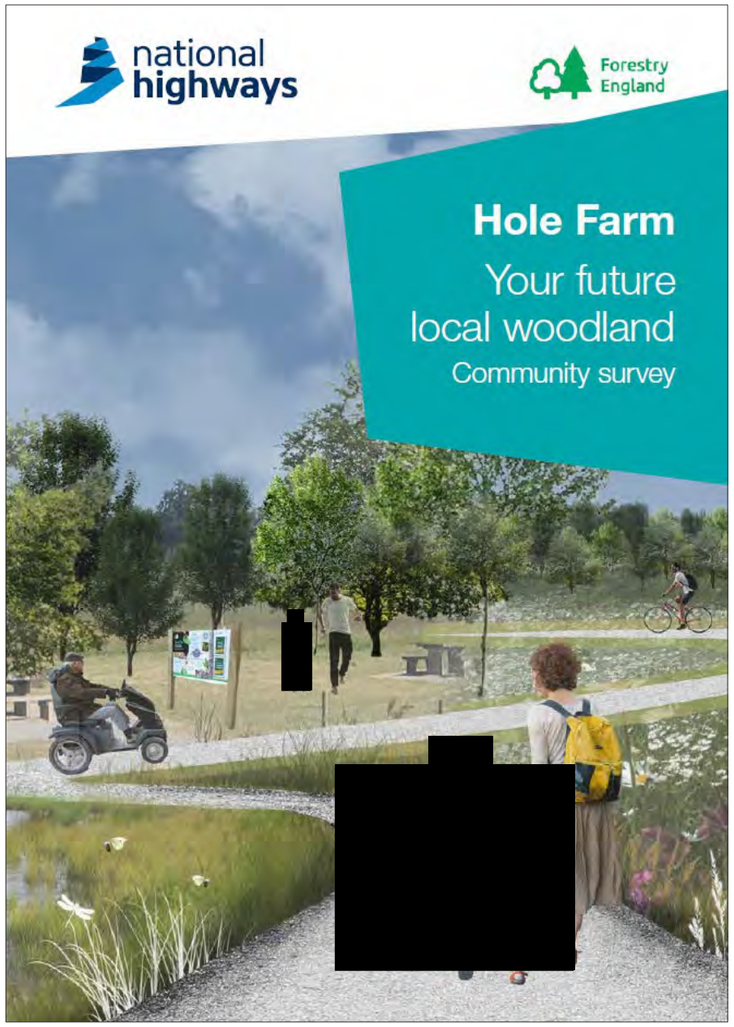
As there is no local parish representing the area, the Great Warley Conservation Society was consulted as a separate stakeholder. There is ongoing consultation with the following Local Authorities and statutory consultees;

- Brentwood Borough Council
- Essex County Council Highways and Transportation Team
- Historic England
- Natural England

Some of the main conclusions from the questionnaire consultation included;

- "Generally positive feedback was received. Over half of the respondents thought they would visit a few times a month or more."
- "Overall, there appears to be a preference locally for lower intensity uses, less development and more natural landscape."
- "Overall, there is a lot of interest in the use of the site for cycling (cycle paths and off-road MTB), horse-riding, walking"
- "Most respondents said they are keen to preserve and enhance woodland, mature trees, hedgerows, water, habitats and wildlife in general."

For more information, please refer to the 'Forestry England – Consultation Report Hole Farm'.



Temperature check questionnaire

4.11 Pre-application advice 1.0

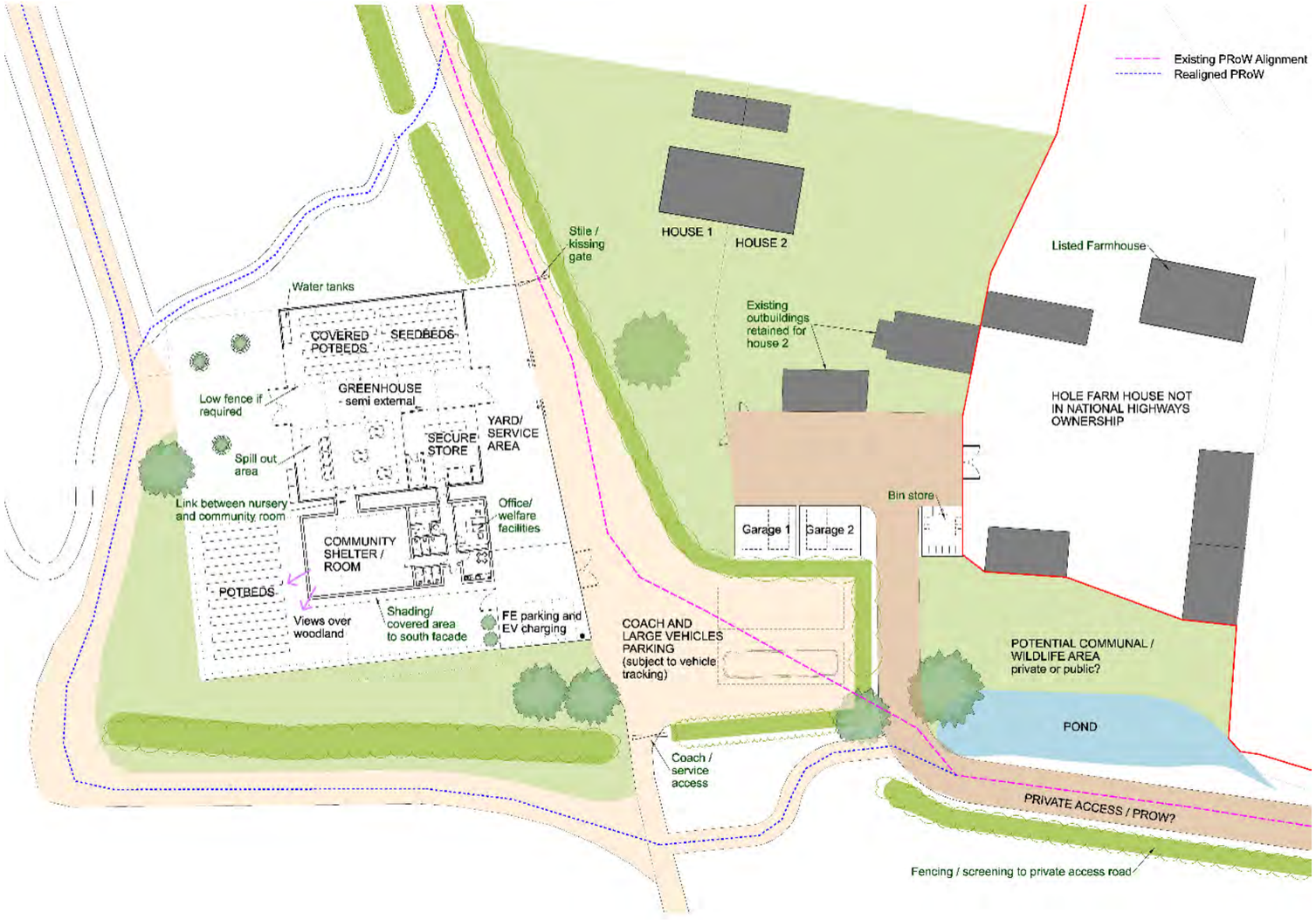
"…the proposal for a community woodland is welcome and offers the potential for an attractive recreational and ecological facility with significant public benefit."

- Mike Ovenden, Brentwood Borough Council

Pre-application advice was sought in Spring 2022 for an early design in order to develop the proposals for a sustainable community project in line with feedback and policy and build a dialogue with the Local Authority. Feedback was generally positive with practical and helpful advice on statutory considerations:

Brentwood Borough Council:

- Policy area is Green Belt Metropolitan Open Land.
- Heritage considerations.
- Community, creational, ecological public benefits.
- Accessibility requirements balanced with limited built infrastructure.
- Consideration of key views in relation to woodland.
- Consultation with neighbours required.
- Pre-commencement considerations included with application where possible to avoid further detail requests, including, Archaeology, Ecological Mitigation and enhancement, drainage, highways and details of windows/ materials where in the setting of the listed building.
- Mixed planning route inc separate EIA for Afforestation is a logical approach.



Early design option

Pre-application advice 1.0

Heritage officer, Brentwood Borough Council

Officers were supportive of proposal on grounds that it does not appear to have any significant harm on heritage assets:

- Grade II listed Hole Farmhouse.
- Structures within curtilage of listed building.
- Great Warley Conservation Area - views to and from.
- Neighbouring listed buildings, their setting and views to and from, including Grade I listed Church of St Mary the Virgin.
- Neighbouring proposed locally listed structures & buildings.
- Encouragement for the proposal to "draw on the contribution made by the historic environment to the character of a place." (NPPF clause 190 item (d)) with following requirements:
- Heritage interpretation of Grade II Hole Farmhouse and Grade I listed Church of St Mary the Virgin.
- Signposted permissive access to the War Memorial area of the conservation area.
- Permissive car parking for visitors to St Mary's Church.
- Address sightlines to Hole Farm and St Mary's in the planting schedules, most importantly the distant view due east to St Mary's Church spire from TQ58158988.
- Limit hard-surfacing to avoid urbanization of the setting and retain rural character.
- Demarcation, signage and boundaries to be appropriate to heritage environment.

Archaeology

Assessment required at planning and listed building consent application stage.

Historic England

Historic England reviewed the heritage assets in relation to the designs and had no objections to the proposed woodland.

The Forestry Commission require an Environmental Impact Assessment (EIA) for afforestation as the proposed afforestation exceeds 50 hectares. This will in turn require consultation with Historic England. Suggestions for enhancement of the historic environment:

- Aligning new woodland blocks with existing / historic hedgerows and field boundaries in keeping with local landscape character.
- Retain hedgerows and hedgerow trees consistent with 1868 OS map as freestanding elements where possible or utilise to form edges of new woodland blocks.
- Proposals for NW of the site to recreate sense of wood pasture or parkland with scattered trees and tree clumps to reflect historic pattern of land use as former part of the Coombe Lodge landscape park.

Essex Highways, Essex County Council

- Vehicle accesses to be kept to a minimum on Great Warley Street - suggest either Anglian Water track or southerly car park access.
- Demonstration of safe and suitable access and planning with appropriate visibility splays.
- Public Right of Way (ProW) to be maintained with legal alignments and widths applied and open at all times.
- Public footpaths to be kept separate from motorised vehicles and maintained for pedestrians only.
- Car park design would be prudent to feature overflow providing around 200 spaces. Level of provision for vehicles and bikes to be supported by a Transport Statement .
- Cycle parking to be conveniently located, secure and covered.
- Car parking spaces designed to min 2.5 x 5m but would be prudent to use Brentwood BC standards of 2.9 x 5.5m as they are the official parking authority.
- Transport Statement scope to provide as much detail as possible on number of trips by all modes of travel that the site may generate, including frequency, distribution through the week and the day.

4.12 Pre-application advice 2.0

"…the facilities proposed by way of the removal of existing and erection of the proposed new buildings in the same location would appear to successfully preserve the openness of the Green Belt. Furthermore, the proposed buildings would not conflict with the purposes of including land within the green belt. On that basis I raise no objections in principle to the replacement buildings."

- Mike Ovenden, Brentwood Borough Council

Further pre-application advice on the development of the proposals was further sought in January 2023 following development of the proposals from previous pre-application advice in spring 2022. Feedback was generally positive, with many design developments addressing previous comments:

Brentwood Borough Council:

- New access to the car park should be discussed with the highways authority, who have not been part of the pre-application discussions.
- Consideration for drawing with visibility splays to show the extent of vegetation required for removal around the car park entrance.
- Provision of new vehicular access to proposed car park addresses previous concerns regarding impact on residential amenity.
- Provision of electric car charging facilities is welcomed.
- In the buildings cluster, the removal of existing buildings and erection of proposed buildings in the same location preserve the openness of the Green Belt. Visual information on the proposed buildings in the cluster is a better way of judging impact on the Green Belt than floorspace information.
- More information is required on the modular cafe, open-sided shelter and substation in order to judge their impact on the Green Belt. Additionally, it is preferable for the requirements for these structures to be included in the full application to avoid a reserved matters process.
- Clarification required on the need for the informal car/coach parking at the buildings cluster.

Heritage officer, Brentwood Borough Council

Supportive of proposal as it provides excellent opportunities for further promoting heritage significance. The following should be noted;

- Building 3 (small brick structure) reinforces the northern extent of the historic farmyard and the setting of the Grade II listed Farmhouse and should not be demolished.
- Support is shown for the demolition of Building 4 (open fronted shed).
- Proposed community building and FE barn footprint and massing should not exceed extant today.
- Materials should be renewable and of agricultural character.
- Provision for signage and heritage interpretation.
- Establish significance of water features south of farmyard.
- Hard surfacing should be natural (not bituminous) and permeable, as far as practicable, to suit countryside setting and prevent urbanisation.
- Lighting should not detract from rural character or contribute to light pollution.

Arboriculture officer, Brentwood Borough Council

Supportive of emerging designs from a landscape perspective as;

- The development of the new community forest will achieve strategic green infrastructure benefits and link surrounding ancient and recently planted woods.
- Indicative designs for the community building and FE barn are a significant improvement on the present structures.
- Main car park is set back from the B186 which lessens its visual effects.
- Proposed materials are appropriate for level of use and location.

4.13 Flood risk

Please refer to the Flood Risk Assessment (FRA) prepared by ICF.

The site is 17.5km north of the River Thames, and the geology of the ground is London Clay.

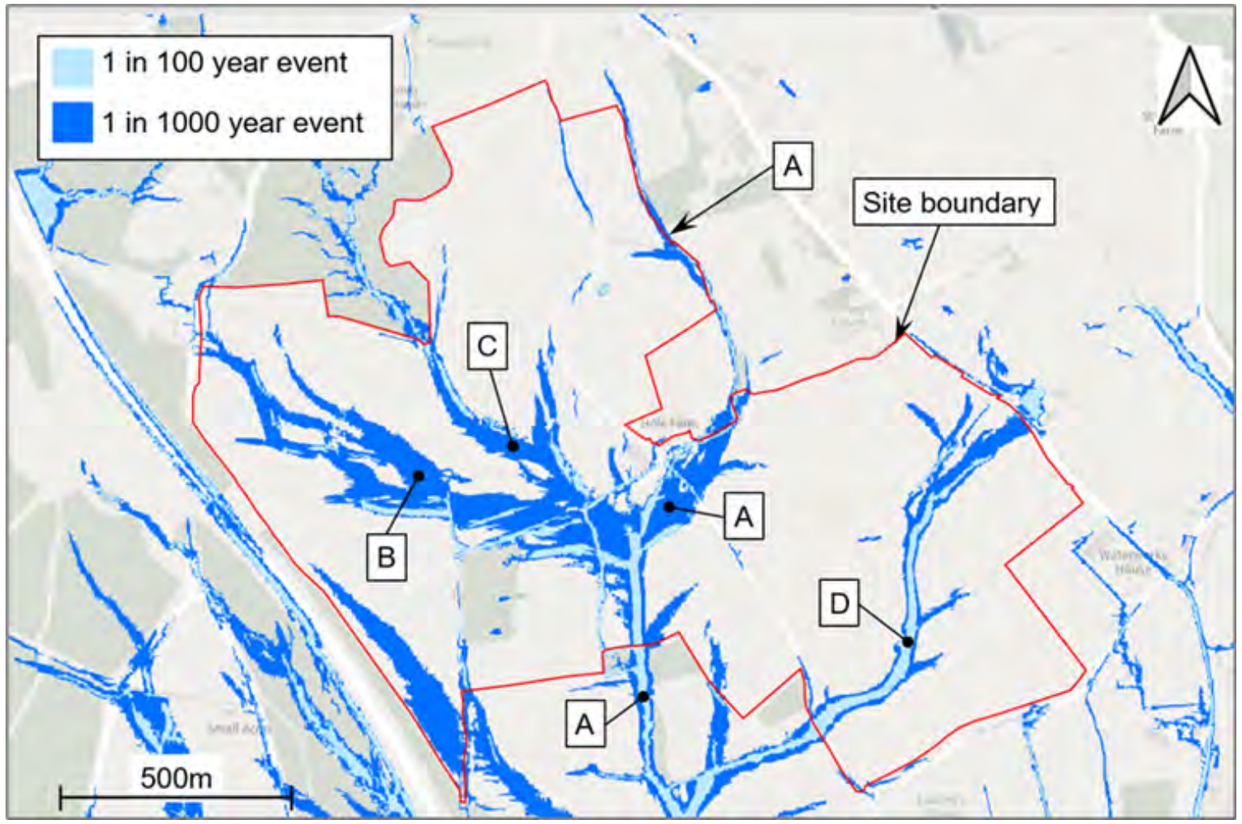
The site is wholly within Flood zone 1, which is negligible risk of fluvial flooding at <0.1% plus allowances for climate change predictions for South Essex into the future for the minimum expected design life of the building of 75 years.

There is presence of surface water flood risk on site for 1/100 and 1/1000 year events, see diagram to right. This is focused around the tributaries which flow south, however, this is minor and not close to the buildings.

Threat of groundwater flood is present on site but to the west of the site away from buildings, therefore, not considered as posing a problem to the proposals.

The threat of reservoir, water mains and sewer flood are considered negligible due to them not having proximity to the site.

The FRA recommendations are for general improvement of drainage and flood mitigation on site. Inclusions of ponds and additional storage in the drainage network will reduce flood risk for the catchment area by catching and slowing flood water flow downstream.



Surface water flood risk map, Flood Risk Assessment, ICF

5.0 Design

5.1 Design principles

The following design principles have guided the development of the designs to date:

Community:

The proposal aspires to a legacy of positive community contribution. The long lease of the land to Forestry England for community woodland seeks to secure the future of the landscape for ecology and recreation. The design optimises the architecture, landscape and access for all users.

Heritage:

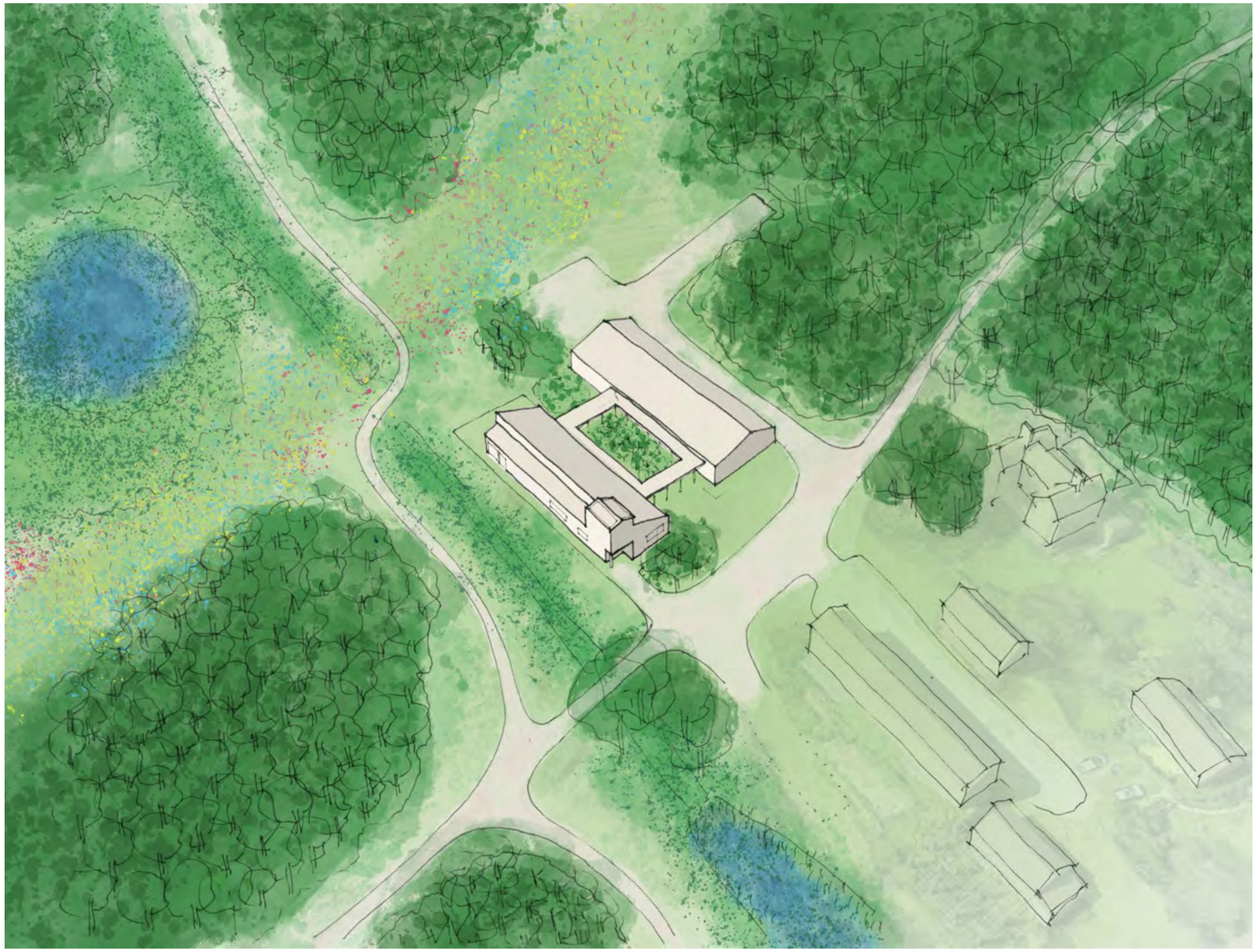
Within the London Metropolitan Greenbelt and former agricultural use, the character and the setting of the listed buildings are to be protected and enhanced. Architectural proposals reference the form and materiality of the local vernacular. New buildings sit on former building footprint and former hard-standing.

