

Application for Approval of Details Reserved by Condition

Town and Country Planning Act 1990 (as amended); Planning (Listed Buildings and Conservation Areas) Act 1990 (as amended)

Publication of applications on planning authority websites

Please note that the information provided on this application form and in supporting documents may be published on the Authority's website. If you require any further clarification, please contact the Authority's planning department.

Site Location

Disclaimer: We can only make recommendations based on the answers given in the questions.

If you cannot provide a postcode, the description of site location must be completed. Please provide the most accurate site description you can, to help locate the site - for example "field to the North of the Post Office".

Number

Suffix

Property Name

Address Line 1

Address Line 2

Address Line 3

Town/city

Postcode

Description of site location must be completed if postcode is not known:

Easting (x)

Northing (y)

Description

Playing field to rear of 3-29 Paygrove Lane, Gloucester

Applicant Details

Name/Company

Title

First name

Surname

Company Name

Address

Address line 1

Address line 2

Address line 3

Town/City

Country

Postcode

Are you an agent acting on behalf of the applicant?

Yes

No

Contact Details

Primary number

Secondary number

Fax number

Email address

Agent Details

Name/Company

Title

First name

Surname

Company Name

Address

Address line 1

Address line 2

Address line 3

Town/City

Country

Postcode

Contact Details

Primary number

Secondary number

Fax number

Email address

Description of the Proposal

Please provide a description of the approved development as shown on the decision letter

Outline application (with means of access offered for consideration) for residential redevelopment of up to 10 dwellings and public open space including associated landscaping, car parking and access.

Reference number

16/01558/OUT

Date of decision (date must be pre-application submission)

23/08/2018

Please state the condition number(s) to which this application relates

Condition number(s)

Conditions 5, 6, 7, 8, 9, 11, 12, 13, 14, 16, 17, 19, 22, 23 and 26

Has the development already started?

Yes

No

Part Discharge of Conditions

Are you seeking to discharge only part of a condition?

Yes

No

Discharge of Conditions

Please provide a full description and/or list of the materials/details that are being submitted for approval

Facing brick Ibstock 'Forterra' Chelsea Smoked Red and Atherstone Multi Red. Roof tile Russell Bute 'anthracite'. Estate railings PL007, Timber fencing PL008, Acoustic fencing Jacksons Fencing 12k Envirofence J7/01166

Site Visit

Can the site be seen from a public road, public footpath, bridleway or other public land?

- Yes
 No

If the planning authority needs to make an appointment to carry out a site visit, whom should they contact?

- The agent
 The applicant
 Other person

Pre-application Advice

Has assistance or prior advice been sought from the local authority about this application?

- Yes
 No

Declaration

I / We hereby apply for Approval of details reserved by a condition (discharge) as described in this form and accompanying plans/drawings and additional information. I / We confirm that, to the best of my/our knowledge, any facts stated are true and accurate and any opinions given are the genuine options of the persons giving them. I / We also accept that: Once submitted, this information will be transmitted to the Local Planning Authority and, once validated by them, be made available as part of a public register and on the authority's website; our system will automatically generate and send you emails in regard to the submission of this application.

I / We agree to the outlined declaration

Signed

John Everitt

Date

28/03/2022

**New Residential Development
Paygrove Lane, Longlevens, Gloucester.**

Reserved Matters – Summary of Conditions and Submitted Documentation

Summary of Planning Conditions REF: 16/01558/OUT

Validated: 21st December 2016.

Approval Dated 24th August 2018

Outline application (with means of access offered for consideration) for residential redevelopment of up to 10 dwellings and public open space including associated landscaping, car parking and access

Reserved Matters Application – Submitted 11.02.2022

(invalid as included access)

Reserved Matters Application – Re-submitted 15.03.22

Validated 17.03.22

Conditions Application 1 – Submitted 28.03.22

Subject to additional Conditions Application

N ^o .	Condition Type	Wording	Comment / Submitted information
1	Statement Prior to commencement	<p>Condition 1 Approval of the details of the appearance, landscaping, layout and scale of the development (hereinafter called "the reserved matters") shall be obtained in writing from the Local Planning Authority prior to the commencement of development except as provided for by other conditions.</p> <p>Reason To comply with the requirements of Section 91 of the Town and Country Planning Act 1990 as amended by Section 51 of the Planning and Compulsory Purchase Act 2004.</p>	<p>Site Location PL001A, Block Plans PL004A, Block Plans PL005A, Landscaping and Materials PL006B</p> <p>Topographical Site Survey PL002 and PL003, Proposed House Types PLHT 01-05 and Garages PLG01-02</p>
2	Statement	<p>Condition 2 Plans and particulars of the reserved matters referred to in condition 1 above shall be submitted in writing to the Local Planning Authority and shall be carried out as approved.</p> <p>Reason Required to be imposed by Section 92 of the Town and Country Planning Act 1990.</p>	

3	Statement	<p>Condition 3 Application for approval of the reserved matters shall be made to the Local Planning Authority before the expiration of 5 years from the date of this permission.</p> <p>Reason Required to be imposed by Section 92 of the Town and Country Planning Act 1990.</p>	Approval dated 24.08.2018
4	Statement	<p>Condition 4 The development hereby permitted shall begin either before the expiration of 5 years from the date of this permission, or before the expiration of 2 years from the date of approval of the last of the reserved matters to be approved, whichever is the later.</p> <p>Reason Required to be imposed by Section 92 of the Town and Country Planning Act 1990.</p>	Approval dated 24.08.2018
		Maximum Parameters	
5	Statement	<p>Condition 5 The development shall comprise no more than 10 no. residential units.</p> <p>Reason To define the terms of this permission.</p>	10 dwellings proposed refer to site layout PL005A
6	Statement Details provided	<p>Condition 6 The scale of development shall be no greater than two storeys.</p> <p>Reason To secure the maximum scale parameters in the application in the interests of preserving the character and appearance of the area and the amenities of neighbouring residents in accordance with Paragraphs 17 and 58 of the NPPF, Policies BE.1, BE.7, BE.17 and BE.21 of the 2002 City of Gloucester Second Deposit Local Plan, and Policies SD5 and SD15 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017.</p>	All house types two storeys under pitched roofs, refer to house type plans and elevations PLHT 01-05
		Design	
7	Prior to works above ground	<p>Condition 7 No above ground construction of a building shall be commenced until details of all building facing materials and finishes for that building have been submitted to and approved in writing by the Local Planning Authority. Development shall be carried out in accordance with the approved details.</p>	Proposed finishing materials to houses indicated on PL006C