Landscape:

Within Greenbelt, the openness of the character of the site is to be protected and enhanced. The new woodland asset within the wider community woodland is to be promoted. Natural countryside environment is to be reinforced throughout. Forestry England will design and manage the landscape for ecological and recreational benefits into the future. Building footprints and volume are reduced and reorientated to open up light and views.

Sustainability:

Low carbon, low energy architecture is a core focus of the design. Reuse of existing buildings was carefully considered but not possible. Steel members will be recycled. BREEAM Excellent rating for any new buildings has been targeted from early in the design to ensure a holistic and environmentally responsible proposal.



Aerial perspective sketch of the centre of the site

5.2 Design : proposed site plan

5.3 Design: site overview

The proposal comprises the following built elements:

Community spaces and Forestry England facilities

The replacement of unsightly, structurally unsound grain store and barn (buildings 1 and 2) with a new welfare and community building and Forestry England barn, centred around a community tree nursery will open up space and light into the existing farmyard. The new buildings will provide a multipurpose space, facilities for the tree nursery users as well as separate welfare facilities, secure storage and service yard for Forestry England.

Public entrance area

A new main entrance off Great Warley Street will provide public vehicular access to the woodland. This area will feature a new modular café, seating, toilets, cycle storage, and open-sided shelter providing a starting point to the woodland walk. A new substation will support electric vehicle charging points.

The following landscape elements form part of the proposal:

Pathways, roads, car park

A 94 space car park off Great Warley Street will provide vehicular access for the public to visit the woodland. The north south route of existing Hole Farm Lane will be resurfaced to take vehicles approaching from the south (Codham Hall Lane), accessing the community space to the centre of the site. Two surfaced paths around the woodland including an 'all access abilities loop' will provide inclusive access to the woodland.

Ponds

Sitting within this planning and listed building consent application as part of the landscape masterplan, are a series of ponds and water features, encouraging varied habitat creation for increased biodiversity, as well as surface water drainage and flood management.

Play

Natural play elements encouraging walking in nature are interspersed throughout the woodland along a play trail.

Woodland

As discussed the woodland landscape is subject to a separate Environmental Impact Assessment for afforestation application, see FE proposed woodland, Section 4.8.

5.4 Design development process

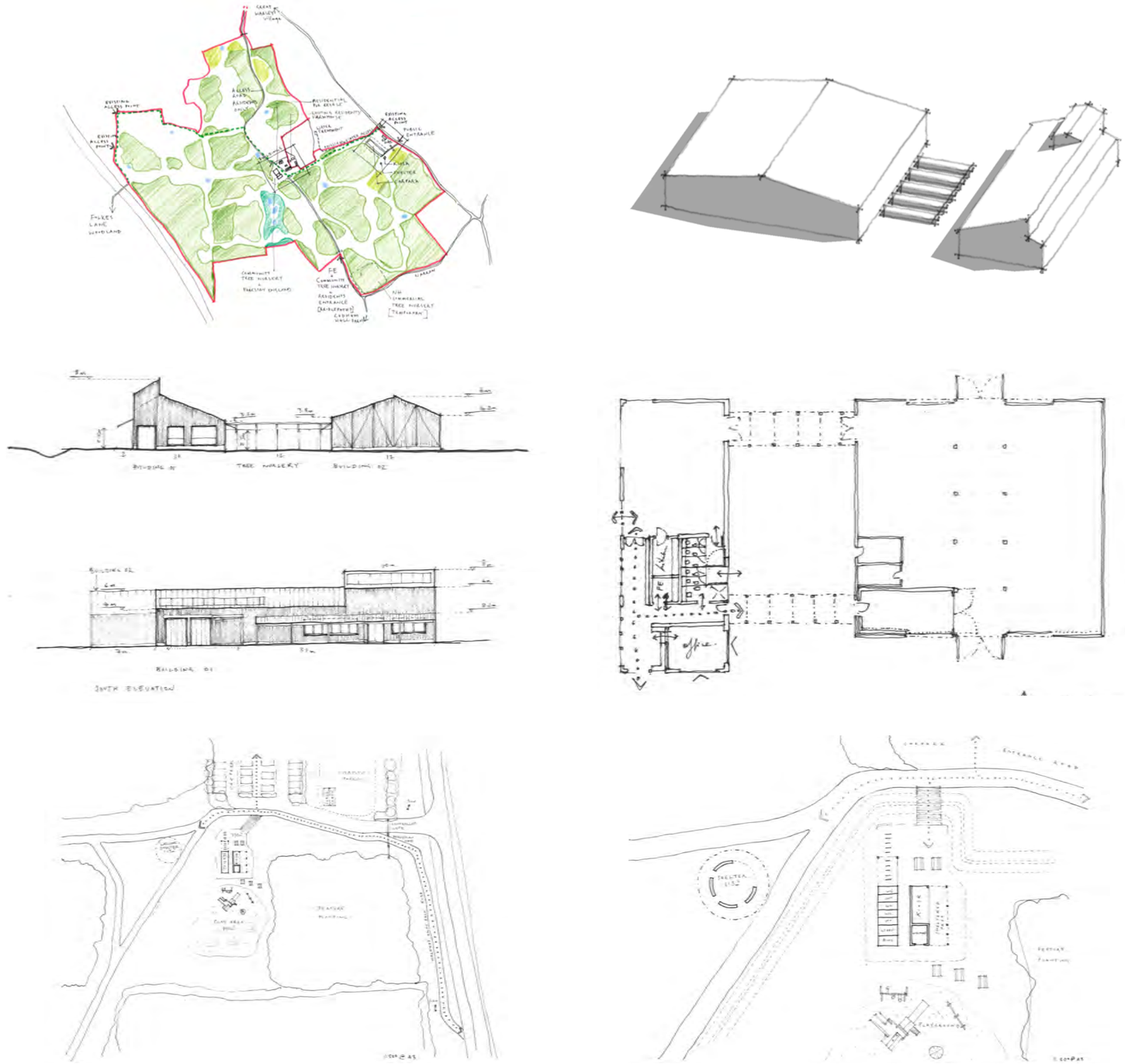
An iterative design process has been employed to rigorously test and reinforce the design in response to planning feedback, site constraints, low carbon aspirations and consultation with the local community, client, various stakeholders and user groups. A multidisciplinary team of consultants have lent their expertise to inform the design.

The original intention was that building 2 would be retained and reused but investigation into the structural integrity of the existing meant that this had to be demolished.

Layout, orientation, changes in proposed occupation and physical constraints on the site have all tailored the design.

Hand sketching, 3D modelling and sunlight studies are some of the tools that have informed the design process.

This page illustrates previous iterations of the design.



Design development sketches and studies

5.5 Buildings cluster

Central to the site, the cluster of buildings that were formerly the core buildings to the farmyard are proposed to have several uses and occupants: residential, tree nursery, Forestry England and community space.

The north-south route of Hole Farm Lane dissects the site and provides access to residents, Forestry England staff, community users tending to the community tree nursery and occasional visitors utilising the community space and supporting facilities.

The setting is to retain the existing farmyard character with the country lane edged with lawn and short wooden posts demarcating boundaries. Hedges and planting provide screening between residential properties and car parking for visitors to the community space.

The existing gravel access track and turning circle to the south west of the buildings is relocated to enhance the setting and give over space to the south-west aspect of the buildings for use as a community garden. The service yard and track are proposed to be north of the Forestry England (FE) barn with a turning-bay hidden within woodland and a service yard for external activities adjacent to the building supporting forest management.

Proposed buildings cluster zoning plan

Buildings cluster

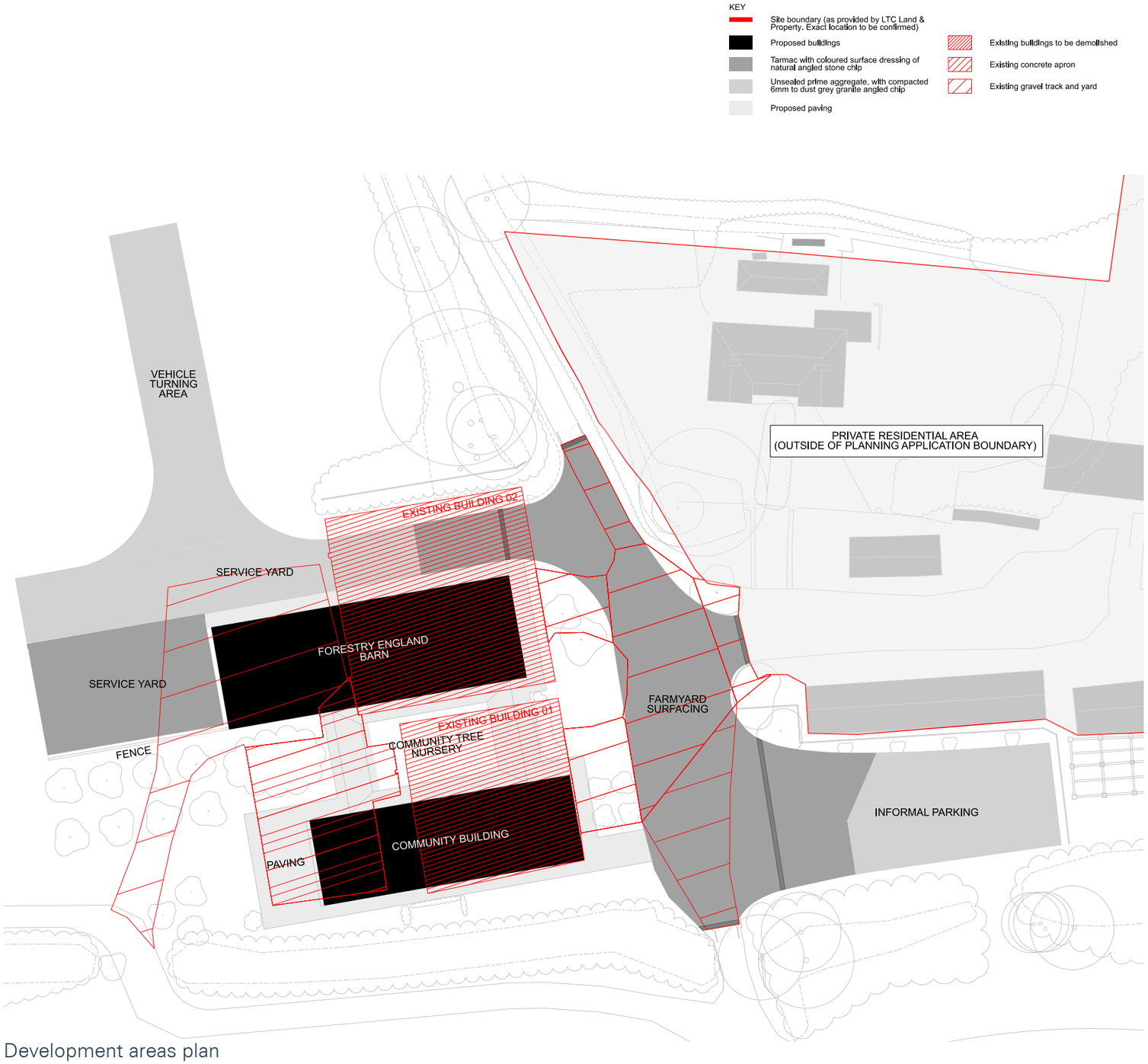
The proposal makes use of the existing development areas and reduces building footprint and volume, increasing the openness of the landscape in Metropolitan Open Land, bringing light and views through the tree nursery.

Existing development area:

Building 01	GEA	362 m²
Building 02	GEA	532 m²
Concrete apron		294 m²
Gravel track and service yard to rear		483 m²
Farmyard surfacing		669 m²
SUBTOTAL existing gross internal area		**894m2**
SUBTOTAL existing gross external area		**862 m²**
SUBTOTAL existing external area		**1446 m²**
TOTAL existing development		**2340 m²**

Proposed development area:

Community building	GEA	380 m²
Forestry England barn	GEA	420 m²
Paved surrounds		411 m²
Hole Farm Lane Farmyard surfacing		918 m²
Service yard (tarmac area)		270 m²
Service yard and vehicle turning bay		690 m²
Informal parking		294 m²
SUBTOTAL proposed gross internal area		**724m2**
SUBTOTAL proposed gross external area		**800 m²**
SUBTOTAL proposed external		**2538 m²**
TOTAL proposed development		**3383 m²**



Development areas plan

5.6 Community spaces and Forestry England facilities

The buildings' design stems from and amalgamates the core design principles of community, heritage, landscape and sustainability.

The community tree nursery is central to the layout and all spaces are organised around this as a focal point. The primary use of the buildings is for community provision. The tree nursery offers garden based activities. The community building provides supporting facilities for occupants participating in the community tree nursery. The community space provides for events for those users, as well as, external parties that might use the community space for education, events, workshops, activities, organised through Forestry England who will be managing the building. Forestry England staff working on the site will have office facilities, storage and welfare in the form of dry lockers, fully accessible shower and a kitchenette. The FE barn provides a service yard and secure storage for tools, equipment and vehicles required by Forestry England for the management of the woodland and site.

The buildings sensitively respond to the farmyard setting and setting of the Grade II listed farmhouse. Asymmetric pitched roofs and timber cladding have distinctive agricultural character reflecting the existing barns. The buildings are sited on the existing footprints yet are elongated into rectangular plan forms, that are orientated towards the light and views of the south-west. The rectangular plan optimises efficiency of internal spaces, construction principles and internal thermal performance. The forms sit harmoniously within the landscape, opening up the light and views.

Community building, FE barn and tree nursery setting

5.7 Community tree nursery

This space is central to the new buildings proposal. A surrounding walkway is sheltered overhead with a canopy sloping towards the courtyard that will both collect rainwater and focus the space on the growth of new trees taking place in the centre. This tree nursery provides activity for people to come and participate in the growth of this new piece of community woodland.

This cloister area has access to the community buildings from outside, to avoid having to enter the main building circulation with muddy boots. There is a hatch to the kitchenette and an outdoor accessible toilet. There are external hand-washing facilities and benches. There are rainwater harvesting troughs to utilise rainwater for irrigation of the planting.

The community garden, to the west of the building and tree nursery, caters to a wider range of skills and abilities with proposals for flowering plants, edible garden, which could offer vegetable patches, physic garden, herb garden, apothecary garden and other outdoor gardening activities. There are proposed "outdoor rooms" created within the garden utilising forestry skills such as pleaching to train lime trees into canopies forming a sense of enclosure to hold outdoor gatherings.

Perspective view: Community tree nursery

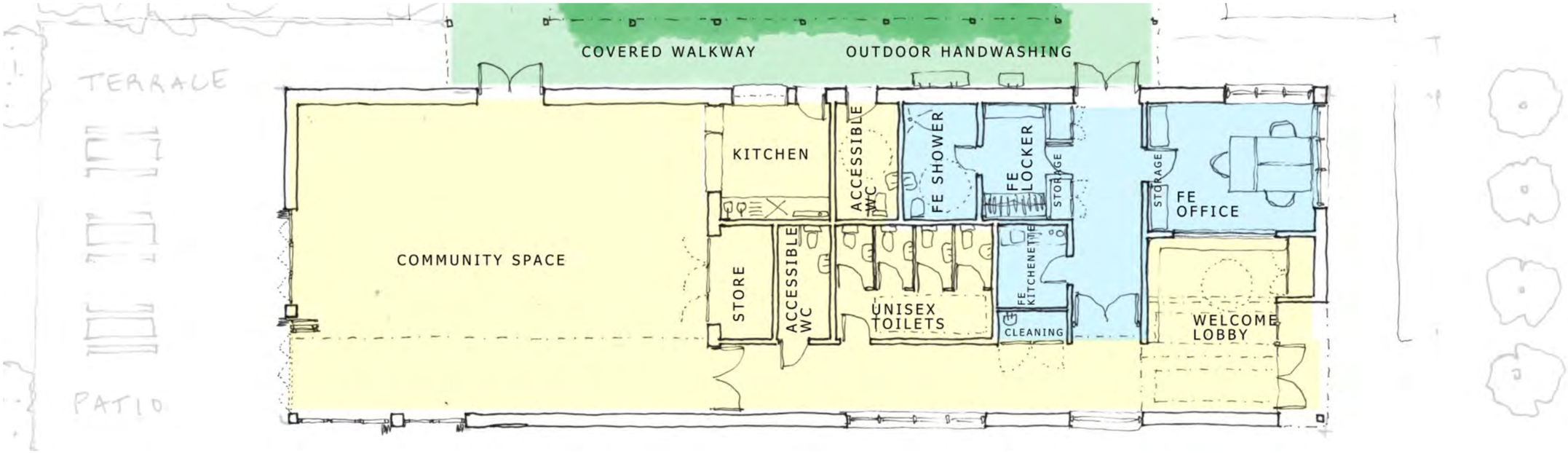
5.8 Community and FE building

The community building is to be managed by Forestry England, who will use the building as their site base.

The approach on arrival is from the south along Hole Farm Lane with parking in the farmyard. The main entrance is announced in the architecture with a pitched tower, referencing the former grain store tower, with signage and a recessed entrance in the corner providing overhead cover at the entrance door. The welcome lobby within has seating with boot storage and cloakroom space. It is envisaged that this top lit tall space is to feature a hanging forestry related installation with integrated lighting.

The corridor leading to the community space has toilet facilities and cleaning cupboard plus views and glazing that open out to the community garden and woodland. The space has a capacity for 2 groups of 30 adults. There is a store for occasional use items and a kitchen with counter providing for casual small groups or organised events requiring catering. This kitchen also has direct counter and door access to the tree nursery. Large format sliding folding glazing opens the space onto a patio and the community garden.

Forestry England spaces are arranged to operate separately to any community activity. FE facilities are accessed through a door off the lobby. Accommodation includes a kitchenette, storage, dry locker, toilet and accessible shower. The FE office has glazing to the north-east corner, allowing surveillance of the farmyard to monitor activity outside. The FE space has access to the FE barn and secure storage below a covered walkway, east of the tree nursery, avoiding interruption of any community tree nursery activity.



Community building layout plan

5.9 Forestry England (FE) barn

The FE barn is primarily secure storage for large vehicles, tools and equipment required for the management and maintenance of the woodland. The barn provides additional accommodation supporting the site. There is a storage area for the community tree nursery accessed from the south. Waste and recycling has a dedicated area accessible from the farmyard on the east by the building users and adjacent to Hole Farm Lane for ease of collection. There is also cycle storage for the building users accessed from the east on the tree nursery side.

The barn has a distinct pure agricultural form with the barn scale openings on the north for access of large machinery and vehicles. The tarmac surfaced yard to the west provides outdoor space for large deliveries and activities supporting the woodland growth, management and maintenance.

A turning bay for large vehicles offloading and storing large items is located perpendicular to the barn to be surfaced with stone aggregate or similar permeable semi-landscaped finish. These activities are designed to be accessible to the barn, yard and facilities, yet segregated from occupants using the community spaces. This will be occasional seasonal use once the woodland is mature enough for future essential thinning and felling.

The boundary treatments to this building are to be wooden posts and a combination of landscaped and grown hedge treatments utilising forestry skills e.g. hedge-laying and providing wildlife habitat, such as dead hedges.