		<p>Reason</p> <p>To ensure that the materials and exterior building components are appropriate to their context, in accordance with Policy SD5 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017, Paragraphs 17 and 58 of the National Planning Policy Framework and Policy BE.7 of the Second Deposit City of Gloucester Local Plan (2002).</p>	
8	Implemented in accordance with approved details	<p>Condition 8</p> <p>Street and open space furniture, screen walls, fences/railings and other means of enclosure shall be implemented only in accordance with details (set out on scaled plans in elevation and layout) that have been submitted to and approved in writing by the Local Planning Authority. Boundary treatments shall be designed so as not to compartmentalise areas of the site, to allow for the passage of small mammals.</p> <p>Reason</p> <p>In the interests of privacy and security, to ensure that the design and materials are appropriate to their context, and to secure biodiversity mitigation and enhancement in accordance with Policies SD5, SD10, SD15 and INF4 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017, Paragraphs 17, 58, 109 and 118 of the National Planning Policy Framework and Policies BE.5, BE.7 and B.8 of the Second Deposit City of Gloucester Local Plan (2002).</p>	Refer to plans PL005A, PL006A, PL007, PL008 Enviro Fence detail J7/01166
		<p>Landscaping</p>	
9	Prior to commencement	<p>Condition 9</p> <p>No development including demolition or site clearance shall be commenced on the site or machinery or material brought onto the site for the purpose of development until full details of adequate measures to protect trees and hedgerows have been submitted to and approved in writing by the local planning authority. These shall include:</p> <p>A. Fencing. Protective fencing must be installed around trees and hedgerows to be retained on site. The protective fencing design must be to specifications provided in BS5837:2005 or subsequent revisions,</p>	Tree survey and tree protection details by MHP Arboricultural

		<p>unless agreed in writing with the local planning authority. A scale plan must be submitted and approved in writing by the local planning authority accurately indicating the position of protective fencing. No development shall be commenced on site or machinery or material brought onto site until the approved protective fencing has been installed in the approved positions and this has been inspected on site and approved in writing by the local planning authority. Such fencing shall be maintained during the course of development,</p> <p>B. Tree Protection Zone (TPZ) The area around trees and hedgerows enclosed on site by protective fencing shall be deemed the TPZ. Excavations of any kind, alterations in soil levels, storage of any materials, soil, equipment, fuel, machinery or plant, citing of site compounds, latrines, vehicle parking and delivery areas, fires and any other activities liable to be harmful to trees and hedgerows are prohibited within the TPZ, unless agreed in writing with the local planning authority. The TPZ shall be maintained during the course of development</p>	
10	Statement.	<p>Condition 10 The approved landscaping details shall be carried out in full concurrently with the development and shall be completed no later than the first planting season following the completion of the buildings. The planting shall be maintained for a period of 5 years following implementation. During this time any trees, shrubs or other plants which are removed, die, or are seriously damaged shall be replaced during the next planting season with others of similar size and species unless the local planning authority gives written consent to any variation. If any plants fail more than once they shall continue to be replaced on an annual basis until the end of the 5 year maintenance period.</p> <p>Reason To ensure a satisfactory and well planned development and to preserve and enhance the quality of the environment, in</p>	Refer to landscape plan PL006C

		accordance with Policies BE.4 and BE.12 of the Second Deposit City of Gloucester Local Plan (2002), Policy SD5 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017 and Paragraphs 17 and 58 of the NPPF.	
		Archaeology	
11	Prior to commencement	<p>Condition 11 No development shall take place within the application site until the applicant, or their agents or successors in title, has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved in writing by the Local Planning Authority.</p> <p>Reason To make provision for a programme of archaeological mitigation, so as to record and advance understanding of any heritage assets which will be lost, in accordance with paragraph 141 of the National Planning Policy Framework, Policy SD9 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017 and Policies BE.36, BE.37 & BE.38 of the Gloucester Local Plan (2002 Second Stage Deposit). This is necessary pre-commencement of development due to the potential harm to heritage assets from early phase works.</p>	Written Scheme of Investigation Pre-construct Archaeology Ltd
		Ecology	
12	Prior to Occupation	<p>Condition 12 Bird and bat boxes (or facilities of a similar nature) shall be installed in accordance with details to be submitted to and approved in writing by the Local Planning Authority. They shall be installed in full in accordance with the approved details prior to occupation of the respective buildings or prior to the end of the first planting season following completion of the development in the event of tree-mounted fittings.</p> <p>Reason To secure biodiversity mitigation and enhancement in accordance with Policies SD10 and INF 4 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017,</p>	Refer to walk-over Survey by All Ecology

		Paragraphs 17, 109 and 118 of the NPPF and Policy B.8 of the 2002 City of Gloucester Second Deposit Local Plan.	
13	Prior to commencement	<p>Condition 13</p> <p>No development shall commence until a site walkover survey has been undertaken by a qualified ecologist to investigate the presence of newts on the site and the results have been submitted to the Local Planning Authority. If their presence is confirmed no development shall commence until a mitigation strategy has been submitted to and approved in writing by the Local Planning Authority (including a timetable for its implementation) and the approved strategy shall thereafter be implemented in accordance with its terms.</p> <p>Reason</p> <p>To mitigation potential impact on biodiversity in accordance with Policies SD10 and INF 4 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017, Paragraphs 17, 109 and 118 of the NPPF and Policy B.8 of the 2002 City of Gloucester Second Deposit Local Plan.</p>	Refer to walk-over survey by All Ecology
		Drainage	
14	Prior to commencement	<p>Condition 14</p> <p>No development shall commence on site until a detailed scheme for the disposal of surface water that employs a SuDS strategy has been submitted to and approved in writing by the Local Planning Authority. The submission must demonstrate the technical feasibility/viability of the drainage system through the use of SuDS to manage the flood risk to the site and elsewhere and the measures taken to manage the water quality for the life time of the development. The drainage scheme shall be carried out in accordance with the approved details and completed in full prior to occupation of the development.</p> <p>The drainage scheme shall include the following;</p> <p>☑ The peak surface water discharge rate from the site for all events up to the critical duration 1 in 100 year (+ 40% climate change) event shall not exceed 3.9 l/s.</p>	Refer to details by Cotswold Transport Planning C002A C003A C004 C005A C100 C101 C102A Technical Note TN002