Perspective view: Forestry England barn

Example of a hedge-laying boundary

Existing hedges already at Hole Farm

5.10 Material palette & structural strategy

The material palette for the buildings and for the site in general, as a community forest, is primarily timber, with masonry damp proof course base, zinc standing seam roofs, square profile zinc rainwater goods.

Timber construction is comparatively low-carbon and does not have high embodied energy expenditures of concrete and steel. Timber construction with timber framing and roof trusses is also in direct reference to the historical architecture of agricultural barns on the site.

Timber in this proposal includes glulam structural elements, cross-laminated-timber self-finished internal partitions, timber cladding, timber floor-boarding.

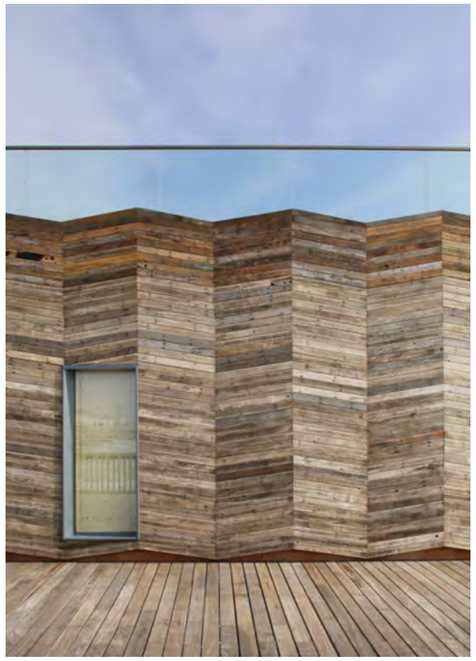
Timber finishes are warm, tactile for a comfortable and welcoming feel to the interior of the building for community users. 'Self-finishing' timber products, such as plywood sheeting or boarding remove the need for artificial products like paint and plasterboard.

Timber cladding references the timber clad former barns and importantly is functionally appropriate to the barns, providing protection and enclosure to the community building and with Yorkshire boarding providing natural ventilation to the FE barn.

Insulation materials are intended to be of natural materials. Research for the most thermally and spatially efficient is underway to inform the next level of detail design.

Herringbone pattern cladding to the FE barn has been proposed as a playful indication to the community function of the site, a step away from the purely agricultural form.

Weathered timber



Herringbone pattern timber cladding

Herringbone pattern timber cladding

Zinc standing seam roof

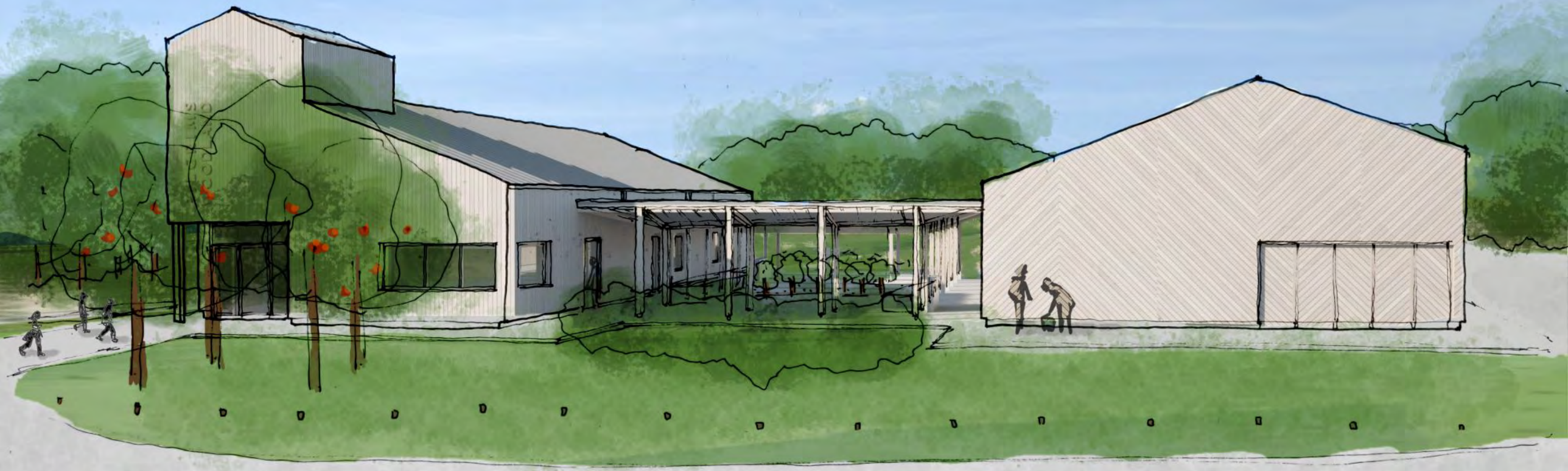
Timber barn with glazing and metal shutters

Natural Cross Laminated Timber (CLT) interiors

5.11 Perspective views

Perspective view from south-west

Perspective view from east



5.12 Structural considerations

Introduction

The structural proposals considered for this stage begin with the demolition of the existing structures labelled as buildings 1 and 2. These buildings are currently a former grain store of steel construction on a concrete slab and a timber framed agricultural barn on a concrete slab. Following an initial survey, by others, it was deemed necessary to demolish the existing structures.

The replacement buildings consist of two separate timber frame buildings that are connected via an open community tree nursery. The grain store will become a community centre and welfare and office facilities for Forestry England. The agricultural barn will be replaced with a similar barn structure to the existing one providing a large open space for storage space for vehicles, machinery and equipment for the management of the woodland.

Structural Appraisal

We are proposing to use structural Glulam timber to construct the new buildings. Both frames are to be designed as portal frame structures, rafter beams and columns will form the main portal frame structure at regular centres providing lateral stability along the width of the frames. Bracing will be provided in two bays along the length of both buildings to provide lateral stability in this direction. Connections between the rafters and columns are considered as moment connections to provide rigidity with column bases considered as pinned connections.

Alternatively, the rafter beams can be replaced with trusses. There has been a proposal for utilising load bearing Cross Laminated Timber (CLT) external walls to support the roof structure. Timber specialist, such as, but not limited to, HESS Timber or Wiehag, will be involved in the subsequent design stage to advise on the most suitable structural solution from manufacturing and installation point of view. Early engagement will inform the next level of detail design for the most economic and sustainable design.

The roofs for both structures will be formed using 100mm CLT roof deck boarding used in combination with zinc standing seam. This will require timber purlin members to be positioned between the main portal frame rafter beams. It is assumed that the CLT roof deck will act as a diaphragm and horizontal roof bracing is not required. This is to be confirmed by the timber specialist.

The current structural solution ensures that both the barn and community centre have the required open space through the positioning of the portal frames. The internal walls will be non-load bearing to provide flexibility in the use of the space. They can be formed using non-loadbearing timber stud walls or CLT panels, this is to be confirmed at the subsequent design stages. The external walls will be formed with CLT panels.

A review of the existing borehole record with the British Geological Survey showed 2 number boreholes within 200m of the current building locations. The exact soil conditions underneath the existing structure are not known, and a detailed ground investigation will be required during the subsequent design stages. However, based on the BGS borehole information an allowable soil bearing pressure of 50 kN/m^2 has been considered, as both boreholes confirmed the ground to be silty clay. Therefore, we are proposing shallow foundations for both structures, reinforced concrete pads will support the frame and reinforced ground bearing slabs to be used. Alternatively, a timber floor construction can also be utilised. This is to be confirmed following the receipt of the detailed ground investigation. Soil sampling and gas monitoring should also form part of the intrusive ground investigation to support the foundation design.

There are existing overhead electrical cables in the proximity of the existing buildings 1 and 2. At this stage the height of the cables is unknown. The cables are approximately 18m away from the proposed community centre, therefore, they do not affect the construction of this building at this stage of the design. The cables are located above the roof of the existing barn building in the north-west corner. The roof height of the new barn is the same as the existing, but the cables may present a constructability constraint. The height of the cables is to be confirmed during the subsequent design stages and the construction methodology is to be reviewed again.

There is an existing ditch on the south side of the existing grain store. The ditch is to remain and is to be approximately 3.0m and 4.0m away from the south-west corner and south-east corner of the community centre respectively. The ditch does not present a risk to the design of the community centre at this stage of the project but is to be reviewed against the position of the proposed foundations during the subsequent stages.

Structural considerations

The loading considered for the initial structural appraisal is: self-weight of the timber structure, dead load from the roof and wall build-up, wind loading as per BS EN 1991-1-4, snow loading as per BS EN 1991-1-3 and maintenance roof loading from BS EN 1991-1-2. Please note the loading will need to be reviewed and updated at subsequent design stages. The roof build-up and associated loads is as follows:

Barn Roof Build-up Dead Load:

- CLT deck (100mm) = 0.6 kN/m²
- Zinc Standing Seam = 0.07 kN/m²
- Services = 0.1 kN/m²
- Breather membrane = 0.1 kN/m²
- Insulation layer = 0.20 kN/m² (thickness of insulation not confirmed at this stage)
- Vapour control layer = 0.02 kN/m²
- PV's = 0.1 kN/m²
- Wooden purlin weight (assuming 600mm centres and a 47x195 section which has line load of 0.03 kN/m) = 0.1 kN/m²

Total Roof Dead Load (barn) = 1.29 kN/m² (Rounded to 1.30 kN/m²)

Community Centre Roof Build-up Dead Load:

- CLT deck (100mm) = 0.6 kN/m²
- Zinc Standing Seam = 0.07 kN/m²
- Services = 0.25 kN/m²
- Suspended ceiling = 0.2 kN/m²
- Breather membrane = 0.1 kN/m²
- Insulation layer = 0.20 kN/m² (thickness of insulation not confirmed at this stage)
- Vapour control layer = 0.02 kN/m²
- PV's = 0.1 kN/m²
- Wooden purlin weight (assuming 600mm cts and a 47x195 section which has line load of 0.03 kN/m) = 0.1 kN/m²

Total Roof Dead Load (community centre) = 1.64 kN/m² (Rounded to 1.70 kN/m²)

Roof maintenance load (both buildings) = 0.6 kN/m²

Snow load on roof (both buildings) = 0.31 kN/m²

Snow drift load on roof (both buildings) = 0.38 kN/m²

Wind: barn

Worst case wind compression load on roof = 0.35 kN/m²

Worst case wind suction load on roof = 0.88 kN/m²

Worst case compression load on walls (long) = 0.61 kN/m²

Worst case suction load on walls (long) = 0.61 kN/m²

Worst case compression load on walls (short) = 0.65 kN/m²

Worst case suction load on walls (short) = 0.65 kN/m²

Wind: community centre: lower frame

Worst case wind compression load on roof = 0.46 kN/m²

Worst case wind suction load on roof = 0.69 kN/m²

Worst case compression load on walls (long) = 0.60 kN/m²

Worst case suction load on walls (long) = 0.60 kN/m²

Worst case compression load on walls (short) = 0.67 kN/m²

Worst case suction load on walls (short) = 0.63 kN/m²

Wind: community centre: higher frame

Worst case wind compression load on roof = 0.37 kN/m²

Worst case wind suction load on roof = 1.08 kN/m²

Worst case compression load on walls (long) = 0.82 kN/m²

Worst case suction load on walls (long) = 0.73 kN/m²

Worst case compression load on walls (short) = 0.81 kN/m²

Worst case suction load on walls (short) = 0.71 kN/m²

Structural considerations

Community centre mezzanine plant load:

- Timber joist system = 0.8 kN/m²
- Plywood and insulation = 0.75 kN/m²
- 2 layers of plasterboard and suspended ceiling = 0.45 kN/m²

Total mezzanine floor dead load = 2.00 kN/m²

Imposed load for the mezzanine floor is taken as the plant floor loading given by NA to BS EN 1991-1-1 = 7.50 kN/m²

The material chosen for the structure is structural glulam timber of strength grade GL24c. The material properties for the glulam, used for the initial structural checks are shown in the image:

Glulam strength class GL24c
Characteristic bending strength, $f_{m,g,k}$, 24 N/mm²
Characteristic shear strength, $f_{v,g,k}$, 3.5 N/mm²
Characteristic compression strength parallel to grain, $f_{c,0,g,k}$, 21.5 N/mm²
Characteristic compression strength perpendicular to grain, $f_{c,90,g,k}$, 2.5 N/mm²
Characteristic tension strength parallel to grain, $f_{t,0,g,k}$, 17 N/mm²
Mean modulus of elasticity, $E_{0,g,mean}$, 11000 N/mm²
Fifth percentile modulus of elasticity, $E_{0,g,05}$, 9100 N/mm²
Shear modulus of elasticity, $G_{g,mean}$, 650 N/mm²
Characteristic density, $\rho_{g,k}$, 365 kg/m³

The section sizes for each analysed member, based on the loading and section properties shown above, is given below. The portal frames were analysed as whole frames and therefore the deflection limits for these members were taken as the overall vertical deflection limits for the apex of L / 200, where L is the entire span of the portal frame.

Barn section sizes:

- Columns = 450x450mm GL24c sections
- Beams = 185x675mm GL24c sections

The maximum vertical deflection at the apex is 31.4mm with a deflection limit of 60mm. The maximum horizontal deflection at the eaves was 31.5mm with a deflection limit of 45.6mm.

Community section sizes (Lower roof section):

- Columns = 450x450mm GL24c sections
- Beams = 185x675mm GL24c sections

The maximum vertical deflection at the apex was 21.2mm with a deflection limit of 50mm. The maximum horizontal deflection at the eaves was 17.8mm with a deflection limit of 38mm.

Community section sizes (Taller roof section):

- Columns = 450x450mm GL24c sections
- Beams = 160x495mm GL24c sections

The maximum vertical deflection at the apex was 13.1mm with a deflection limit of 20mm. The maximum horizontal deflection at the eaves was 9.9mm with a deflection limit of 78mm.

Plant room section sizes:

- Columns = 350x350mm GL24c sections
- Beams = 160x450mm GL24c sections

Structural Risks:

- Unknown ground conditions, mineral stability, rock level, presence of contaminants and ground gases. Intrusive Ground Investigation survey required.
- Buried services unidentified on the topographic survey.
- Asbestos is present within existing buildings.
- Change of architectural layout during subsequent design stages leading to a change in the structural concept.
- Increased loads following further design development.
- Existing overhead electrical cables positioned above the roof of the existing and proposed barn
- Proximity of the existing ditch to the south side of the proposed community centre.

Survey's Required:

- Intrusive ground investigation survey, including soil sampling and gas monitoring.
- Demolition and refurbishment survey.
- Height of the existing overhead electrical cables located above the existing barn to be confirmed.

5.13 Main public entrance and car park

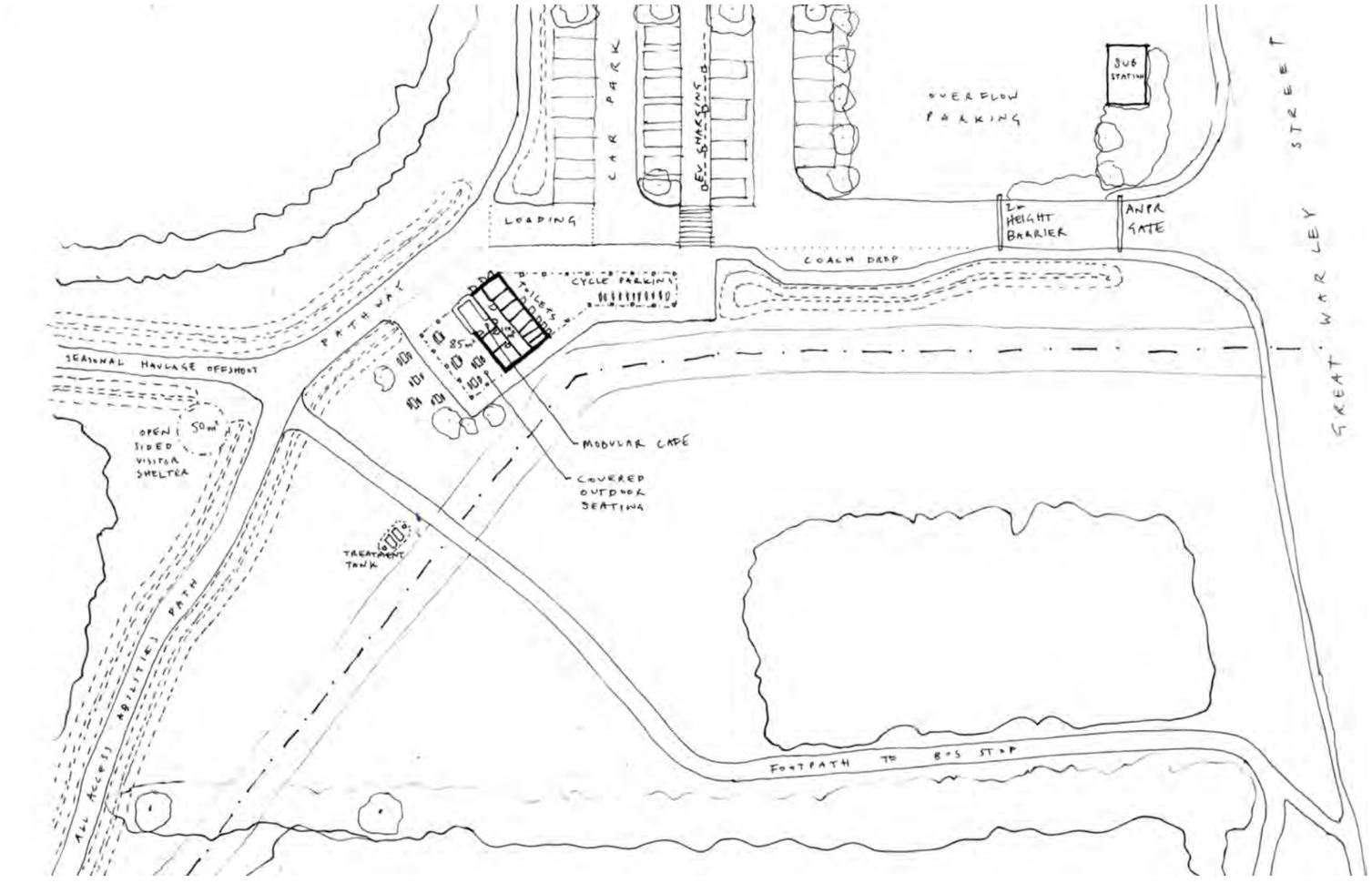
The main entrance for the public accessing the woodland is from Great Warley Street and features a car park, a modular café with covered outdoor seating area, toilets, covered cycle parking and an open-sided visitor shelter. The modular café and open-sided visitor shelter are outline planning for this application and subject to reserve matters.

Further description of this space is described in the Access section (Section 6.0) of this document.

5.14 Substation

A substation is required to the east of the site to provide a power supply to the car park (EV charging spaces), modular café and other facilities. The outline planning design locates it at the eastern extent of the site as there is an existing overhead line which goes below ground in this area.

The structure and finish of the substation enclosure will be determined during consultation with UKPN and the planning authority. This substation design is submitted for outline planning subject to UKPN requirements and further design development. It will be screened from the main car park with vegetation, as far as reasonably practicable. The power supply to the buildings cluster will also be determined during consultation with UKPN.



Sketch: main entrance

5.15 Modular Café

The modular café building, providing toilets, café and covered outdoor seating area close to the main entrance and car park, has currently been designed around a typical modular 'grab and go' facility, found at other countryside sites. The modular approach requires procurement of a complete design and build package and the contractor cannot be determined at this stage.

An outline application will be submitted for these elements of the proposals with matters of location, scale and materiality to be conditioned. This would be subject to reserve matters when a final design is completed.

Outline planning (subject to Reserve Matters):

Modular café area:

- Location: See Proposed Site Plan
- Built footprint: 110m^2
- Height: Single story, max 4.5m ridge height
- Materiality: Timber cladding
- Covered outdoor area with minimum of 3 open sides: 85m^2
- Floor surface treatment: Chip & tar

Modular cafe - precedent images

5.16 Open-sided visitor shelter

It is hoped that the open-sided shelter can be designed and constructed by a student group working in forestry, architecture and construction, such as the Forest School module collaboration of Central Saint Martins, University of the Arts London (UAL) with Forestry England. This process will offer further social and community benefits.

The structure is outlined to be area of 50m^2 and of timber construction. It will provide some permanent seating but will be open at the sides.

Again, the principles of location, scale and materiality will be outlined within the planning and listed building consent application and subject to reserve matters when a final design is completed.