		<p>☑ The above rate includes runoff captured from all permeable and impermeable areas within the red line boundary. If the drained area is reduced in size, then the permissible discharge rate shall be re-calculated.</p> <p>☑ The SuDS design shall ensure that surface water runoff from the field across the whole of the north boundary is captured.</p> <p>☑ The SuDS design shall accommodate as much of the required attenuation volume as possible in a swale. The swale shall not occupy a width of more than 7 metres and shall have side slopes as shallow as possible (not exceeding 1 in 5 on any side facing a playing pitch on the site).</p> <p>☑ Any attenuation volume which cannot be accommodated within the swale shall be accommodated within a secondary attenuation feature at a location to be specified.</p> <p>Reason To ensure that the development is provided with a satisfactory means of drainage as well as to reduce the risk of creating or exacerbating a flooding problem and to minimise the risk of pollution, in accordance with Policies FRP.1a, FRP.6, FRP.11 of the City of Gloucester Second Deposit Local Plan 2002 Policy INF3 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017 and Paragraph 103 of the NPPF. Details are required pre-commencement given the potential impact on the possible drainage design of early phase works.</p>	
15	Prior to occupation	<p>Condition 15 No building shall be occupied until a SuDS management and maintenance plan for any SuDS/attenuation features and associated pipework has been submitted to and approved in writing by the Local Planning Authority. The approved SuDS maintenance plan shall be implemented in full in accordance with the agreed terms and conditions and shall operate for the lifetime of the development.</p> <p>Reason To ensure that the development is provided with a satisfactory means of drainage as</p>	Refer to details by Cotswold Transport Planning

		well as to reduce the risk of creating or exacerbating a flooding problem and to minimise the risk of pollution, in accordance with Policies FRP.1a, FRP.6, FRP.11 of the City of Gloucester Second Deposit Local Plan 2002 Policy INF3 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017 and Paragraph 103 of the NPPF.	
16	Details provided	<p>Condition 16</p> <p>No development shall commence until a comprehensive scheme for the provision of works for the disposal of foul sewage has been submitted to and approved in writing by the Local Planning Authority. The approved scheme shall thereafter be implemented to serve the development, and no buildings shall be occupied until satisfactory foul water drainage facilities for these buildings are in place and operational.</p> <p>Reason</p> <p>To ensure that the development is provided with a satisfactory means of drainage as well as to reduce the risk of creating or exacerbating a flooding problem and to minimise the risk of pollution, in accordance with Policies FRP.1a, FRP.6, FRP.11 of the City of Gloucester Second Deposit Local Plan 2002 Policy INF3 of the Joint Core Strategy Main Modifications 2017 and Paragraph 103 of the NPPF.</p>	<p>Refer to details by Cotswold Transport Planning</p> <p>C002A C003A C004 C005A C100 C101 C102A Technical Note TN002</p>
		Environmental Health	
17	Details provided	<p>Condition 17</p> <p>Prior to commencement of the development hereby permitted, an Environmental Construction Management Plan shall be submitted to and approved in writing by the Local Planning Authority which specifies mitigation measures in respect of the following issues (including preparatory groundworks) in order to prevent nuisance. The development shall not be commenced until the approved plan has been made fully operational, and thereafter it shall be operated and maintained for the full duration of the construction phase. The scheme shall include details of how dust will be qualitatively monitored:</p>	<p>Refer to Construction Environmental Management Plan by RSK</p>

		<p>1 Dust from demolition 2 Dust from groundworks 3 Dust from haul roads 4 Dust from stockpiles and material handling/removal 5 Light from security compounds 6 Storage of waste 7 Keeping highways clear of mud 8 Parking for contractors</p> <p>Reason To safeguard the amenities of the area and the waterway in accordance with Policies FRP.9, FRP.10, FRP.11 and BE.21 of the 2002 City of Gloucester Second Deposit Local Plan, Policy SD15 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017 and Paragraphs 17, 109, 120 and 123 of the NPPF. This is necessary pre-commencement of development due to the harm that could otherwise be caused by early-phase works.</p>	
18	Statement	<p>Condition 18 Construction work and the delivery of materials shall be limited to the hours of 0800 hours to 1800 hours Monday to Friday, 0800hours to 1300hours on Saturdays and for the avoidance of doubt no construction work or deliveries shall take place on Sundays or Bank Holidays.</p> <p>Reason To safeguard the amenities of the area in accordance with Policies FRP.9, FRP.10, FRP.11 and BE.21 of the 2002 City of Gloucester Second Deposit Local Plan, Policy SD15 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017 and Paragraphs 17, 109, 120 and 123 of the NPPF.</p>	
19	Prior to occupation	<p>Condition 19 Prior to the occupation of any unit hereby permitted a noise fence or fences (as may be required) shall be installed in full at the site boundary with any rear garden of a residential property adjacent to the site where that garden would be situated next to the access road of the development, in accordance with a scheme to be submitted to and approved in writing by the Local</p>	Refer to details of 12k Enviro fence, PL006C, drawing J7/01166