Outline planning (subject to Reserve Matters):

Open-sided visitor shelter:

- Location: See proposed site plan
- Footprint: 50m^2
- Open sides to at least 70% of structure
- Height, variable across roof, max 4.5m ridge height
- Fixed seating beneath shelter
- Shelter to accommodate group of up to 30 adults
- Materiality: Timber

Westonbirt

Kielder Forest

Westonbirt

Haddon Woods

5.17 Landscape: paths and roads

Refer to FE Pathways Design Plan on following page and Access section of this report for further detail.

All roads have been designed to have a swale and a bund and/or hedgerow either side to prevent vehicles deviating from the road into the woodland. Surfacing treatments are to be specified to suit function with a final finish to be of as natural appearance as possible to suit the setting of the woodland. The following surface treatments are proposed for the pathways and roads as part of this application:

Hole Farm Lane

Suitable for pedestrians, cycle, horse, delivery and maintenance vehicle access. Surface in tarmac with tar and chip finish of natural coloured, angled stone chip.

All access abilities pathway with forest management access route

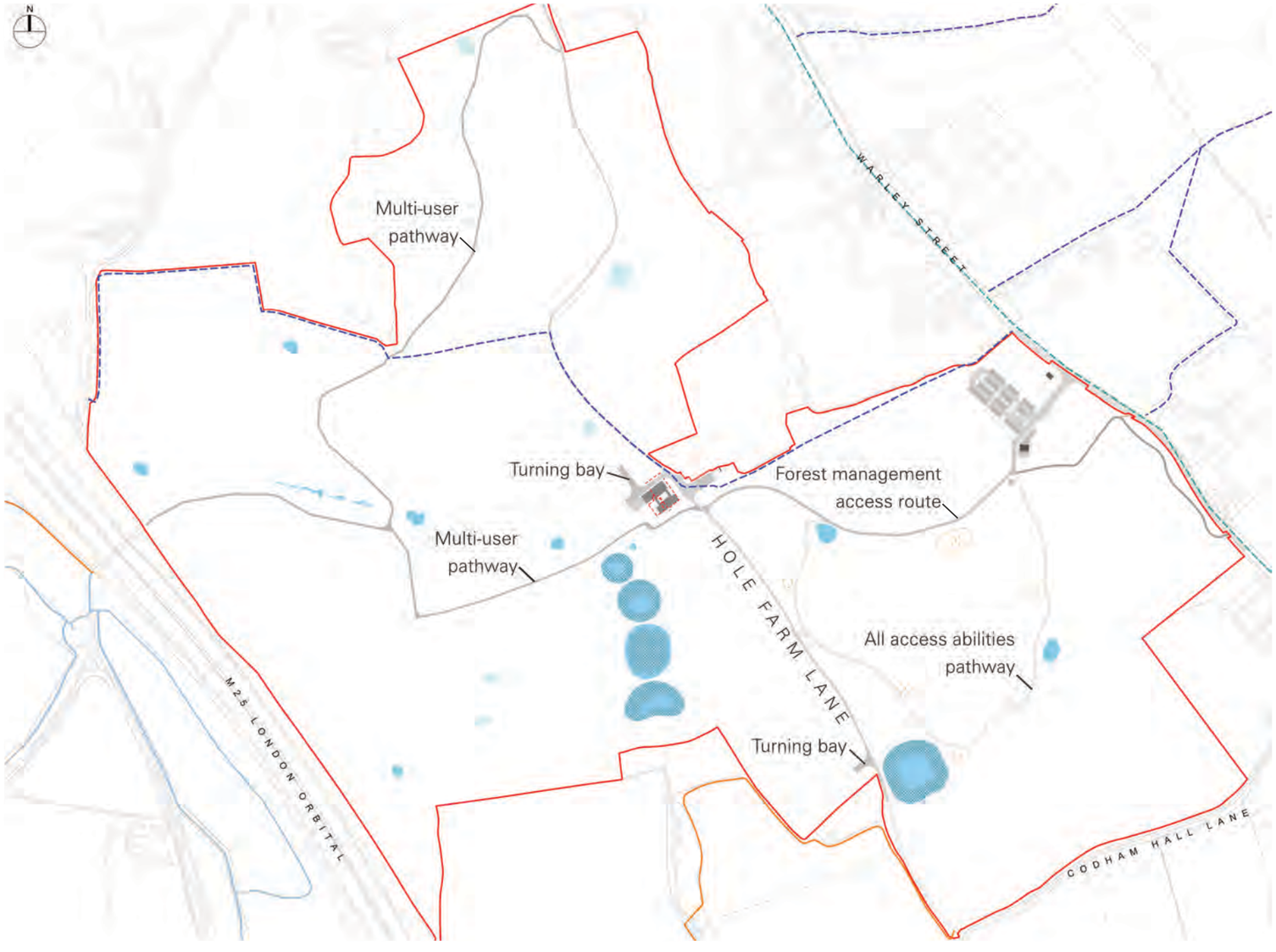
A fully accessible pathway from the car-park through the eastern section of woodland. Surfacing in prime aggregate with a wearing course of tar and chip, grey granite finish. An off-shoot of this route will be used for future forest management.

Multi-user pathway & path from bus stop

Suitable for cycle, pedestrians and maintenance vehicles around the north west of the site. Surfacing unsealed prime aggregate, with compacted 6mm to dust, grey granite finish.

Lorry Turning bays

For occasional large vehicles associated with future forest management. Unsealed prime aggregate.



Proposed site: paths and roads

Pathways Design Plan, Forestry England

Surfaced path Type A = 3.5m width prime aggregate with a wearing course of tar and chip, grey granite finish, design and specification suitable all abilities access

Surfaced path Type B = 3m width tarmac with Tar and chip finish of natural coloured, angled stone chip, design and specification suitable for cycle, horse, delivery and maintenance vehicle access.

Surfaced path Type C = 3m width unsealed prime aggregate, with compacted 6mm to dust, grey granite finish, design and specification suitable for cycle, horse, and maintenance vehicle access.

Surfaced path Type D = 3m width unsealed prime aggregate, with compacted 6mm to dust, grey granite finish, design and specification suitable for Pedestrian access.

Surfaced path Type E = 3m width tarmac with Tar and chip, grey granite finish, design and specification suitable all abilities access and occasional timber haulage.

Key

- Site Boundary
- Existing Woodland
- Existing Wet Area/Pond
- Proposed Building
- Proposed Tree Planting
- Proposed Shrub Planting
- Proposed Natural Regeneration
- Proposed Pond

Pathways Material

- Surfaced Path Type A
- Surfaced Path Type B
- Surfaced Path Type C
- Surfaced Path Type D
- Surfaced Path Type E
- Grass Track
- Other (refer to detail area drawing)

Forestry England

Pathways Design Plan

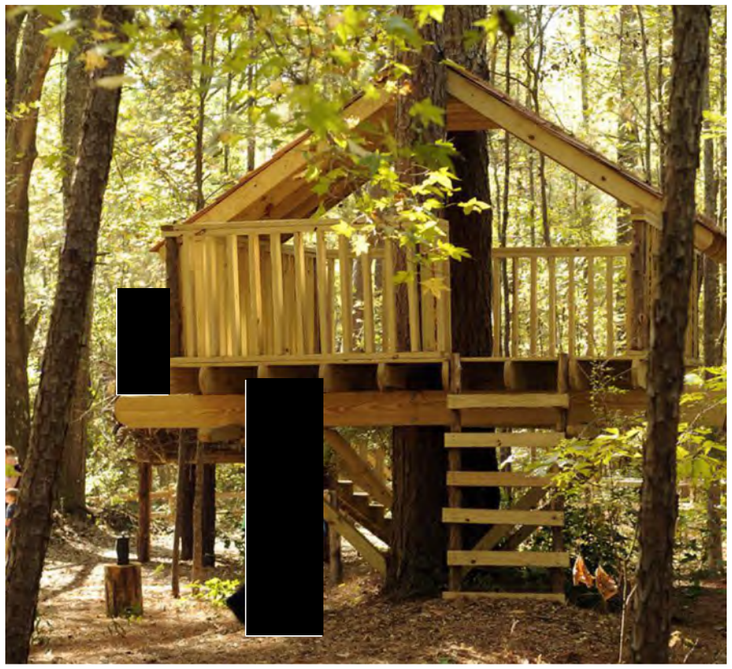
5.18 Landscape: Natural play

Please refer to FE Interpretation Strategy and the FE Woodland masterplan.

Natural play areas are proposed for children to enjoy during their woodland visits. Hoping to encourage walking in nature rather than a destination in themselves, the play trail is located around the all abilities access path for maximum accessibility.

Natural play utilises natural materials as, where possible, sole materials creating organic structures for children to interact with. The beauty of these elements is in their raw form and simple arrangements of structures for play utilise and promote imagination, innovation, creativity and improvisation.

Non timber materials will be sparse and reserved for fixings or creation of elements to complement the natural structures.



Natural play - precedent images

5.19 Landscape: ponds and waterbodies

Please refer to the 'Waterbody Concept Plan' by Forestry England for further details.

Existing ponds typical of the geology of the area will be enhanced and added to for increased diversity of wildlife habitat creation, connecting a site wide network with dual function of natural flood water mitigation.

Ten Seasonal wildlife ponds with wetland cascade

"Ponds and watercourses of varying sizes and hydrological regimes provide places for shelter, foraging and breeding for a variety of terrestrial amphibious and aquatic species"

One pond for dog use

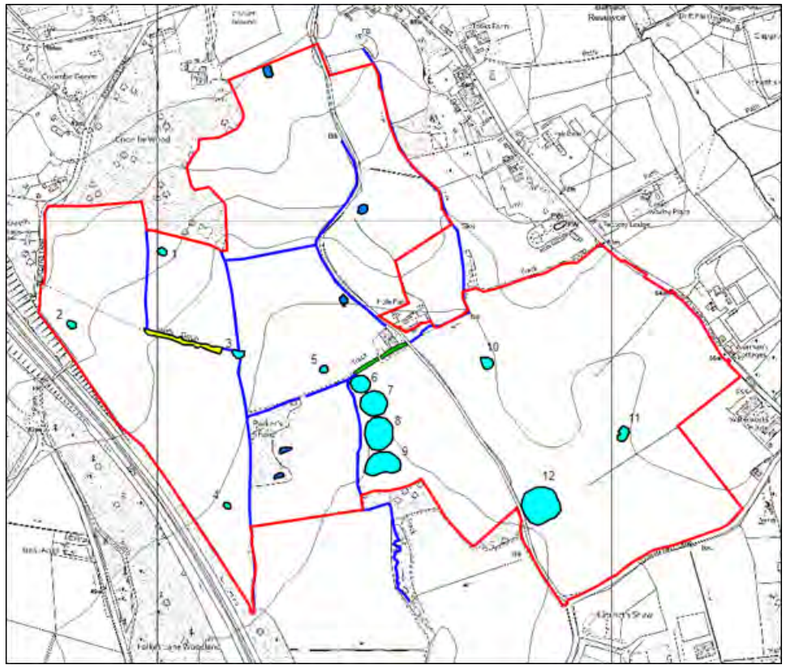
Dog disturbance to ponds can have a detrimental impact on families of sensitive species, bank erosion, sedimentation, turbidity and pollution, therefore a separate pond will provide for dogs.

Leaky dam to site drainage channels

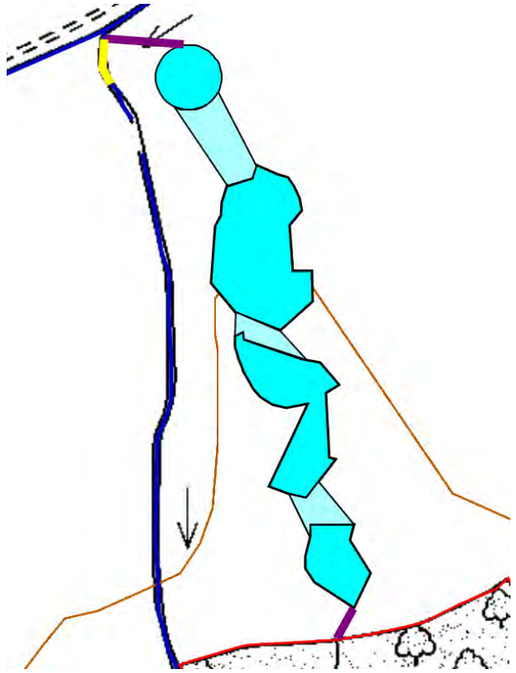
"Leaky dams are designed to attenuate peak flows and their sediment conveying an erosion capacity in watercourses, they also provide temporary wetland habitat and can accumulate woody debris, an important aquatic habitat"

A 150m long reedbed for water filtration

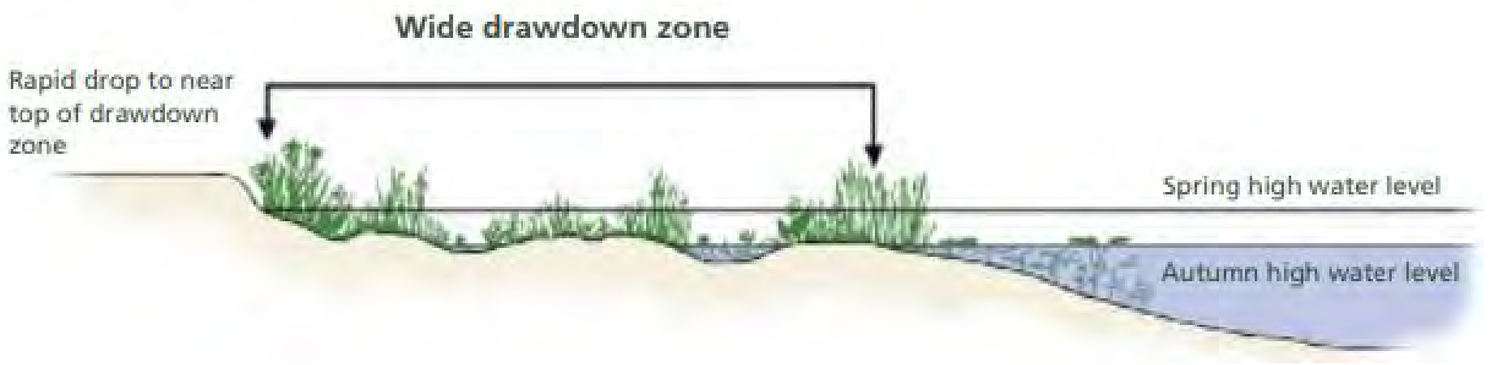
Intercepting the existing treatment plants' eutrophic outfall, the proposed reed-bed is a natural solution to uptake nutrients and de-nitrify, as well as attenuating peak water flows.



Proposed waterbody locations, Forestry England



Cascade schematic, Forestry England



Sectional schematic for varied water levels, Freshwater Habitats Trust, referenced in Waterbody Concept Plan, Forestry England

5.20 BREEAM

The summary below has been prepared by Arcadis.

The BREEAM registration number is: BREEAM-0097-7090.

Overview

Building Research Establishment's Environmental Assessment Method (BREEAM) is the world's first and leading sustainability assessment and certification scheme for the built environment, and assesses, encourages and rewards environmental, social and economic sustainability throughout the built environment. Performance is quantified by individual measures and associated criteria stretching across a range of environmental issues and expressed as a single certified BREEAM rating.

Assessment Type and Scope

The BREEAM UK New Construction v6 scheme is a performance-based assessment method and certification scheme for new buildings, and it aims to mitigate the life cycle impacts of new buildings on the environment in a robust and cost-effective manner. It can be applied to both complex and less complex building projects. The Community Building in this proposal has been classed as a Simple Building due to the scope of services within the building. A Simple Building is defined as having building services that are predominantly of limited capacity and local in their delivery, largely independent of other systems in the building fabric and without complex control systems.

BREEAM Score and Rating

An 'Excellent' rating has been targeted by the project which requires a score of ≥70% including all mandatory credits and pre-requisites. A BREEAM UK New Construction v6 Pre-assessment for Hole Farm has been undertaken by the Assessor (Lorna Hurst, Arcadis) with the design team in RIBA Stage 2.

The project is currently targeting a score of 73.86%, 'Excellent', with 8.98% identified as potential additional credits. These potential credits are to account for unforeseen circumstances and provide a buffer to the minimum score required. Should these potential credits also be achieved, the targeted score could be 82.84%, 'Excellent'. The targeted credits have been agreed as achievable by the design team and they have committed to ensuring an 'Excellent' rating will be achieved.

Next Steps

The design team are currently providing BREEAM compliant evidence for the targeted RIBA Stage 2 credits to ensure these can be achieved within the correct timeframe. The Assessor will review and write this evidence up as part of the Design Stage Assessment which will continue throughout RIBA Stages 3 and 4. Upon successful completion of the Design Stage Assessment and QA, the BRE will provide an Interim Certificate confirming the score the design stage assessment has achieved.

Key Credits

There are a number of key requirements and credits to be achieved under BREEAM including those with RIBA Stage 2 requirements, and mandatory credits. Elements include:

- Man 01 Stakeholder Consultation
- Man 01 Sustainability Champion - appoint BREEAM AP
- Man 02 Elemental Level Life Cycle Costing
- Hea 06 Security
- Ene 04 Passive design analysis and Low Zero Carbon
- Tra 01 Transport Assessment and Travel Plan
- Mat 01 Project Lifecycle Assessment (LCA)
- Mat 03 Enabling sustainable procurement
- Mat 06 Material efficiency
- Wst 05 Adaptation to climate change
- Wst 06 Design for disassembly and adaptability
- LE 02 Ecological Risks and Opportunities

Post RIBA Stage 2, Mandatory Credits for 'Excellent'

- Man 03 Responsible Construction Management
- Man 04 Commissioning
- Man 04 Building User Guide – A Building User Guide
- Man 05 After care
- Ene 01 Reduction of energy use and carbon emissions
- Ene 02 Energy Monitoring
- Wat 01 Water Consumption - mandatory Excellent
- Wat 02 Water Monitoring
- Mat 03 Responsible Sourcing of Construction Products
- Wst 03 Operational Waste

5.21 Sustainability statement

The summary below has been prepared by Arcadis. Please refer to full Sustainability Statement.

Summary

The Sustainability Statement reports sustainable opportunities from a project delivery and engineering perspective in-line with the Brentwood Local Plan 2016-2033. It outlines a sustainability strategy which puts forth the approach, objectives and targets for the Project. This includes sustainable energy and carbon reduction measures - more specifically, the expected building performance standards, how the Project will balance solar gain against overheating risk, the approach to minimising energy demand through careful building design, efficient heating solutions and the renewable energy supply. The statement also describes how the Project will adapt to climate change, this applies to both the built and external environment and how they interact. It then goes on to detail site waste management, use of materials, biodiversity and ecological improvements, health and well-being improvement measures as well as mitigation measures for both air quality and noise.

5.22 Environmental sustainability

Environmental sustainability has directed the design of the buildings from the beginning of the design process. See illustrative diagram of strategy on following page.

Low carbon and passive principles have been prioritised for the site for the client brief and for the climate emergency that we are situated within at this moment in time. The design aspects enabling these aspirations are outlined below:

Low embodied carbon

The original intention was to minimise waste of materials and energy with the reuse of the existing barns. Feasibility led to the focus of building 2 being retained; however further structural inspection meant that this was not practicable. Timber construction is not only suitable to the site and Forestry England's aspirations on the creation of woodland, but has low embodied carbon in comparison with other construction methods typical to this form of building, such as, steel frame or concrete.

Passive heating and cooling systems

The building is designed for high thermal performance with form and orientation laid out to receive sunlight along the long south side and through the clerestory fenestration in the roof pitch, providing natural light and warming the thermal mass of the north wall. The north side of the building has limited openings in order to retain thermal mass.

The warm nature of timber construction is beneficial in the minimising of thermal bridges in the building construction. Good air-tightness is achievable and natural insulation and finishing materials will provide good breath-ability and low levels of toxicity.

The tower to east above the main entrance lobby not only reflects the existing grain store tower but provides passive ventilation for the office space. Actuated openable rooflights in the tower roof work in conjunction with louvres to the internal wall to the office, pulling air through the building utilising the stack effect for passive ventilation.

The thermal mass of the warm, highly insulated timber construction, the glazing strategy and the passive ventilation should work to achieve excellent thermal comfort with minimal energy requirements for heating and ventilation.

Daylighting & balancing solar gain

Large scale fenestration on the south-west corner of the community space and the clerestory glazing above, provide good daylighting from dawn to dusk throughout the year.