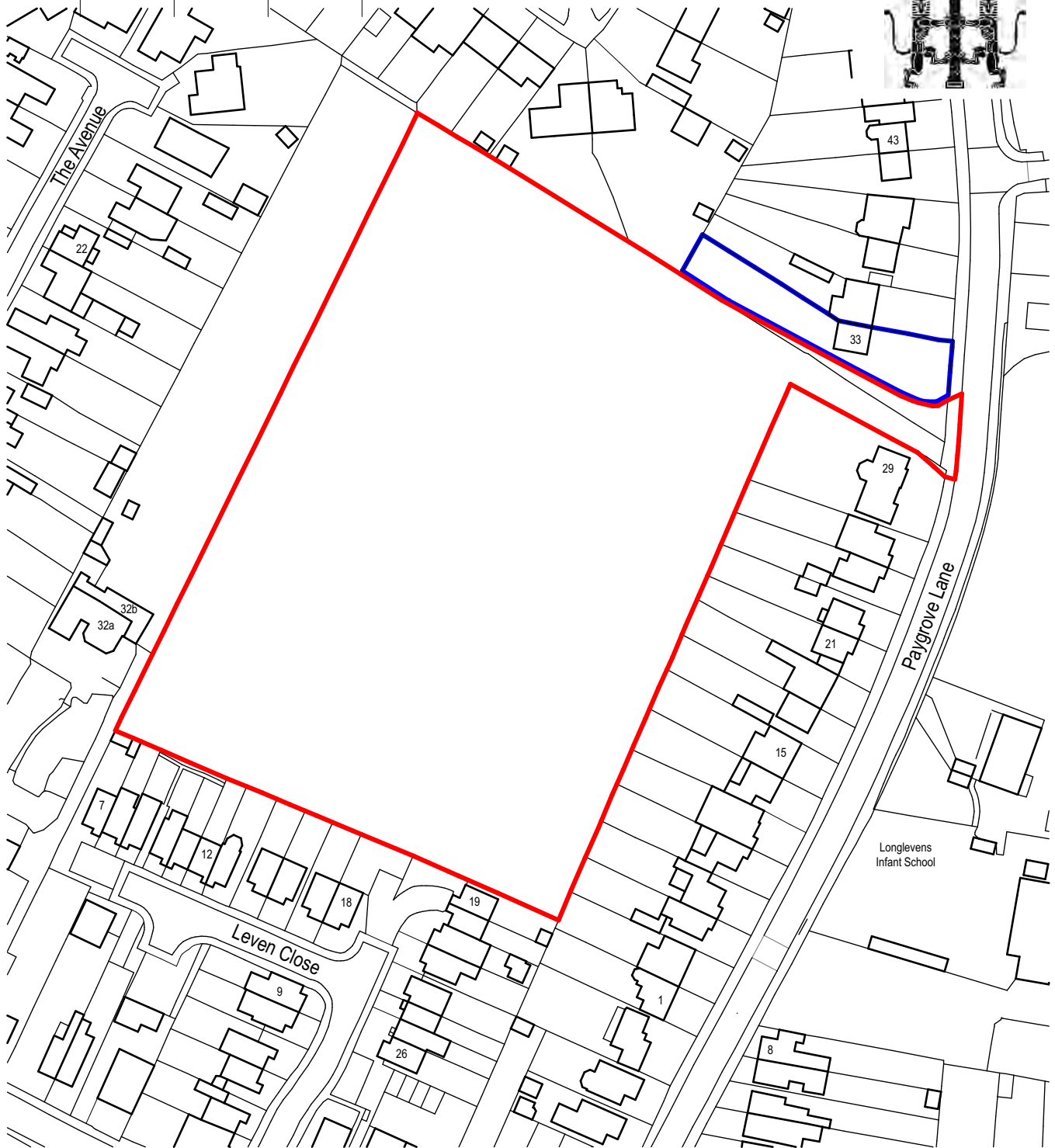
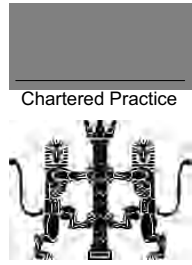
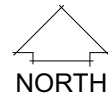
		<p>Planning Authority, and shall be maintained as such thereafter.</p> <p>Reason To safeguard the amenities of the area in accordance with Policies FRP.10, FRP.11 and BE.21 of the 2002 City of Gloucester Second Deposit Local Plan, Policy SD15 of the Joint Core Strategy Main Modification Document 2017 and Paragraphs 17, 109, 120 and 123 of the NPPF.</p>	
		Highways	
20	Statement / Prior to occupation	<p>Condition 20 No building on the development shall be occupied until the carriageway(s) (including surface water drainage/disposal, vehicular turning head(s) and street lighting) providing access from the nearest public highway to that dwelling have been completed to at least binder course level and the footway(s) to surface course level.</p> <p>Reason To minimise hazards and inconvenience for users of the development by ensuring that there is a safe, suitable and secure means of access for all people that minimises the conflict between traffic and cyclists and pedestrians in accordance with the National Planning Policy Framework paragraph 35 and Policy INF1 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017.</p>	
21	Statement / Prior to commencement	<p>Condition 21 No works shall commence on site (other than those required by this condition) on the development hereby permitted until the first 15 metres of the proposed access road, including the junction with the existing public road and associated visibility splays, has been completed to at least binder course level.</p> <p>Reason To minimise hazards and inconvenience for users of the development by ensuring that there is a safe, suitable and secure means of access for all people that minimises the conflict between traffic and cyclists and pedestrians in accordance with the National Planning Policy Framework paragraph 35 and Policy INF1 of the</p>	

		Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017.	
22	Details provided	<p>Condition 22</p> <p>No development shall take place, including any works of demolition, until a Construction Method Statement (for highways impacts) has been submitted to, and approved in writing by, the local planning authority. The approved Statement shall be adhered to throughout the construction period. The Statement shall:</p> <ul style="list-style-type: none"> I. specify the type and number of vehicles; II. provide for the parking of vehicles of site operatives and visitors; III. provide for the loading and unloading of plant and materials; IV. provide for the storage of plant and materials used in constructing the development; V. provide for wheel washing facilities; VI. specify the intended hours of construction operations; VII. measures to control the emission of dust and dirt during construction <p>8 of 10</p> <p>Reason</p> <p>To reduce the potential impact on the public highway and accommodate the efficient delivery of goods and supplies in accordance paragraph 35 of the National Planning Policy Framework and Policy INF1 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017. This is required pre-commencement of development due to the harm that could otherwise be caused by early-phase works.</p>	Refer to Construction Method Statement by RSK
23	Prior to works above ground	<p>Condition 23</p> <p>No above-ground development shall commence on site until a scheme has been submitted to, and agreed in writing by the Council, for the provision of fire hydrants (served by mains water supply) and no dwelling shall be occupied until the hydrant serving that property has been provided to the satisfaction of the Council.</p> <p>Reason</p>	Refer to PL009

		To ensure adequate water infrastructure provision is made on site for the local fire service to tackle any property fire.	
24	Prior to commencement	<p>Condition 24 No above-ground development shall commence until details of the proposed arrangements for future management and maintenance of the proposed streets within the development have been submitted to and approved in writing by the local planning authority. The streets shall thereafter be maintained in accordance with the approved management and maintenance details until such time as either a dedication agreement has been entered into or a private management and maintenance company has been established.</p> <p>Reason To ensure that safe, suitable and secure access is achieved and maintained for all people that minimises the conflict between traffic and cyclists and pedestrians in accordance with the NPPF and Policy INF1 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017.</p>	Refer to details by Cotswold Transport Planning
25	Detail provided	<p>Condition 25 The details to be submitted for the approval of reserved matters shall include vehicular parking and turning within the site, and the building(s) hereby permitted shall not be occupied until those facilities have been provided in accordance with the approved plans and shall be maintained available for those purposes for the duration of the development.</p> <p>Reason To ensure that a safe, suitable and secure means of access for all people that minimises the conflict between traffic and cyclists and pedestrians is provided in accordance with the National Planning Policy Framework paragraph 35 and Policy INF1 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017.</p>	Refer to PL005A and details by Cotswold Transport Planning SP03A, SP04A, SP05A Technical Note Reserved Matters
26	Prior to commentcent - Default	<p>Condition 26 No works shall commence on site on the development hereby permitted until details</p>	The bus stop has been removed prior to the development of proposals for this application.