Overheating and glare have been modelled and found to not be a risk due to the orientation of the building. The fenestration was informed and tailored in an iterative design process utilising 3D modelling of site daylighting throughout the year and working with MEP modelling software to review.

Community kitchen and FE office have north facing external windows balancing light, views and intimacy levels required.

Low energy space and water heating

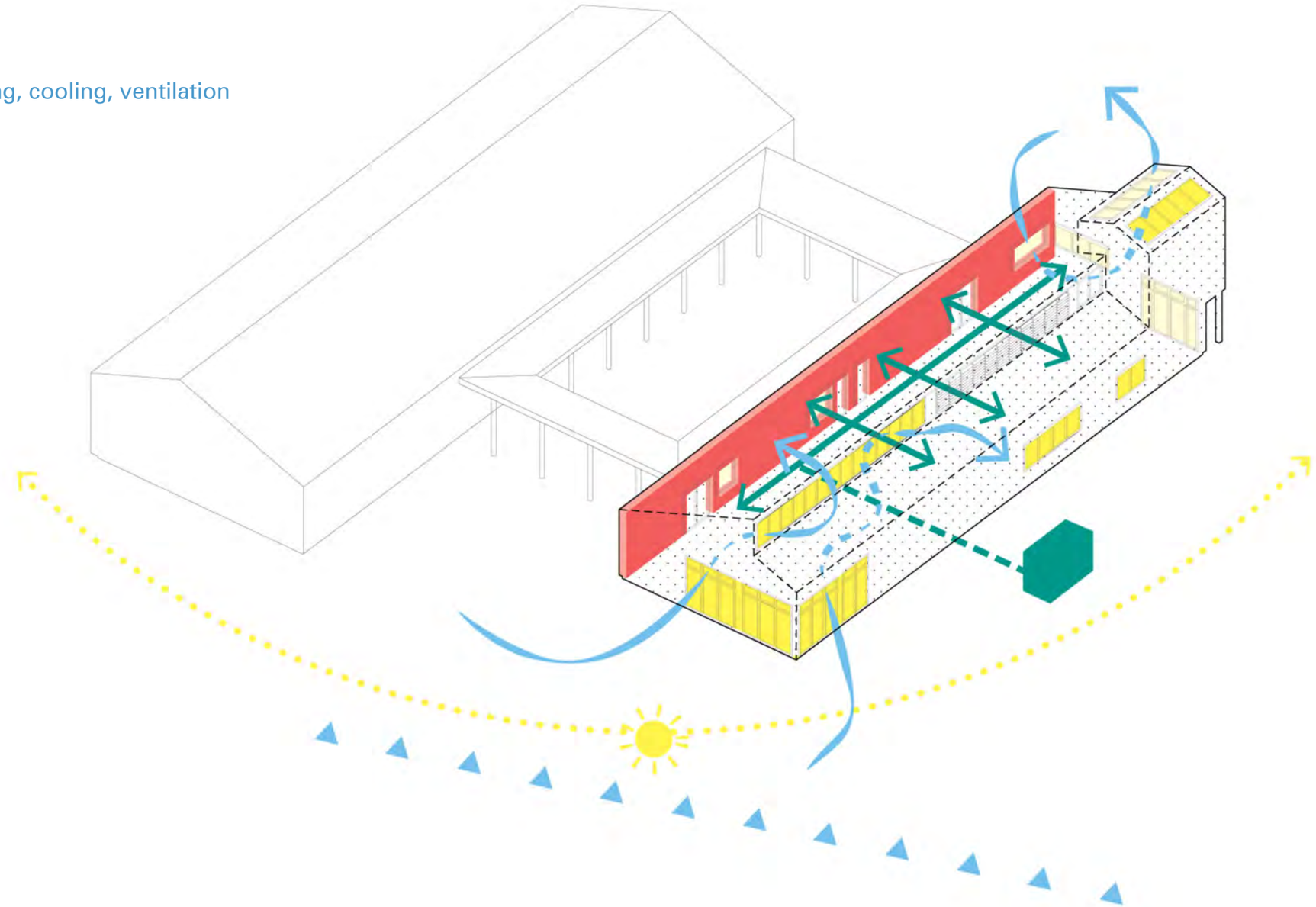
The passive heating and cooling strategy minimises energy requirements for heating and cooling. Residual requirements for further heating and for hot water are to be met with low energy systems utilising Air or Ground Source Heat Pumps (ASHP) in conjunction with Mechanical Ventilation Heat Recovery (MVHR) where further ventilation is required for toilets, kitchens and the office. The ASHP will power the Underfloor Heating through the ground floor. Machinery and equipment powering these systems will be strategically located utilising the mezzanine space above the toilet area and where outside manifolds are required to the south of the building, they will be screened with vegetation.

Rainwater harvesting and water recycling

Water recycling with rainwater harvesting and grey-water reuse will be utilised to meet the water demands; reducing use of mains water and production of waste water requiring treatment. Rainwater will be collected from the roof and stored in both external troughs for use irrigating the community tree nursery and garden, as well as, stored and pumped for flushing toilets in the building.

The modular café will also feature small scale rainwater collection for use in flushing the public toilets.

Low carbon heating, cooling, ventilation



Environmental Sustainability

Sustainable energy sources

Renewable energy opportunities have been considered with solar panels identified as the most suitable for the site.

The community building and FE barn will have solar panels on the south facing roofs, providing power to the electrical requirements of the building and feeding any excess back into the grid.

Foul waste water

New package treatment tanks, one for the community building and one for the modular café are proposed to utilise an environmentally friendly, low carbon approach without chemicals. These systems will reduce frequency of vehicles on site pumping out the tanks in comparison with conventional septic tank systems. The three phase high quality complete treatment allows run-out to the drainage swales.

Life Cycle

The building is designed to last, with a design life minimum of 75 years. The buildings are to be in solid, durable construction, with materials and finishes that are long-lasting as well as easy to repair and maintain.

Adaptability

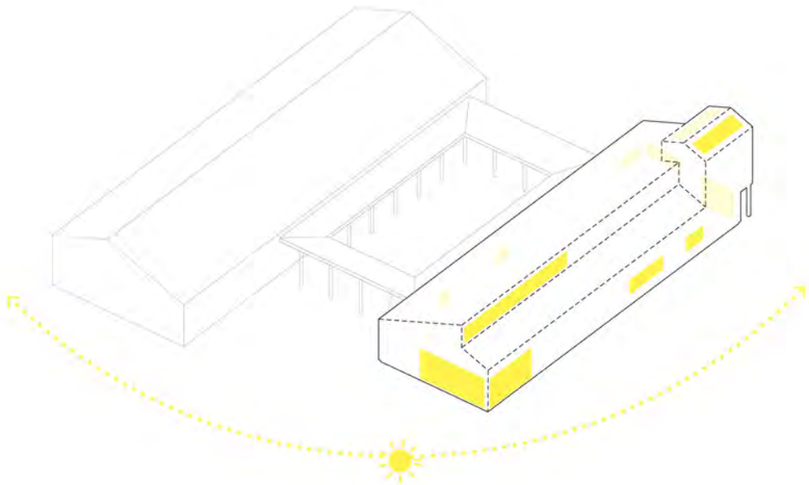
The building layout has been designed for longevity of use. The architectural layout is adaptable, accessible, spatially generous and able to accommodate multiple or singular occupants. The spaces are generic and adaptable to different user and uses.

Reuse and recycling of construction materials

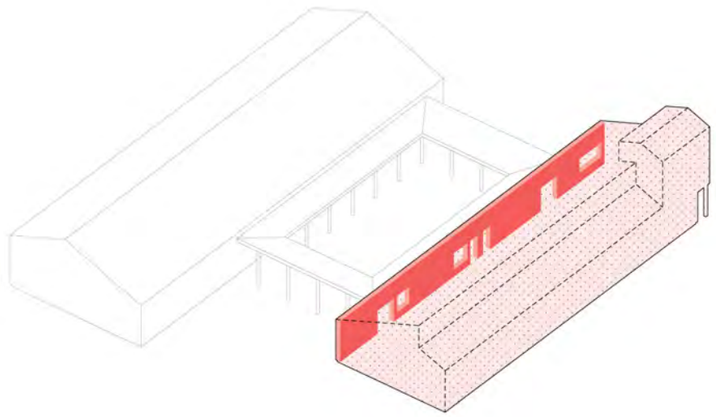
The existing buildings will be demolished with a strategy for inspection and reuse or recycling of all possible materials, such as the steel frame of the grain store.

The proposed building construction principles are for timber portal frames that can be dismantled for reuse of the timber components in the event that the building was no longer required.

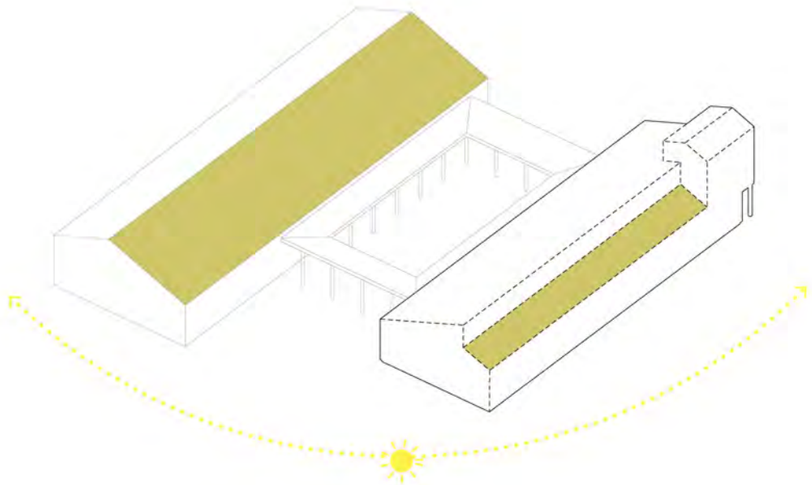
Low carbon, low energy, passive building design



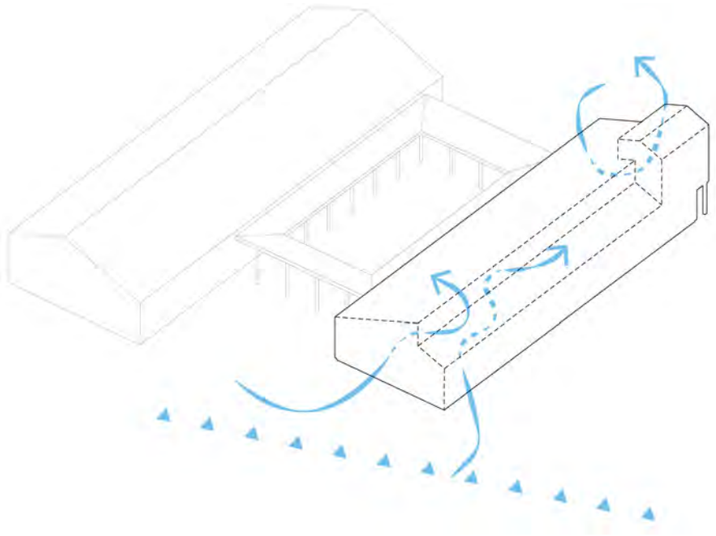
Daylighting



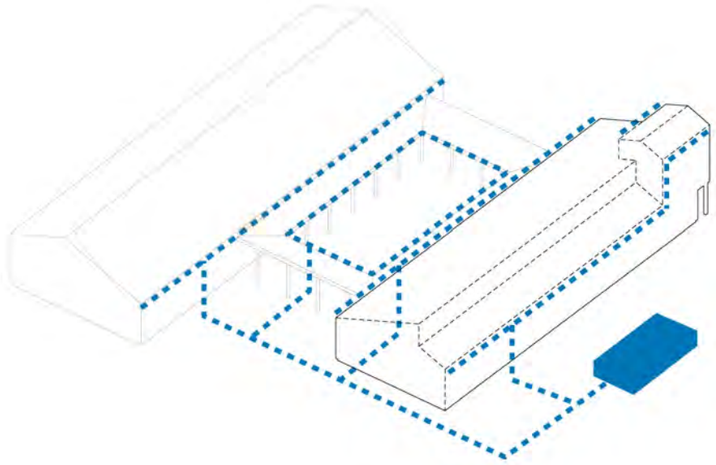
Thermal mass
High levels of natural insulation
Air-tightness



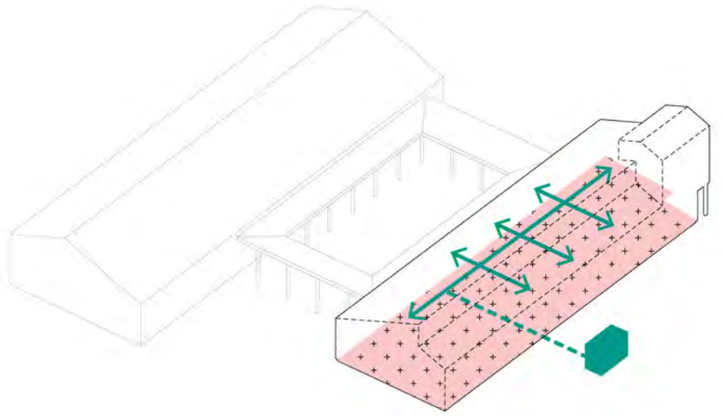
Solar Photo-voltaic



Passive ventilation with stack effect



Rainwater harvesting for toilet flush



Air-Source Heat Pumps for
Underfloor heating
Mechanical Ventilation Heat Recovery

Daylighting design development studies (community space), facing west

MIDWINTER 21 DEC 08:00

MIDWINTER 21 DEC 12:00

MIDWINTER 21 DEC 16:00

EQUINOX 21 MAR 08:00

EQUINOX 21 MAR 12:00

EQUINOX 21 MAR 16:00

MIDSUMMER 21 JUN 08:00

MIDSUMMER 21 JUN 12:00

MIDSUMMER 21 JUN 16:00

5.23 Mechanical, Electrical & Public Health considerations

The following summary has been prepared by Arcadis following their studies for the MEP design for the proposed buildings.

Mechanical appraisal

Mechanically the proposal uses passive design wherever practicable to minimise energy usage. This will include natural ventilation to provide fresh air and passive cooling.

Where natural ventilation is not practical due to building geometry or room type, MVHR (mechanical ventilation heat recovery) units will be provided. These use exhaust air to warm incoming supply air using a plate heat exchanger. This recoups energy which would otherwise be lost.

For space heating an underfloor heating system split into a number of zones is proposed. This provides uniform heating across the site whilst also providing control for periods of differing occupancy profiles and usage. The underfloor heating system will be served by heat pump technology (air source or ground source) which would provide optimal efficiency of the system and low carbon emissions. There is the option of also using solar thermal panels and hot water storage however at this point in the design we believe this solution is a lot less efficient especially during the winter period.

Solar thermal panels are still an option for serving the domestic hot water system and further studies can be done to assess the feasibility of this strategy. Alongside potential solar thermal panels there is also the possibility of using solar PV (photovoltaic) panels. These would offer a renewable electricity supply which could be used for serving lighting, equipment, and other electrical items. PV battery storage to work in conjunction with roof panels provided is an opportunity to reduce carbon emissions even further.

The majority of the community building's rooms do not require cooling as per CIBSE Guide A. The community space shall be passively cooled in summer using natural ventilation. The only other room requiring mechanical cooling is the FE office. The proposed design shall use a split condenser unit to provide heating and cooling to the office. This can be controlled thermostatically and manually. This strategy also benefits from having a faster response time than that of a natural ventilation/ underfloor heating strategy which can take a number of hours to reach the required room conditions.

Public Health Appraisal

The Public Health design aims to reduce mains water consumption and waste water production by recycling, through the use of rainwater harvesting and grey-water re-use. A rainwater tank with integrated pumps shall be buried and shall be used for irrigating the local gardens and for toilet flushing.

There is the possibility of using solar thermal panels to serve the domestic hot water system. However, if this is deemed impractical, localised instantaneous water heaters could provide the hot water required across the site.

Electrical Appraisal

The electrical lighting design for the FE Barn will be a combination of a lighting control and manual switching due to the nature of work undisputed to be undertaken in this building area using energy efficient luminaires.

Control of the lighting for the Community Building will be by presence detection and day light sensor with manual override switches provided in the community room and entrance hall.

Control of the lighting for the modular café at the entrance of the car park area will be by time-clock, presence detection and day light sensor.

External lighting is to be limited to entrance doors to buildings with the addition of lighting for limited occasions of evening use of the community space informal car parking.

All lighting to be used will be LED fittings.

The electrical power design across the site will be limited to small power outlets and providing fuse connection outlets and isolators to any mechanical equipment that needs to be powered by means of electricity.

There is an option which will be explored at a later stage if the ticket machines within the car park can be a hybrid of solar power and fixed power to power them.

Both the southern facing roofs of the FE barn and community

building plan to be installed with either PV panels to help power electrical and/or mechanical plant within both buildings.

No PV is being planned to be installed on either the substation building or modular café at the car park entrance to the site.

The substation is planned to have a total capacity for 24 electric vehicle charging outlets for future proofing, although, only 14 are planned to be installed in this proposal.

2 no. 7kw single outlet for use by the forestry vehicles (2 spaces in total)

22 no. 22kw dual outlet socket for the public car park area (44 car parking spaces in total including any disabled parking bays)

Architectural Considerations

Arcadis MEP Consultants performed a number of tasks which have been used to inform the architectural design and also to understand if BREEAM excellent targets are attainable. The tasks are as follows:

Daylighting – Studies have been performed on the community building to see whether it is possible to achieve BREEAM credits for daylighting.

Natural Ventilation – Studies have been performed to understand how much glazing/louvre area is required to meet natural ventilation requirements for the community hall. With the current glazing design there is sufficient area for openable windows to be used to achieve a natural ventilation solution.

Overheating – Overheating studies have been performed as per Approved Document O and all areas of the community building have passed. Future summer weather files were used.

External plant areas – Studies have been performed to understand the amount of external plant area provision. These areas would house any heat pumps for the design.

Roof panel provision – Studies have been performed to inform the requirement for using roof areas for solar thermal/PV panels. Using all southerly facing roofs, a figure of ~36,000 kWh/m2/year is achievable.

5.24 Surface water drainage

The Hole Farm Community Woodland proposal aspires to become an inspiring place for the local community to enjoy and explore. The run-off from the proposed areas has been drained through combination of swales, pipes and detention basins, which would help attenuate the outflow to allowable rates and provide mitigation for the pollution from the site along with tying into the surrounding landscaping and building proposal to provide biodiversity benefits. All the drainage assets have been designed in accordance with guidance laid out in Sustainable Drainage Systems Design Guide (Essex County Council, February 2020), The SuDS Manual (CIRIA C753)

The extent of the works has been sub-divided into three catchment areas based on ground topography and proximity to outlets. Drainage network for these catchment areas discharge to Tertiary or Secondary River at greenfield discharge rate corresponding to 1 year return period. Discharge through infiltration could not be proposed due to existing ground conditions shown by preliminary soil investigation. Rainwater butts have been proposed to store some rainwater for re-use in the tree nursery and near the modular cafe. In the event of higher than design return period rainfall, the flooded water would follow the natural ground slope to flow towards the existing watercourse at the south west of the site.

Rainwater harvesting is proposed with storage adjacent to both the community building and the modular café. This will be utilised for the flushing of the toilets in each building. The capturing of rainwater in these locations will have some additional localised retention easing pressure on the surface water drainage system. However, this additional localised capacity has been excluded from the surface water drainage calculations so that these two systems can act independently of one another.

Preliminary water quality assessments, using the Simple Index Approach, have been undertaken for current drainage proposal which shows that the SuDS proposal is sufficient to mitigate the pollution hazard posed by the Project and hence the water quality of the receiving watercourse would not be worsened.

The on-site drainage will be managed by the applicant who will be responsible to maintain any on-site services including drainage. The maintenance provisions are in accordance with Table 7.1 ofThe SuDS Manual (CIRIA C753) and have been modified to suit the current proposal.

The current proposal is preliminary and is based on available existing site information and current building and access proposal. The design decisions and proposal will be developed through the detailed design stage in accordance with the agreed standards.

5.25 Foul drainage

The foul drainage from the development is proposed to be collected by new private foul drains which includes flows from the community building and the café kiosk, including from staff, visitors, volunteers, customers etc.

The existing public sewer records indicate that there are no public sewers within or in proximity to the proposed development site. Therefore, the new foul drainage system will be discharged to two new package treatment plants before entering the surface water drainage system. It is proposed to design two separate systems for the community building and the modular cafe.

These three phase treatment systems offer complete on site treatment, so that run-off can go directly to the on site surface and ground water courses. These systems utilise an environmentally friendly, low carbon approach without chemicals. This foul water drainage reduces frequency of vehicles on site pumping out the tanks in comparison with conventional septic tank systems.

The tank needs to be a minimum distance of 10m from any building or watercourse. Please refer to proposed drawings for location and dimensions.

The existing septic tank serving the residential buildings will remain separate to this application and the proposed buildings.

5.26 External lighting

The external lighting across the site is to be limited as far as practicable in order to restrict any urbanisation of the site and to mitigate any impact upon wildlife.

Long-eared brown bats have been located on the site and this species in particular, as well as other bats found on the site, are protected and external lighting has a negative impact upon them.

The operational hours of the site are dawn to dusk, therefore lighting requirements are reduced to low light levels approaching dusk, particularly in the winter months. Any external lighting will be low light pollution by design, low energy and controlled.

In the car park, there will be no external lighting provided after dark as the car park will be closed; with access gates locked, restricting access to the site. Security lighting, on a sensor and timeclock will be provided around the modular cafe for employee's locking/unlocking and at the entrance to the site. Lighting at the entrance will provide enough light for the ANPR/CCTV systems to recognise vehicles entering and leaving the car park in low light.

Similarly, at the buildings cluster no external lighting will be provided around the site. Low level, bat-friendly lighting will be provided at the informal car park adjacent to the buildings cluster, should the community hall be in use after dark. This will be controlled by a timeclock and lux sensor to ensure artificial lighting is only used when natural light levels dictate. There will be a sensor light to provide the minimum amount of external lighting around the FE barn for safety and security around dawn and dusk.

Sheltered bike storage will have motion detection operated illuminates in the event of cyclists leaving or arriving at the site around dawn and dusk.

5.27 Bat mitigation

Please refer to the Bat Survey and the Ecological Impact Assessment by Arcadis for further detail.

Buildings 1 and 2 are proposed to be demolished due to significant structural deterioration. Evidence of common and soprano pipistrelle bats has been found in these buildings. In order to avoid any risk of impacting upon these protected species, careful mitigation measures need to be in place, including following Ecologist advice:

- EPS Mitigation License - Obtained from Natural England, prior to commencement of any work including clearing shrubs etc.
- Bat boxes - replacement accommodation in the form of bat boxes of similar size and function to the roosts being lost will be accommodated on or in close vicinity to the new buildings. Crevice boxes are recommended. A 3:1 ratio of bat boxes per roost lost will be applied, resulting in minimum of 6 bat boxes on site.

Further mitigation measures are required for any works to any mature trees. Any mature trees affected (some are veteran trees) will be subject to inspection and licenses required for works.

Retention and enhancement of edge habitats and boundaries acting as wildlife corridors is required to protect the commuting, foraging and roosting activities of bats on site.

Overall it is considered that the conversation of arable land to woodland and grassland will have a positive improvement of foraging and roosting habitat for diverse bat species.

Examples of bat boxes and houses

6.0 Access

6.1 Transport Statement summary

Existing Highway Network

The site is bound by the B186 Great Warley Street to the east and the M25 to the west. The B186 Great Warley Street is a single carriageway rural road, approximately 6m wide on average. The speed limit is 40mph and the road is unlit until it reaches the village of Great Warley to the north, at the location of the existing gated access to Hole Farm.

There is another existing access to the Hole Farm site off Great Warley Street via Codham Hall Lane. This access is a single lane track and to assist the route is kept clear of obstructions a sign prohibiting no waiting is erected on entry.

On a wider scale, the site is well connected to the key highway network with the M25 and A127 running near the west and south boundaries of the site respectively.

Public Transport

Bus service 269 is the only service which runs along and stops on the B186 Great Warley Street. This service operates between Grays and Brentwood, with buses only every two to three hours on Monday to Saturday (total of five per day in each direction) and no service on Sunday.

The nearest train stations are Brentwood and West Horndon, which are approximately 3.1km and 3.8km away respectively.

WCH Infrastructure

There is a pedestrian footway along the B186 Great Warley Street and existing footpaths which link to the B186 Great Warley Street from the east, in the vicinity of the gated access to the Hole Farm site. However, there are no formal pedestrian crossing points along the B186 Great Warley Street, including through Great Warley village.

There is currently no cyclist infrastructure along the B186 Great Warley Street, requiring cyclists to utilise the carriageway.

Safety

Collision data obtained on the B186 Great Warley Street shows just four slight collisions in five years and no serious or fatal collisions. None of these collisions are in the vicinity of the proposed access junction.

Summary and conclusions

Please refer to the Transport Statement prepared by Jacobs for the full report.

"This assessment shows that the proposed new Community Woodland with 94 car park space at Hole Farm can be satisfactorily accessed by all relevant modes of transport and will have a marginal traffic impact on the local highway network during the traffic peaks.

The proposals will provide additional pedestrian access points on Great Warley Street and would link existing footpaths and a bus stop on Great Warley Street. In addition, a network of access paths with links to surrounding PRoW comprising a network of routes that include multi-user tracks suitable for walking, cycling and horse riding and an all abilities access trail suited for mobility impaired visitors, would improve permeability through the site for pedestrians and cyclists.

It is therefore concluded that the impact of the development is not significant and that the existing and proposed transport infrastructure is adequate to serve the new facilities." - Jacobs

6.2 Travel to site

Access to the site is primarily through the following modes of travel:

Vehicular

Adjacent to the M25 and a kilometre from junction 29, vehicular travel is a key mode of travel to the site. This will be accommodated with a new public car park off Great Warley Street.

Bus

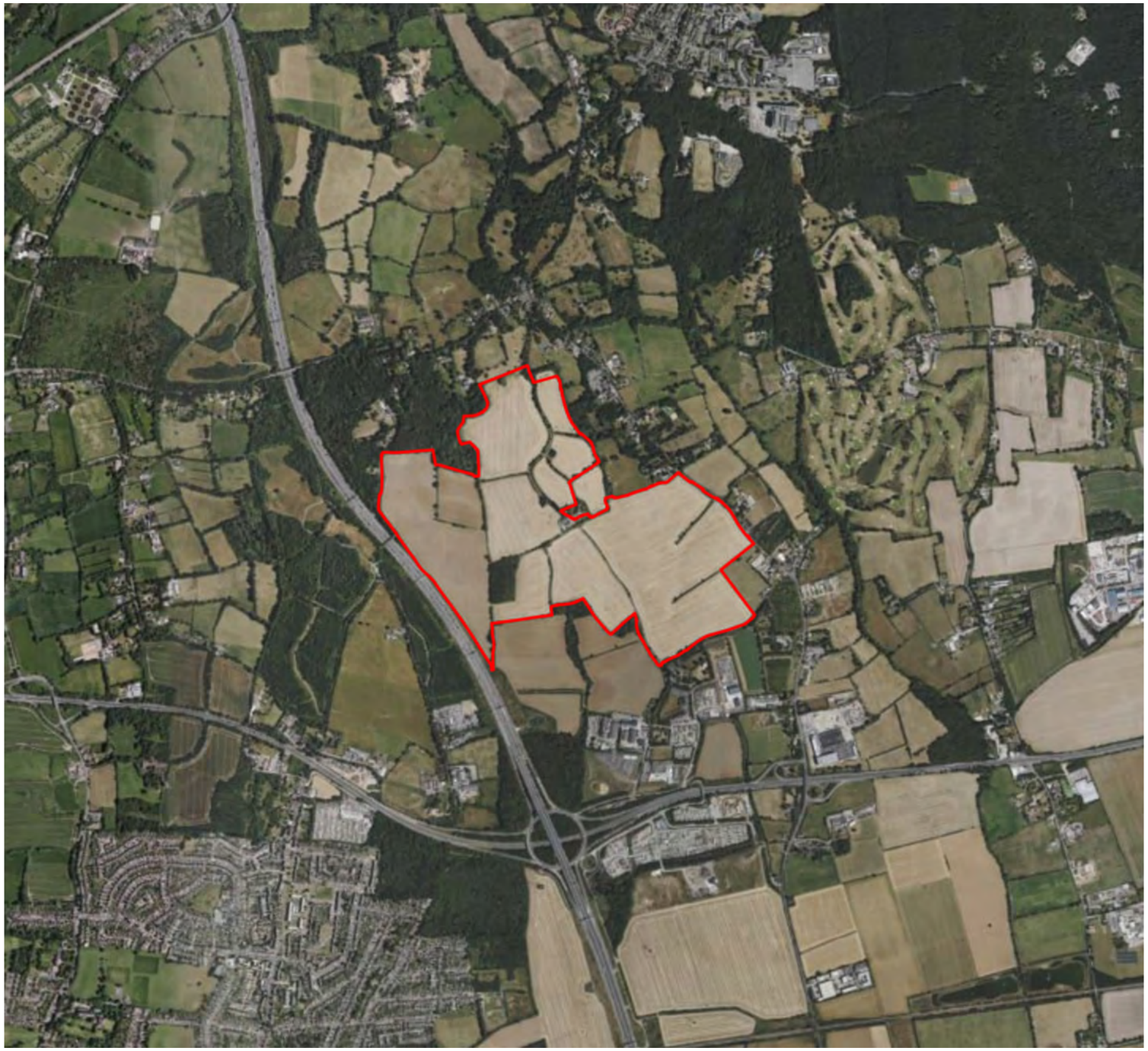
There is a bus stop within walking distance on Great Warley Street. This clean method of travel is encouraged with the surfacing of a footpath to take people away from the pavement on the busy road, bringing them towards the woodland south of the new public entrance.

Pedestrians

Nearby Great Warley and other local settlements within walking distance of the woodland, will have multiple pedestrian access points. There is an existing footbridge over the M25 connecting Folkes Lane Woodland.

Cycling

Cycling from Folkes Lane Woodland and from Hole Farm Lane and from Great Warley Street. There will be cycle parking at the public car park and at the central building cluster.



6.3 Access points

Refer to Forestry England Hole Farm Security Plan document. There are 9 access points to Hole Farm offering access to a combination of user types, vehicles, bikes, wheelchairs, mobility scooters, horse-riders and pedestrians.

Pedestrian entrance 1

Entrance 1 connects to Folkes Lane Woodland and a kissing gate with integrated horse step will allow bridleway access.

Pedestrian entrances 2, 3, 7, 8

These entrance points will have kissing gates or stiles to maintain access onto the Public Footpath.

Vehicular entrance 4

This provides vehicular access for the existing Farmhouse residents only and will have a locked gate across the road requiring a code for entrance.

Vehicular and pedestrian entrance 5

This existing locked access gate is for Anglian Water access only and will remain unchanged. A kissing gate or stile will retain access for the PRoW.

Vehicular and pedestrian entrance 6

The access to the main car park will have an ANPR system and a height barrier, with a vehicle barrier that will be locked outside of opening hours. There will be kissing gate for pedestrian and cycle access.

Vehicular entrance 9

The main vehicular access to the community and FE buildings, this entrance will be locked with code required for access. This will connect to the existing bridleway.

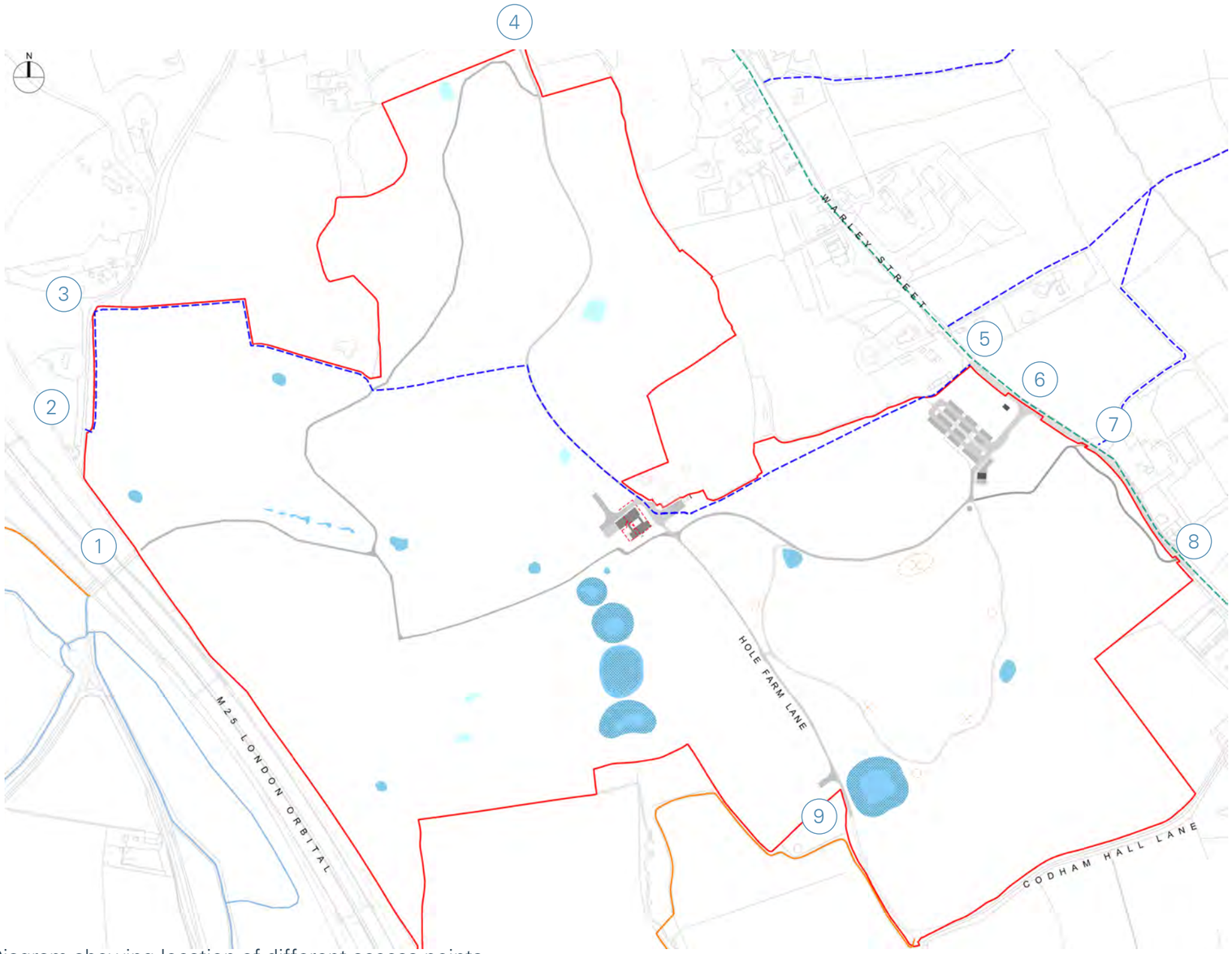


Diagram showing location of different access points

Access points

The different access points have different threshold treatments designed to manage the movement of visitors between different areas of the site. These include kissing gates, vehicle access gates, vehicle security barriers and horse step overs. The diagram adjacent summarises the different treatments:

Horse step over

Kissing gate

Vehicle security barrier

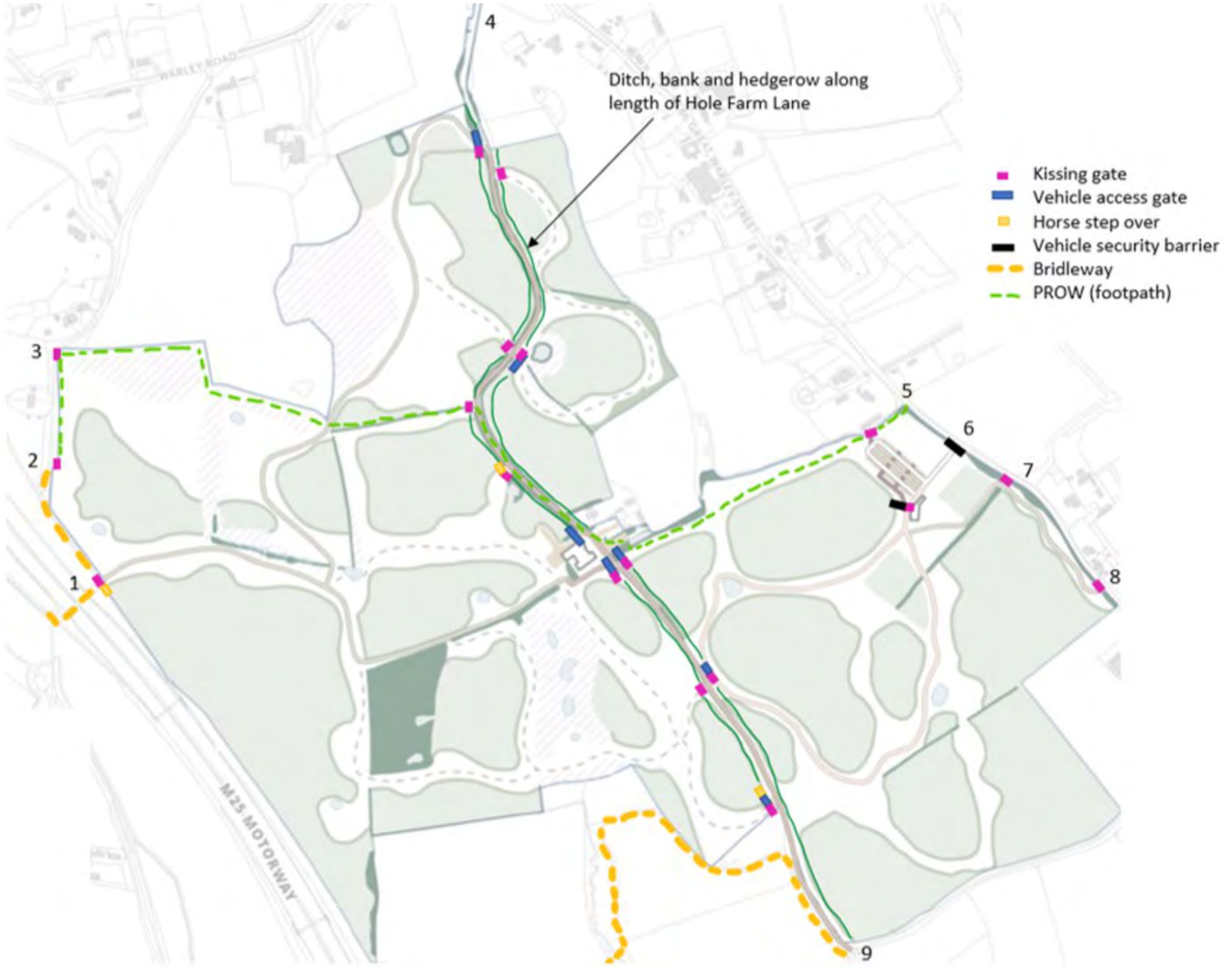


Diagram showing location of different gates and access points

6.4 Movement within the site

See proposed drawings including Car park, Highways and Surface Drainage, as well as, Forestry England Pathways Design Plan, for more detail on pathways and roads.

Hole Farm Lane

The main north-south route through the site, this road will be upgraded to accommodate cycle, horse, delivery, maintenance vehicles and cars to the central building cluster.

All access abilities pathway and forest management access route

Provided to maximise inclusion and safety for all users, an all access abilities path will be clearly demarcated. Leading from the public car park, this circular route connects up to Great Warley Street. There is a forest management access route for vehicles related to future forest management activities.

Multi-user pathway

Encouraging as many different types of movement through the site as possible. This path is suitable for cycle and maintenance vehicles and connects Folkes Lane Woodland with Hole Farm Lane.

Lorry Turning bays

Turning bays are provided for large 18m long vehicles required for future forest management.