		<p>of the relocated bus stop have been submitted to and approved in writing by the Local Planning Authority and the approved works have been completed and are open to the public. 9 of 10</p> <p>Reason</p> <p>To ensure that the development is designed to give priority to pedestrian movements and provide access to high quality public transport facilities in accordance with paragraph 35 of the National Planning Policy Framework and Policy INF1 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017. This is necessary pre-commencement of development due to the potential highway safety issues that could otherwise arise from early-phase works.</p>	
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Scale bar 1:1250
0 20 40 60



Revision A 03/2022 AH To accord with Outline approval

coombes : everitt architects limited
105-107 Bath Road
Cheltenham
Gloucestershire
GL53 7LE



www.ce-architects.co.uk

Drawing title: Site Location Plan

Client: Cotswold Oak Ltd

Drawn by: AH Checked: JE

Project No: 21.20.020

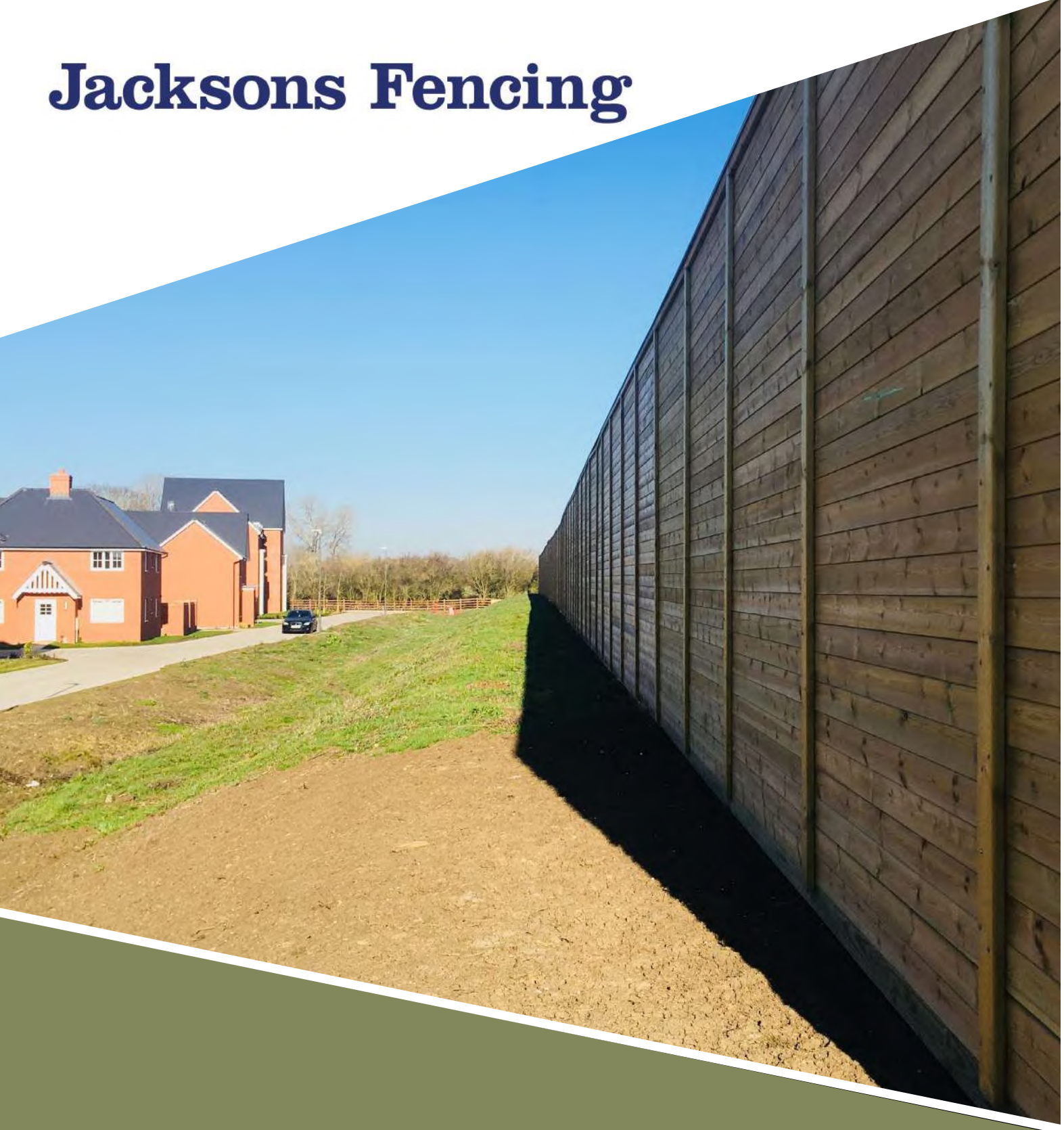
Project: Land at Paygrove Lane,
Longlevens

Scale: 1:1250 @ A4

Date: January 2022

Project / Drawing No: 21.20.020 PL001 A

Jacksons Fencing



Reflective & Absorptive Acoustic Fencing | Acoustic Gates |
Commercial & Highway Acoustic Barriers



A vertical strip on the left side of the page features a close-up photograph of horizontal wooden slats, likely from a fence or wall, with a natural wood grain and some knots. The background of the rest of the page is plain white.

Contents

02 |

About Us

03 |

Acoustic Noise Barriers

05 |

12K Envirofence®

07 |

Jakoustic® Reflective

09 |

Jakoustic® Absorptive

11 |

Jakoustic® Commercial & Highway Reflective

13 |

Jakoustic® Commercial & Highway Absorptive

15 |

High Security Acoustic Barriers

17 |

Jakoustic® Class 3

19 |

Trident® Jakoustic 2

20 |

Trident® Jakoustic

21 |

Jakoustic® Gates

23 |

Contact Details



6m high Jakoustic® Reflective with bespoke timber clad I-beams

JAKOUSTIC® BARRIER SYSTEM

KEEPING ENVIRONMENTAL NOISE IN CHECK SINCE 2004

When we developed and introduced the innovative Jakoustic® barrier system in 2004 it was in response to the need for an effective solution to the growing problem of noise pollution in the environment.

Since then, the increase in the UK population has fuelled house building and inevitably brought transport and infrastructure ever closer to residential property developments.

The Jakoustic® barrier system has been put to use in managing noise into and from sites across a wide variety of situations, from housing and schools, to transport, commercial, industrial and retail; while its performance, quality and natural timber façade has found favour with acoustics consultants, architects, developers, local authorities and homeowners alike.

THE GROWING CONCERN OF NOISE POLLUTION IN THE ENVIRONMENT

The World Health Organisation reports that noise is the second largest environmental cause of health problems, just behind the impact of air quality from particulate matter, and has set the European target limit of outdoor night noise levels at an annual average of 40 decibels (dB) in its new guidelines.

WHO findings revealed that people sleeping while exposed to night noise levels above 40dB on average throughout the year can suffer health effects like sleep disturbance and awakenings. Above 55dB long-term average exposure, noise can trigger elevated blood pressure and increase the risk of hypertension and premature deaths related to coronary heart disease and stroke.

Noise pollution in the environment is not just a matter for the bureaucrats to deal with through legislation. It affects all of us and it's our responsibility as good corporate citizens to ensure its effective management.

ENVIRONMENTAL NOISE AND LEGISLATION

The National Planning Policy Framework (NPPF) which supersedes the now withdrawn Planning Policy Guidance (PPG24), underlines and enforces key points in the Noise Policy Statement for England (NPSE), effectively meaning that it is now the responsibility of local authorities to implement acoustic guidance into local policy in context with government policy on sustainable development.