Public Right of Way

The existing ProW running through the site will be maintained according to law allowing unobstructed pedestrian access at minimum width of 1.5m

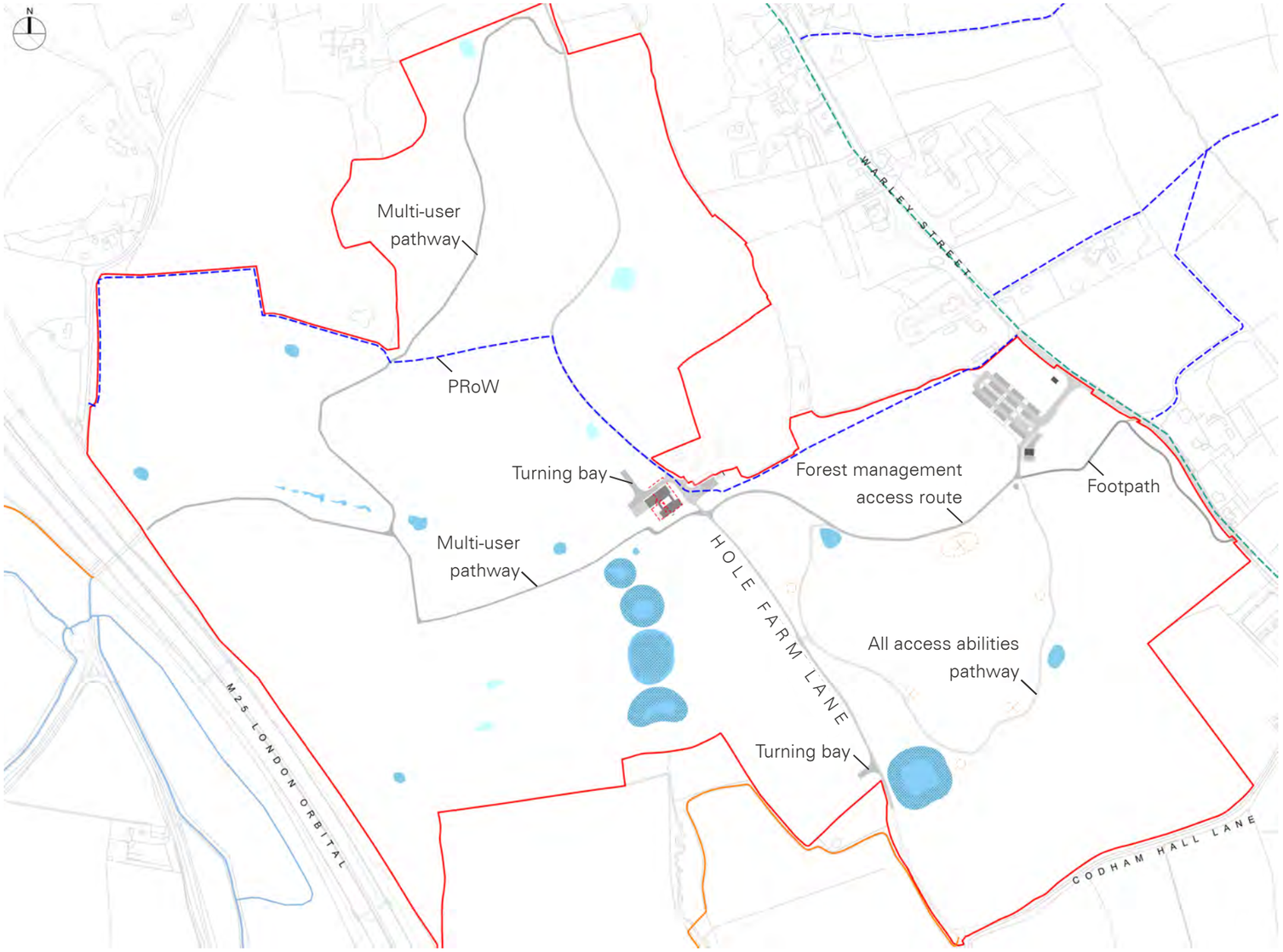


Diagram showing pathways and roads within the site

6.5 Vehicular access routes

Motorised vehicles requiring access through the site are summarised below, with 4 key routes provided.

Emergency access to the site is provided via route 1 and 2 for access to the buildings cluster and via route 3 for the car park and visitor facilities. The emergency services are provided with access codes for all access gates by Forestry England.

Access Location	Area of site	Example Vehicles
1) Hole Farm Lane	Private residential properties	Waste/refuse collection and emptying septic tank, deliveries and postal services, private residents' vehicles and visitors
2) Codham Hall Lane	Buildings cluster - Community Building and FE Barn	FE staff, deliveries and postal services, waste/refuse collection, skip collection, cars and/or minibuses of visitors to the community space, Thames Chase Trust staff and volunteer vehicles, water treatment maintenance vehicles
	Site maintenance	Tractors and balers, FE 4x4 vehicles, dog waste bin collection
3) Car Park via Great Warley Street/B186	Car park and modular cafe	Visitor vehicles and coaches, cafe staff vehicles, cafe delivery vehicles, waste/refuse collection, water treatment maintenance vehicles
4) Forest management access route/ share access through site	Site maintenance	Path maintenance vehicles
	Whole site - future timber harvesting operations 2045+	Harvester, forwarder, timber wagons

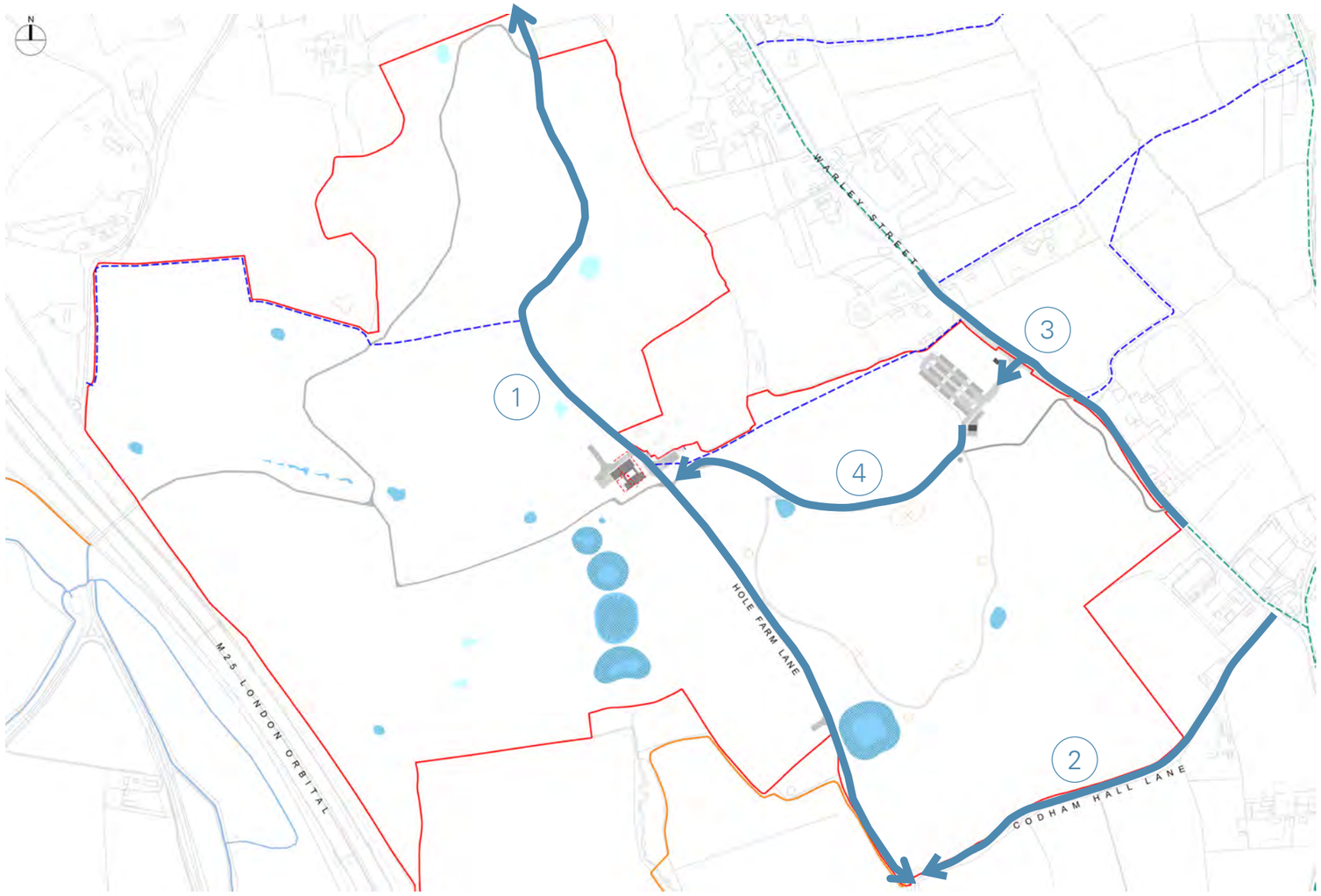


Diagram showing main vehicular access points

6.6 Car park

Please refer to car park drawing by LDA.

The public car park with a new entrance off the B186 has been designed for 94 spaces with an overflow area on grass if required. There are to be 14 Electric Vehicle (EV) charging points. There are 7 Accessible parking spaces including 2 with access to EV charging points.

When entering off the road, vehicles are registered by an Automatic Number Plate Recognition (ANPR) system to monitor car park charges. The height barrier will prevent unauthorised tall vehicles from entering the site without prior approval.

The car park layout has been designed with a pedestrianised central spine orientated towards the modular café. This creates a safe off road route for visitors to access the park away from the main flow of car park traffic. Tree and shrub planting areas break up the areas of hardstanding and help integrate the car park into the surrounding woodland setting.

The car park is pay and display with pay-points throughout.

The road through the car park has a chip and tar surface and parking spaces are to have a gravel surface. A loading area serves deliveries and waste collection for the modular café.

The car park has planting surrounds and links to the all access abilities pathway to the south. The PRoW passes along the north.

Motion detection will operate downward facing low lighting after dark in form of timber bollards.

Proposed car park layout

6.7 Highways design

As part of the Hole Farm Community Woodland scheme, with regards to highways works, 4 new elements have been proposed.

Car park bell mouth access

The preferred option for the location of the bell mouth access to the new proposed car park is shown in drawing Hole_Farm_Highways.003.2.

The proposed access to the car park is placed on Great Warley Street, on a section with 3% uphill gradient driving north and a 40mph mandatory speed limit.

The new bell mouth is located about 100m south of the existing bell mouth on Great Warley Street, serving as maintenance access to Anglian Water. This location is deemed ideal because sited on a relatively straight section of the road, with full free 120m visibility splay either side, achievable with an approx. 50m of linear vegetation clearance along the south-western side of Great Warley Street (deemed to be a Category U hedge – unsuitable for retention due to poor condition – by the Arboricultural report). Accurate topographic survey data does not cover the full SSD analysis towards north but stops circa 20m away from the target point. However, meshed analysis of the latest topographic survey with previous ground data (less accurate), indicates free splay towards north with reasonable assurance, to be confirmed at detailed design.

Visibility envelopes assessed in accordance with CD109 table 2.10 and CD123 cl. 3.4, prove full SSD to the nearside edge is achieved prior to the existing bend further south on Great Warley Street – if the bell mouth was to be moved further south, the sight splay would affect considerably the vegetation clearance along the bend. A 15m splay at the approach is deemed to be kept free of obstructions, as per CD123 cl.3.2.

CD123 cl.4.1 states that direct accesses shall only be used where less than 50 movements per week are expected, otherwise a priority junction may be provided instead. As stated on the Transport Statement, the assumed movements for Hole Farm car park are based on a similar site at Thorndon Country Park and are:

- 51 vehicles arrive and 29 depart - AM peak (0800-0900),
- 26 vehicles arrive and 31 depart - PM peak (1700-1800).

Considering the above and the relatively high speed on Great Warley Street (design speed 70kph), to promote a safer access onto the road network the bell mouth has been designed as a simple priority junction.

The extent of the work is defined considering a free 4m buffer zone from the centreline of an existing National Grid gas pipeline, just south of the proposed bell mouth. Technical advice from a utility specialist requires a 3m buffer zone from the edge of the pipe but, given the uncertainty of exact location, diameter and the preliminary stage of design, a conservative approach is preferred. The utilities survey shows telecom and electrical cabling running under Great Warley Street footpath where the proposed access is placed – liaison with statutory undertakers and additional GPR/trench survey may be required by the contractor on site prior commencement of the work.

In terms of geometric design, the simple priority junction is designed in accordance with CD123 cl. 5.6.2, with corner radii to cater for a 15m long coach egress and ingress, providing a 15m radius and 1:10 corner taper. The approach to the bell mouth from the car park is below 4% gradient.

According to the access strategy provided by Forestry England, an infrequent use of the car parking by coaches is expected (about once a month), therefore a simultaneous egress and ingress of coaches is not considered. With regards to the coach bay, the Essex Parking Design standards do not mention specific size for the bay, nor does Manual for Street. For reference, the guidance from British Parking Association has been considered and tailored to the assumed maximum 15m long coach. The bay is 18m long, with 10m entry taper and 5m exit taper to ensure manoeuvring of the bus will not encroach the turning of vehicles leaving the car park (assuming the one way clockwise flow).

The bell mouth cross section is designed to cater for the simultaneous egress and ingress of 2 standard Rigid Vehicles (FTA Design LG Rigid Vehicle - 7m long). All simultaneous movements have been assessed:

- right turn egress + left turn ingress
- left turn egress + right turn ingress
- left turn egress + left turn ingress

Highways design

To enable the movements above and promote a conservative preliminary design approach to provide room for improvement at a later stage, a carriageway width of 7m has been provided leading to the car park. A verge 0.5m wide has been proposed on the northern side with a local widening prior the bell mouth to accommodate a safe pedestrian crossing, away from the carriageway edge. A segregated 2m wide footpath along the southern side tails from the existing footpath on Great Warley Street, leading to the kiosk and the car park.

An indicative gate has been shown on the plan, in line with the proposed car park hedgerows, providing adequate setback from the carriageway edge for a large vehicle to turn in and stop at the gate, with no part of the vehicle overhanging onto the carriageway.

Turning bay south of the site

The south section of Hole Farm Lane connecting the building cluster to Codham Hall Lane, will be used by heavy large vehicles during essential future forest management, therefore FE has requested a stone aggregate turning bay at the south end of this road, approximately 250m north of the existing connection onto Codham Hall Lane. The layout of the turning bay is shown on drawing Hole_Farm_Highways.001.

The turning bay has been placed just north of the existing dense woodland plot located nearside driving north from Codham Hall Lane, and it has been designed to cater the manoeuvring of a Generic Low Loader (18m long). The bay provides 8m wide tail, 11m turning radius and circa 26m length. To avoid impact on the vegetation, construction has been kept clear from the Root Protection Area of 7.2m identified by the Arboricultural Impact Assessment.

Turning movements have been checked with Vehicle Tracking for both dynamics with the longest vehicle expected to be on site: driving north and reversing and driving south and reversing. In the event of a vehicle driving north and pulling into the turning bay to reverse, visibility has been assessed between the driver and a potential pedestrian walking north from Codham Hall Lane – over 60m of free visibility splay is ensured based on the information of the topographic survey, which is deemed adequate considering the low speed assumed while manoeuvring. The accuracy of the assessment is limited to the south by the extent of the available survey data.

This section of Hole Farm Lane has an existing crossfall towards the eastern side, in fact the topographic survey has identified an existing ditch running parallel to the eastern side of this south section of road. Considering the slope of the existing ground surrounding the proposed bay, a crossfall of 2% is proposed to drain the bay towards north-east, in order to avoid increased erosion over the existing track. A new proposed ditch or swale is located around the perimeter of the bay to collect both the water runoff coming from the outer fields, and the runoff from the bay. For the resurfacing of Hole Farm lane it is expected that the existing drainage strategy and crossfall will be retained.

Turning bay adjacent to farm building

As part of the highways improvement works at Hole Farm, a new stone aggregate reversing bay and a tarmac yard area is proposed north of the new cluster of buildings as shown in drawing Hole_Farm_Highways.002.3.

The turning bay is designed with a 6m wide ingress, 8m wide tail and 11m turning radius, to accommodate a Generic Low Loader (18m long) entering and manoeuvring onto the bay. The tail of the bay has been extended to 30m towards north-west to provide adequate staking space when performing future essential tree thinning and felling operations.

The entrance of the bay and the proposed gate have been sited approximately 5m away from a cluster of existing constraints identified by the topographical survey:

- drainage manholes
- telegraph pole
- large girth trees
- a septic tank possibly serving the properties on the opposite side (although not detailed information on location or purpose are yet available).

Considering the slope of the existing ground surrounding the proposed bay, the first section of the access is assumed to be sloped 2% towards north-west, while the remaining part of the turning bay and yard area are sloped 2% towards south-west. A perimetral ditch or swale is located around the bay and yard

Highways design

to collect runoff from the field and reduce the impact of erosion over time. Ideally the proposed ditch will convey the runoff towards south linking back into the existing drainage network.

Several trees of low category have been identified as impacted in this area due to the resurfacing works proposed on Hole Farm Lane. The highways drawing is to be read in conjunction with the Arboricultural Impact Assessment to identify details of specific trees.

Forest management access route to Hole Farm Lane

A new proposed access route takes off from the south-east corner of the car park and links to the east of the existing Hole Farm Lane, just south of the building cluster, as shown in the drawing Hole_Farm_Highways.005.1.

The access route will serve multiple purposes:

- possible use as haul road during construction and demolition of cluster of buildings
- preferred access route to site for future forest management operations.
- possible access route for maintenance at the site
- improve safety resilience for the access proposal, enabling emergency access from the car park as an alternative route to Codham Hall Lane

The access route has been designed with a 3.5m wide carriageway and 0.5m verge either side, with a maximum gradient below 5% and corner radius at Hole Farm Lane to cater for a Generic Low Loader (left and right turn at the bell mouth, where the access route connects onto Hole Farm Lane, are shown in drawing Hole_Farm_Highways.002.3).

The first 350m of this access route will be of dual use with a multi-ability loop proposed as part of the landscape proposal on the site. Forestry England will develop an operational safety strategy to mitigate the risk of simultaneous use of the track by lorries and other users during future forest management operations.

As part of the improved connectivity to Hole Farm Lane, a passing place is proposed halfway through the existing track, to facilitate crossing of large vehicles. The bay is proposed to be 10m long with 5m taper either side and overall width of 5.5m.

6.8 Cycle parking

Cycle parking is provided in 2 locations on site; at the main public entrance off Great Warley Street and in the central buildings cluster.

The cycle parking at the public entrance area is clearly visible from the entrance for ease of orientation for visiting cyclists. The parking is integrated into the layout of the modular café, toilets and covered outdoor seating area with the canopy extending east to provide shelter to the cycle parking. The layout offers surveillance of the cycle parking from the path, toilets and car park.

The cycle parking accommodation at the central building cluster serving Forestry England and visitors to the community tree nursery and spaces is integrated into the FE barn. The layout offers surveillance of the cycle storage from the FE office space and from the tree nursery.

Both spaces will have motion activated lighting for security in low daylight levels.

An example of a timber covered cycle store that will be integrated into the modular cafe and covered outdoor seating area at the public entrance

6.9 Buildings cluster

As discussed in the Design section earlier in this document, the central buildings cluster is accessed by the north-south route of Hole Farm Lane providing access to residents, Forestry England staff, community users tending to the Community Tree Nursery and occasional visitors utilising the community hall and supporting facilities.