In practice, acoustic consultants are being brought in by architects, developers and construction companies at pre-planning stage on any project that could result in adverse impacts on the health and quality of life of local residents.

ACOUSTIC BARRIERS FOR ROAD NOISE APPLICATIONS

We are the first UK manufacturer of timber acoustic barriers who can CE mark both its Jakoustic® Commercial & Highways Reflective system and Jakoustic® Commercial & Highways Absorptive system as compliant with the requirements of BS EN 14388:2005, the harmonised standard relating to Road traffic noise reducing devices. This follows the successful type testing and validation of both systems, including posts, reflective and absorptive surfaces, fixings and installation method carried out by BSI.

ACOUSTIC NOISE BARRIER SYSTEMS

The proven and versatile Jakoustic® timber acoustic barrier system is available in any height up to three metres and in a number of versions that can reduce noise levels by up to 32 decibels to provide effective solutions to environmental noise pollution with low lifetime costs.

The basis of the Jakoustic® system features our unique timber 'tuning fork' design posts and boards with an interlocking 'v' and tongue and groove design. The special profile has been carefully developed to locate the boards in such a way that eliminates gaps that sound could travel through, even when boards shrink and expand with changes in the weather. The fence is finished with a capping and counter rail.

Our Commercial & Highways systems utilises the same basic structure, incorporating galvanised steel I-beams as opposed to timber tuning fork posts.

Jakoustic® Specification	12K Envirofence® Reflective (pg 5)	Jakoustic® Reflective (pg 7)	Jakoustic® Absorptive (pg 9)	Jakoustic® Commercial & Highway Reflective (pg 11)	Jakoustic® Commercial & Highway Absorptive (pg13)
Laboratory Tested/ Compliance	Not Tested	Category B3 BS EN 1793-2:1998	Category B3 BS EN 1793-2:1998 Category A3 BS EN 1793-1:1998	Category B3 BS EN 1793-2:1998 BS EN 1974-1 and 2 BS EN 14388:2005 (CE marking)*	Category B3 BS EN 1793-2:1998 Category A3 BS EN 1793-1:1998 BS EN 1794-1 and 2 BS EN 14388:2005 (CE marking)*
Timber Board Dimensions	20mm x 139mm Effective height 123mm	34mm x 143mm Effective height 123mm	34mm x 143mm plus additional absorptive layer covered with protective membrane Effective height 123mm	34mm x 143mm Effective height 123mm	34mm x 143mm Plus additional absorptive layer covered with a protective membrane Effective height 123mm
Noise Reduction	Meets minimum requirements for an acoustic barrier	Up to 28dB	Up to 32dB	Up to 28dB	Up to 32dB
Superficial Mass	10-12kg/m ²	25kg/m ²	28kg/m ²	25kg/m ²	28kg/m ²
Posts	For heights up to 2.0m use standard timber tuning fork posts For 2.1m - 3.0m height use standard tuning fork posts + steel spur post galvanised & powder coated black	For heights up to 2.0m use standard timber tuning fork posts For 2.1m - 3.0m height use standard tuning fork posts + steel spur post galvanised & powder coated black	For heights up to 2.0m use standard timber tuning fork posts For 2.1m - 3.0m height use standard tuning fork posts + steel spur post galvanised & powder coated black	Steel I-Beams Standard galvanised to BS EN ISO 1461	Steel I-Beams Standard galvanised to BS EN ISO 1461
CE Marked System for Road Noise	-	No	No	Yes	Yes
In-ground Posts	Yes	Yes	Yes	Yes	Yes
Base-plated Post Options	-	Optional	Optional	Optional	Optional
National Highway Sector Scheme 4	Timber can be treated and certified to National Highway Sector Scheme 4	Timber can be treated and certified to National Highway Sector Scheme 4	Timber can be treated and certified to National Highway Sector Scheme 4	Timber can be treated and certified to National Highway Sector Scheme 4	Timber can be treated and certified to National Highway Sector Scheme 4
National Highway Sector Scheme 2C	-	-	-	Yes	Yes
High Wind Loading	Optional	Optional	Optional	Optional	Optional
Up to 3.0m High	Yes	Yes	Yes	Yes	Yes
Above 3.0m High	-	-	-	Yes	Yes

*Please note: BS EN 14388:2015 is the latest standard but is not yet harmonised and hence cannot be used for CE marking

12K ENVIROFENCE®



12k Envirofence® is ideal for projects where there is a need for a barrier that meets with minimum superficial mass requirements. While it has not been subject to laboratory testing, 12k Envirofence® offers a cost-effective solution for situations where lower level of noise reduction is acceptable in applications subject to low to moderate wind loads. Its timber construction provides an attractive natural appearance that is appropriate for housing developments, retail and leisure facilities, schools, parks, and construction sites.

- 25 year guarantee using Jakcure® vacuum pressure treated timber
- Overlength timber tuning fork posts for setting in concrete as standard
- Barrier heights from 1.8m – 2.0m supplied with timber tuning fork posts (for general applications with low to moderate wind loads)
- Barrier heights of 2.1m - 3.0m include galvanised and/or powder coated steel spur posts
- Barrier heights from 2.1m – 5.0m may be specified with galvanised steel I-beam posts to suit ground and location conditions
- 20mm x 139mm x 4.8m (planed) boards with small chamfers which form a V-joint between boards
- Complete with capping and counter rail
- Capping rail 34mm x 145mm x 4.8m (planed)
- Counter rail size 34mm x 70mm x 2.4m (planed)



Key Features	Benefits
Reflective barrier type	Lower cost
Timber construction	Timber façade offers low visual impact
10-12kg per sqm superficial mass	Meets minimum planning specification for 10-12kg per sqm superficial mass for an acoustic barrier
Lighter weight boards with same 125mm cover face as Jakoustic® barriers	Fast and easy to install
Jakcure® vacuum pressure treated	25 year guarantee
Planed timber finish	Suitable for installation on uneven and sloping ground
Flat face anti-climb design	Timber conforms fully to the EUTR (European Timber Regulations)

HEIGHT (MM)	POST CENTRES (MM)	SPUR POST (MM)	OVERALL POST LENGTH (MM)
2000	2410	N/A	2900
2500	2410	2000	3400
3000	2410	2500	3900

APPLICATIONS

- Residential
- Schools
- Parks
- Demarcation
- Low - medium risk security sites

POST OPTIONS

- Timber tuning fork posts for heights up to 3m

FINISHES

- Jakcure® treated timber as standard
- Spur posts hot dip galvanised to BS EN ISO 1461 and/or powder coated
- Planed timber finish

JAKOUSTIC® REFLECTIVE



The Jakoustic® Reflective barrier is particularly effective in reflecting noise away from its face by employing heavy section planed timber boards with deep interlocking 'v' tongue and groove joints, coupled to tuning fork posts that clamp the boards together to eliminate gaps that sound could easily travel through.

Offering up to 28dB* reduction in noise, it has been designed for construction on site and can accommodate changes in site levels or profile.

- Approximate superficial mass 25kg/m²
- Heights from 1.8m - 3.0m available as standard
- 25 year guarantee using Jakcure® vacuum pressure treated timber
- Overlength timber tuning fork posts for setting in concrete as standard
- Heights to 2.0m supplied with timber tuning fork posts (for general applications with low to moderate wind loads)
- Heights of 2.1m - 3.0m include timber tuning fork posts and galvanised and/or powder coated steel spur posts
- 34mm x 143mm x 4.8m (planed) boards with unique deep interlocking 'v' tongue and groove joint
- Complete with capping and counter rail
- Capping rail 34mm x 145mm x 4.8m (planed)
- Counter rail size 34mm x 70mm x 2.4m (planed)
- For additional strength against higher wind loading see Jakoustic® Commercial & Highway Reflective (page 11)
- Rating according to BS EN 1793- 2:1998; Category = B3
- Laboratory sound reduction 28dB*



Key Features	Benefits
Reflective barrier type	Up to 28dB* reduction in noise
34mm thick 'V' boards	Timber conforms fully to the EUTR (European Timber Regulations) requirements
25kg/m ² superficial mass	Easy to install
Planed timber finish	Attractive timber façade
Jakcure [®] vacuum pressure treated	25 year guarantee
Flat face anti-climb design	High privacy design offering good security
Matching pedestrian, swing and tracked sliding gates	Suitable for installation on uneven and sloping ground

*Jakoustic[®] barrier certified laboratory results: Rating according to BS EN 1793- 2:1998; category = B3; laboratory sound reduction 28dB.

HEIGHT (MM)	POST CENTRES (MM)	SPUR POST (MM)	OVERALL POST LENGTH (MM)
2000	2410	N/A	2900
2500	2410	2000	3400
3000	2410	2500	3900

APPLICATIONS

- Housing
- Commercial / industrial properties
- Data centres
- Retail
- Logistics
- Low / medium wind conditions

POST OPTIONS

- Timber tuning fork posts for heights up to 3m

FINISHES

- Jakcure[®] treated timber as standard
- Spur posts hot dip galvanised to BS EN ISO 1461 and/or powder coated
- Planed timber finish

JAKOUSTIC® ABSORPTIVE



The Jakoustic® Absorptive barrier is designed specifically to keep noise within a contained space and is typically used around continuous power supply generators, air conditioner compressors, waste compactors and goods loading areas.

Jakoustic® Absorptive takes the proven Jakoustic® Reflective design of heavy section planed timber boards with deep interlocking 'v' tongue and groove joint, coupled to tuning fork posts, and adds an absorptive layer of a mineral Rockwool fibre and protective membrane to one side of the barrier.

Offering up to 32dB* reduction in noise, it has been designed for faster installation times on site and can accommodate changes in site levels or profile.

- Approximate Superficial Mass 28kg/m²
- Heights from 1.8m – 3.0m available as standard
- 25 year guarantee using Jakcure® vacuum pressure treated timber
- Absorptive layer of a mineral Rockwool fibre and protective membrane to one side
- Overlength timber tuning fork posts for setting in concrete as standard
- Heights to 2.0m supplied with timber tuning fork posts (for general applications with low to moderate wind loads)
- Heights of 2.1m - 3.0m include timber tuning fork posts and galvanised and/or powder coated steel spur posts
- 34mm x 143mm x 4.8m (planed) boards with unique deep interlocking 'v' tongue and groove joint
- Complete with capping and counter rail
- For additional strength against higher wind loading see Jakoustic® Commercial & Highway Absorptive (page 13)
- Rating according to BS EN 1793- 2:1998; Category = B3
- Rating according to BS EN 1793-1:1998; Category = A3
- Laboratory sound reduction 32dB



Key Features	Benefits
Absorptive barrier type	Up to 32dB* reduction in noise
Unique tuning fork design posts	Timber façade offers low visual impact
28kg/m ² superficial mass	Fast and easy to install
Planed timber finish	Attractive timber construction
Absorptive layer of a mineral Rockwool fibre and protective membrane to one side	Timber conforms fully to the EUR (European Timber Regulations)
Jakcure® vacuum pressure treated	25 year guarantee
Flat face anti-climb design	High privacy design offering good security
Matching pedestrian, swing and tracked sliding gates	Suitable for installation on uneven and sloping ground

*Jakoustic® barrier certified laboratory results: Rating according to BS EN 1793- 2:1998; Category = B3. Rating according to BS EN 1793-1:1998; Category=A3. Laboratory sound reduction 32dB.

HEIGHT (MM)	POST CENTRES (MM)	SPUR POST (MM)	OVERALL POST LENGTH (MM)
2000	2410	N/A	2900
2500	2410	2000	3400
3000	2410	2500	3900

APPLICATIONS

- Commercial properties
- Retail
- Logistics
- Industry
- Demarcation
- Low / medium wind conditions

POST OPTIONS

- Timber tuning fork posts for heights up to 3m

FINISHES

- Absorptive face clad in black membrane with vertical timber battens as standard
- Spur posts hot dip galvanised to BS EN ISO 1461 and powder coated black as standard
- Planed timber finish

JAKOUSTIC® COMMERCIAL & HIGHWAY REFLECTIVE



The Jakoustic® Commercial & Highway Reflective barrier system has been designed for commercial and highway applications, providing the same level of noise protection as the original Jakoustic® Reflective barrier, but it can be additionally CE marked as a whole system for road infrastructure.

Jakoustic® interlocking 'V' boards are affixed to galvanised steel I-beam posts for additional strength and rigidity, meeting not only stringent Highways Agency standards BS EN1794-1 and 2, but also ideally suited for application in exposed locations subject to high wind loading. The system is available with matching capping, counter rails and timber cladding to posts to further enhance its appearance. The complete acoustic barrier system can be CE marked as compliant with the requirements of EN 14388:2005 relating to road traffic noise reducing devices.