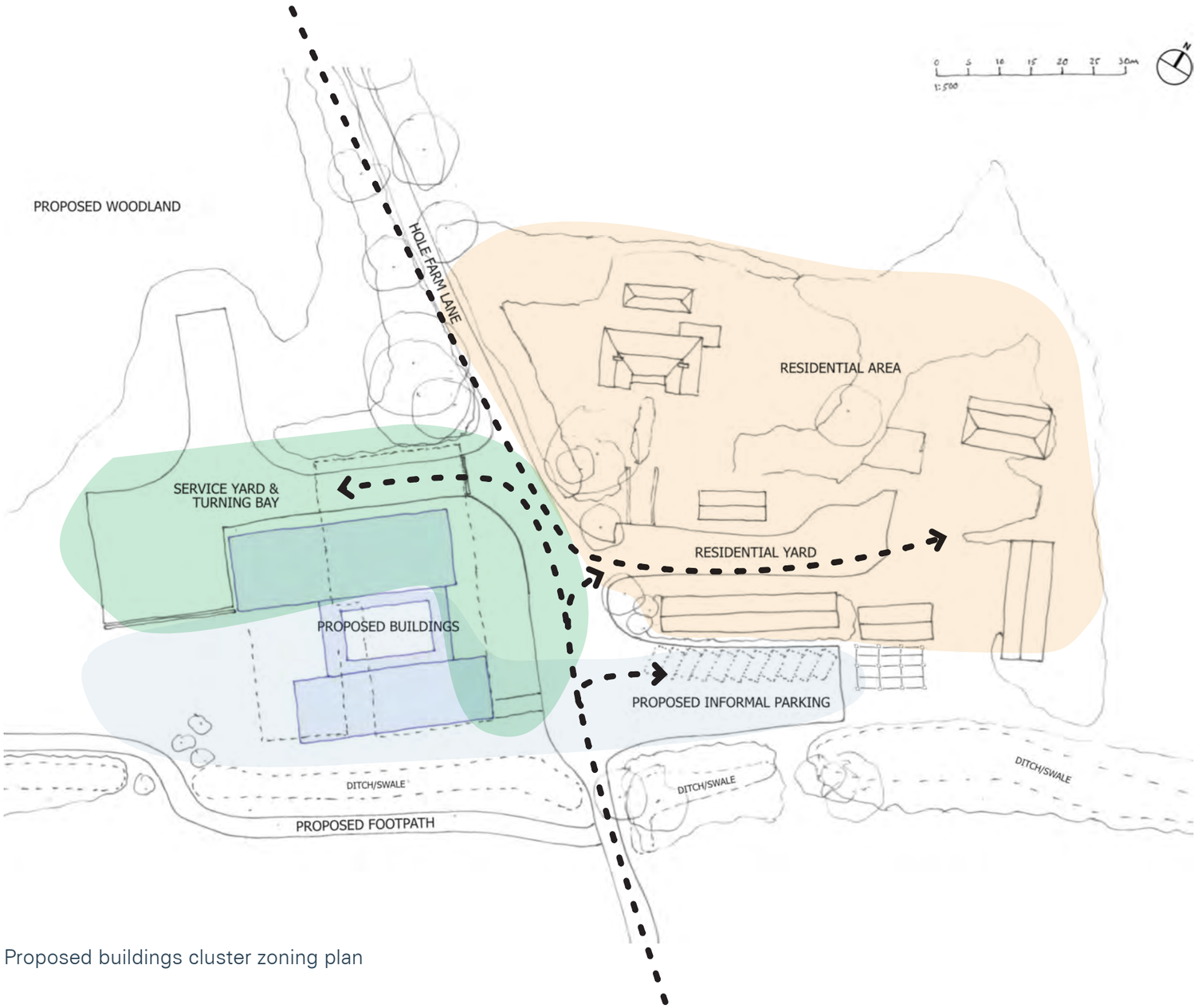
The treatment of Hole Farm Lane boundary with the buildings is grass edged with short timber posts. Narrowing to the residential yard entrance creates a sense of intimacy and threshold separating it from the lane and the community buildings.

The proposed informal car parking in permeable surfacing gives a semi-landscaped appearance. Boundaries between this parking area and the residential yard is to be timber post fencing within small trees and hedges.

The turning bay north of the FE barn gives large vehicles associated with forestry and future forest management access to the barn and service yard. This has been calculated by the highways engineer, see highways drawings. This kind of activity is distanced from the community building users and is expected to be occasional use.

The PRoW passes through the site unobstructed. There are proposed footpaths passing south of the cluster of buildings through the woodland to the north west.

Cycle parking is provided within the FE barn off the tree nursery for use by staff, volunteers and users of the community room.



Proposed buildings cluster zoning plan

6.10 Inclusive design

Landscape:

Refer to the Interpretation Strategy and Equality Impact Assessment for further detail.

The community woodland has been designed to be as fully inclusive to as many people as possible.

The woodland has a sensory trail with interpretative elements to provide for different levels of both physical and intellectual access.

The all-abilities access path is a key feature to maximise access to the woodland from the car-park. Surfacing is designed for ease of use for a multitude of users. This loop has been designed to give a flavour of the different features - pond, play, planting - from across the entire woodland within a short loop.

Buildings:

The buildings have all been designed for inclusive access.

The community building is designed to be welcoming, inviting and comfortable for all access abilities. The spaces far exceed Building Regulations for wheelchair users. Hallways are 2m width, the lobby allows generous manoeuvrability. There is an accessible toilet accessed directly off the main hallway, an accessible toilet directly off the tree nursery and a fully accessible shower and toilet within the Forestry England welfare facilities. The community kitchen is sufficiently large for wheelchair manoeuvrability and counter service is to be provided at a range of heights for inclusivity.

Thresholds are accessible and gradients to landscaping are for unaided wheelchair users. There are accessible parking spaces allocated to the building cluster and possibility of parking directly outside of the building when users need a minimum travel distance from their vehicle.

The modular café design will provide wheelchair accessible counter service and seating is informal. There are fully accessible public toilets at the public entrance area.

6.11 Maintenance access

Safe access for maintenance and cleaning is required across the site and buildings.

The windows and louvres in the clerestory and the roof-lights in the tower will require maintenance access. A rail will be fixed to the different roof levels in order for anyone carrying out maintenance or cleaning to fix a safety harness to prevent risk of falling.

The plant room will have a retractable stair coming down from the ceiling in the toilets to access the mezzanine plant room.

In the event of larger pieces of equipment being replaced from the mezzanine, de-mountable panels on the community hall side, will allow a temporary scaffold tower. There is also the option to install a scaffold runway system, so that heavy elements can be lifted out safely. The final solution will be addressed once the final details on kit are known.

6.12 Fire escape

The fire strategy for the buildings cluster is designed in accordance with Approved Document B: Fire Safety Volume 2 – Buildings other than dwellings (2019 edition incorporating 2020 and 2022 amendments).

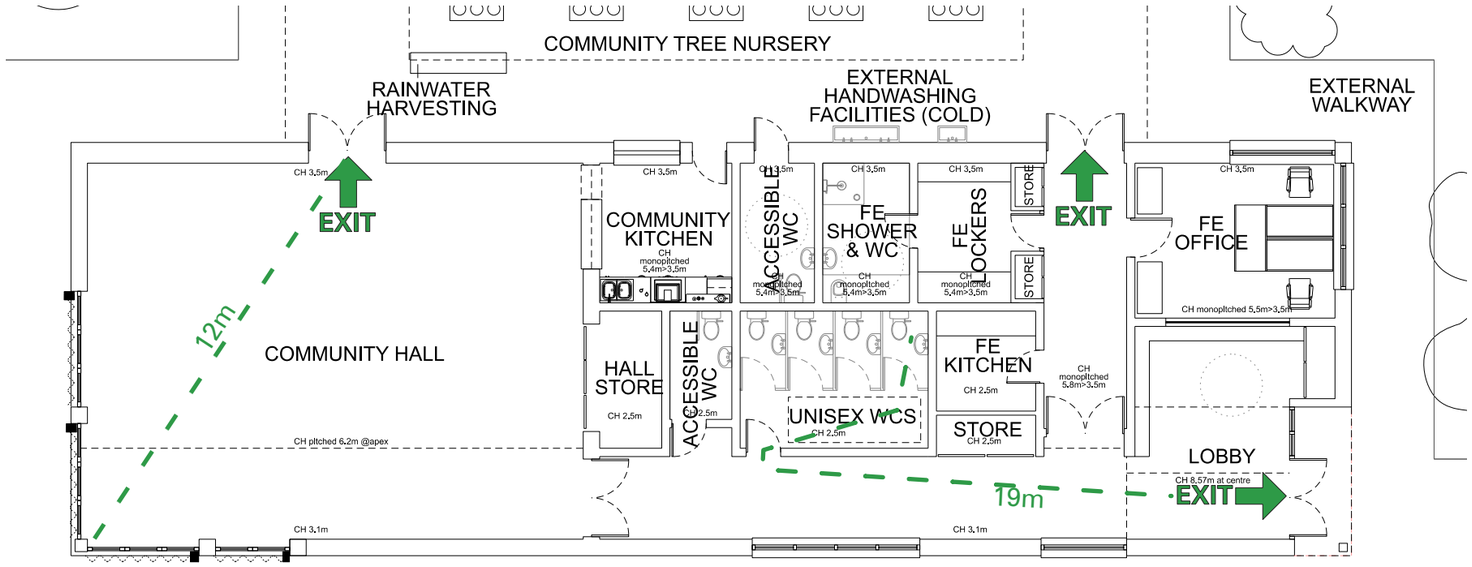
The community building has three main escape routes – one in the community hall, the main entrance in the lobby and next to the Forestry England offices. This provides emergency escape in more than one direction, where the maximum travel distance for building occupants does not exceed 45m. The estimated number of occupants in one room of the building not more than 60, therefore 1 escape route is provided per room.

There is also an additional exit from the community kitchen directly outside.

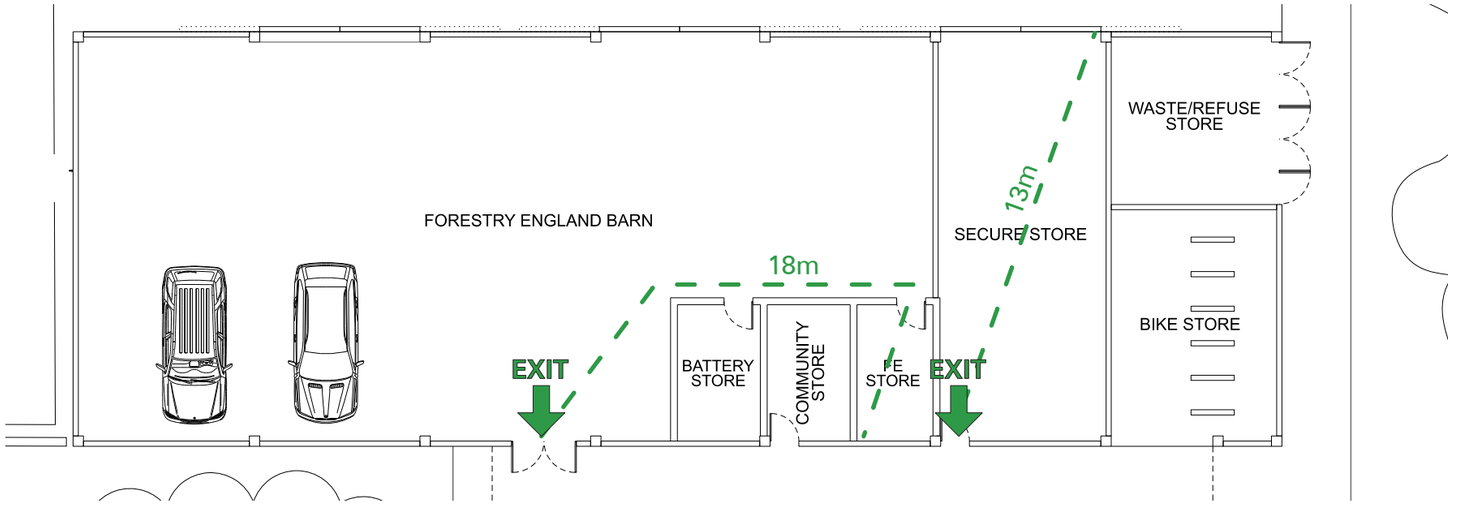
There is one entry/exit to the plant room on the mezzanine level, which is typical for this type of accommodation. Separating walls and dampers will be treated accordingly to reduce risk of fire spread. Within the mezzanine, the closest fire escape is on the ground floor, approximately 25m away.

The FE Barn is a semi-external building, with large sliding doors kept open during operation, providing an emergency exit if required. There is a separate emergency exit from the barn into the community tree nursery. The furthest point from the fire exit, the internal FE store, is approximately 18m from the nearest emergency exit.

This will continue to be evolved at further detail with a Fire Consultant.



Community building - Proposed fire escapes



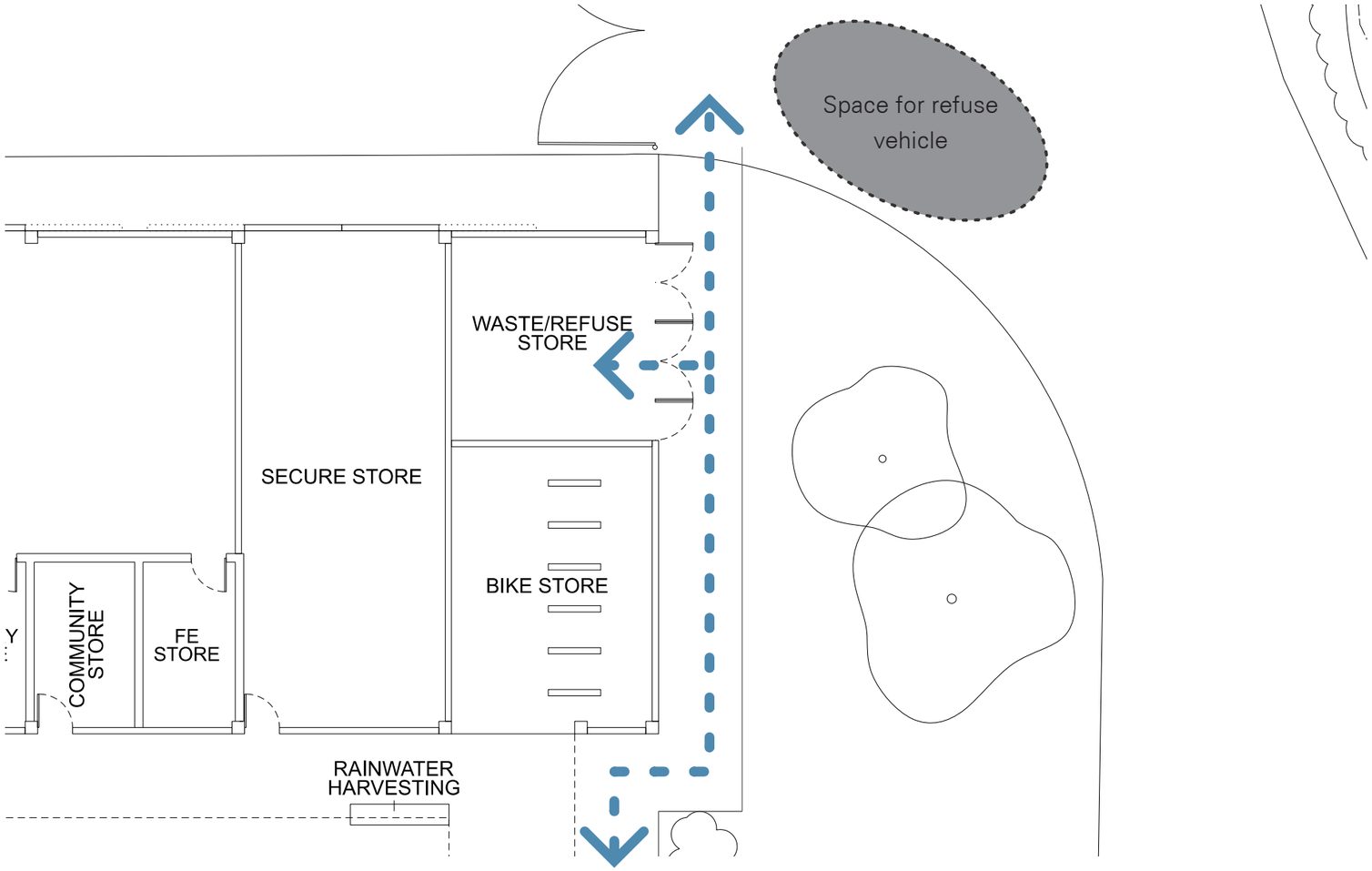
FE Barn - Proposed fire escapes

6.13 Refuse

A waste and refuse store is located in the north east corner of the FE Barn. It is designed to open out onto Hole Farm Lane, providing easy access for refuse collection.

An area of hard standing also provides easy, clean and clear access for building users and the refuse collectors in and out of the store.

There is also refuse space at the Modular Cafe, which is located near to the loading bay for ease of collections.



Location of the waste/refuse store and access routes

6.14 Signage & interpretation

The interpretation strategy for the project aims;

- To enhance the landscape and heritage setting, enabling improved access to the widest range of people
- To deliver and increase awareness of the value to society of access to green space
- To increase awareness of the positive impact of the new and existing habitats on the climate and biodiversity
- To promote and signpost connectivity to the wider network of green spaces
- To create a sense of place and convey cultural authenticity by responding to the heritage and knowledge of the local area
- To support the financial sustainability of the site.

The diagram on the right shows the proposed locations of the signage & interpretation structures.

Information on the nearby St Mary the Virgin Grade I listed church and nearby conservation area will be provided within the content included in the signage strategy.

All signage within the site will be in the Ubuntu font to align with Forestry England's branding.

Please refer to the Hole Farm Interpretation Strategy document for further details.

Diagram showing proposed signage locations

Signage & interpretation

The new woodland will have a new name. The final name will be subject to consultation. A suggested name for this new community woodland is Pilgrims Wood as a potential future name but this is subject to change.

This name makes reference to the pilgrims route that is thought to have run through Hole Farm on the way to Canterbury.

This charming name has a sense of travelling, reflecting on psycho-geography and connections across landscapes.

Signage has been proposed for the entrance to the community building in 3D cut-out lettering in the Forestry England font Ubuntu that is used across all their sites, as well as, the recognisable logo with two trees.

Early signage studies for entrance to community building

6.15 Secure by design

A security plan has been developed in correspondence with the Designing Out Crime department of Essex Police. Please refer to the Hole Farm Security Plan by Forestry England.

Security for the occupants, visitors and assets of Hole Farm have been considered throughout the design process. The design team has been in dialogue with the Designing Out Crime officers of Essex Police, meeting them on site, compiling advice and evolving the design accordingly.

Access to the site is crucial. The form of different access points around the site for different users has been carefully considered. As mentioned previously in this document, the access gates are designed to allow pedestrians, dog walkers, cyclists and horse-riders through but prevent small motorised vehicles such as motorbikes, motorcross and quad bikes, that are typical modes of transport and anti-social behaviour on similar sites.

The operations of the site are daylight hours. Outside of this the gates will be locked.

Lighting to bike storage and to the car park is to be motion detection only with a time-lock to mitigate impact on site wildlife such as bats and generally avoiding urbanisation of this natural setting.

CCTV has been recommended by police due to the frequency of crime in similar sites in the area.

The buildings are to be locked at night. There is secure storage in the FE barn for valuable vehicles, machinery, equipment and tools that could be subject to rural crimes. This has the possibility of being locked at all times. There will also be point locks within the barn for further discouragement of theft.

7.0 Conclusion

7.1 Conclusion

This project offers a unique opportunity to transform almost a 100 hectares of former farmland of low-ecological value to a thriving hub for wildlife and for people.

Hole Farm lies in a well-located piece of land on the outer edge of the Greater London metropolis, in a place of connections and links between city and countryside and will be a destination for neighbours walking or cycling from nearby villages and towns, as well as, visitors from the city.

The landscape will be another vital piece of the jigsaw puzzle that makes up Thames Chase Community Forest; expanding connections and wildlife corridors; reinstating the wildlife that has diminished since the industrial revolution. A new piece of woodland will provide vital habitat to support a hugely increased biodiversity of flora and fauna.

Central to Hole Farm is a heritage of agriculture, with the Grade II listed farmhouse at the core of the site within a farmyard cluster. This agricultural heritage will be celebrated and enhanced, with new timber buildings supporting community and forestry needs within pure barn forms echoing the former barns on site.

Low carbon and low energy strategies are driving factors affecting all aspects of the design throughout the process and will continue to do so at the next level of design. As a major development, the BREEAM Excellent principles are being established in the project through a multidisciplinary team of high expertise in structure, drainage, MEP, highways, sustainability and architecture. The building is an intelligent design crafted through employment of passive principles and systems.

Enthusiasm and aspiration to provide a high quality design for the environment, heritage, community and landscape has driven the work of the wide team of consultants through an informed, thorough, iterative design process to reach a sensitive, robust, adaptable and environmentally responsible proposal for this special site.

The proposals in this planning application present a holistic vision for Hole Farm that will serve nature and people into the future.

Document Verification

Revision	Revision Description	Date	Author	Checked by	Approved by
1	Internal review	08/02/2023	GH	JB	CD
2	Client review	10/02/2023	GH	JB	CD
3	Internal review	16/02/2023	GH	JB	CD
4	Client review	17/02/2023	GH	JB	CD
5	Interdisciplinary review for comment	14/03/2023	GH	JB	CD
6	Client review	06/04/2023	GH	JB	CD
6.5	Interim issue	20/04/2023	GH	JB	CD
7.0	For approval	25/04/2023	GH	JB	CD
8.0	For submission	27/04/2023	GH	JB	CD
8.1	Minor revision	03/05/2023	GH	JB	CD
8.2	Minor revision	05/05/2023	EB	JB	CD
9.0	For Planning	11/05/2023	EB	JB	CD
10.0	For Planning	31/05/2023	EB	JB	CD