- Can be CE marked as compliant with the requirements of harmonised standard EN 14388:2005 relating to traffic noise reducing devices
- Timber can be treated to National Highway Sector Scheme 4 and the system can be installed in compliance with National Highway Sector Scheme 2C
- Approximate Superficial Mass 25kg/m²
- Up to 28dB* noise reduction
- Overlength galvanised steel I-beam posts for setting in concrete as standard
- 34mm x 143mm x 4.8m (planed) boards with unique deep interlocking "V" tongue and groove joint
- Capping rail 34mm x 145mm x 4.8m (planed)
- Counter rail size 34mm x 70mm x 2.4m (planed)
- Can accommodate changes in level or profile
- Anti climb and scale design
- Matching pedestrian, swing and tracked sliding gates
- Heights from 1.8m available as standard
- 25 year guarantee using Jakcure® vacuum pressure treated timber

Key Features	Benefits
Reflective barrier type	Up to 28dB* reduction in noise
Attractive timber construction	Timber façade offers low visual impact
25kg/m ² superficial mass	Fast and easy to install
Planed timber finish	Timber conforms fully to the EUR (European Timber Regulations)
Jakcure® vacuum pressure treated	Suitable for installation on uneven and sloping ground
Flat face anti-climb design	High privacy design offering good security
Matching pedestrian, swing and tracked sliding gates	Can be CE Marked as compliant with the requirements of current harmonised standard EN 14388:2005 relating to traffic noise reducing devices
Heights from 1.8m+	Meets Highways Agency standards BS EN 1794-1 and 2
Jakcure® 25-year guarantee	Suitable for exposed sites subject to high wind loading

*Jakoustic® Commercial and Highway barrier certified laboratory results:
Rating according to BS EN 1794-1 Amex A, B, C, F, E

Jakoustic® Highway Laboratory sound reduction 28dB Superficial Mass 25kg/m²

Designed in accordance with BS EN 1794-2 (Detailed compliance statements available)

APPLICATIONS

- Highways
- Construction sites
- Commercial properties
- Logistics
- Railways
- Sites subject to high wind loading

POST OPTIONS

- Base plated galvanised steel I- beam posts to bolt down to concrete base foundations
- Overlength steel I-beam posts

GATES

- Matching gates available

FINISHES

- One face showing Jakcure® treated timber on posts as standard
- Steel I-beam posts hot dip galvanised to BS EN ISO 1461
- Planed timber finish

JAKOUSTIC® COMMERCIAL & HIGHWAY ABSORPTIVE



Shown: absorptive layer installed 'between posts'

The Jakoustic® Commercial & Highway Absorptive barrier system has been designed for commercial and highway applications, providing the same level of noise protection as the original Jakoustic® Absorptive barrier, but it can be additionally CE marked as a whole system for road infrastructure.

The barrier takes the proven Jakoustic® Commercial & Highway Reflective design of heavy section planed timber boards with deep interlocking 'v' tongue and groove joint and adds an absorptive layer of mineral Rockwool fibre and protective membrane to one side to achieve a noise reduction of up to 32dB*. The barrier is fixed to galvanised steel I-beam posts for additional strength and rigidity, meeting not only stringent Highways Agency standards BS EN1794-1 and 2, but also ideally suited for exposed locations subject to high wind loading. The Jakoustic® Commercial & Highway Absorptive system is available with matching timber capping and counter rails to further enhance its appearance. The complete acoustic barrier system can be CE marked as compliant with the requirements of EN 14388:2005 relating to road traffic noise reducing devices.

- Can be CE marked as compliant with the requirements of harmonised standard EN 14388:2005 relating to traffic noise reducing devices
- Timber can be treated to National Highway Sector Scheme 4 and the system can be installed in compliance with National Highway Sector Scheme 2C
- Approximate Superficial Mass 28kg/m²
- Heights from 1.8m available as standard
- 25 year guarantee using Jakcure® vacuum pressure treated timber
- Absorptive layer of a mineral Rockwool fibre and protective membrane to one side
- Overlength galvanised steel I-beam posts for setting in concrete as standard
- Complete with capping and counter rail (optional)
- Absorptive layer can be installed to the continuous 'clad' face or 'between posts'
- Rating according to BS EN 1793- 2:1998; Category = B3
- Rating according to BS EN 1793-1:1998; Category = A3
- Laboratory sound reduction 32dB*



Key Features	Benefits
Absorptive barrier type	Up to 32dB* reduction in noise
Attractive timber construction	Timber façade offers low visual impact
28kg/m ² superficial mass	Fast and easy to install
Planed timber finish	Timber conforms fully to the EUR (European Timber Regulations)
Absorptive layer of mineral Rockwool fibre and protective membrane to one side	Can be CE Marked as compliant with the requirements of EN 14388:2005 relating to traffic noise reducing devices
Jakcure [®] vacuum pressure treated	Suitable for installation on uneven and sloping ground
Flat face anti-climb design	High privacy design offering good security
Matching pedestrian, swing and tracked sliding gates	Jakcure [®] 25-year guarantee

*Jakoustic[®] barrier certified laboratory results:

Rating according to BS EN 1793- 2:1998; Category = B3.

Rating according to BS EN 1793-1:1998; Category=A3. Laboratory sound reduction 32dB.

Rating according to BS EN 1794-1 Amex A, B, C, F, E

APPLICATIONS

- Commercial properties
- Retail
- Logistics
- Industry
- Railways
- Sites subject to high wind loading

POST OPTIONS

- Base plated galvanised steel I- beam posts to bolt down to concrete base foundations
- Overlength steel I-beam posts

GATES

- Matching gates available

FINISHES

- One face showing Jakcure[®] treated timber on posts as standard
- Steel I-beam posts hot dip galvanised to BS EN ISO 1461
- Absorptive face clad in black membrane with vertical timber battens as standard
- Planed timber finish

JAKOUSTIC® GATES



For a totally integrated, acoustic barrier solution we offer matching Jakoustic® timber or galvanised steel framed gates for pedestrian and vehicular access.

Configured as singles or pairs to match the Jakoustic® Reflective or Absorptive barrier systems, gates are available in swing and tracked sliding designs for manual or automated operation.

Swing Gates

Available in a range of sizes*.

Swing gates can be hung on timber or galvanised, or galvanised and powder coated steel posts, dependent on size, with the addition of optional lintels if required.



Tracked Sliding Gates

Available in a range of sizes, please ask for more details.

The largest Jakoustic® tracked sliding gate that we have manufactured and installed to date is 3.5m high x 21m wide single leaf - but we can do larger.

*note: about the importance of automation on swing gates that generally exceed 6.5sqm per leaf



APPLICATIONS

- Commercial properties
- Retail
- Logistics
- Industry
- Sites subject to high wind loading

FINISHES

- Jakcure® treated timber as standard
- Posts are hot dip galvanised to BS EN ISO1461 as standard

HIGH SECURITY

JAKOUSTIC[®] CLASS 3 &

TRIDENT BARRIERS

As the UK's leading manufacturer of certified security fencing systems, we are the only manufacturer able to offer a range of Jakoustic[®] timber barrier systems that have been successfully tested by Centre for the Protection of National Infrastructure (CPNI), Loss Prevention Certification Board (LPCB) and approved by Secured by Design as meeting with police preferred specification.

The beauty of the Jakoustic[®] Class 3 and Trident[®] systems is that they provide assured levels of security without projecting an intimidating presence or drawing attention to site activities; they also offer the added benefits of certified noise reduction capabilities and a high degree of privacy.

Due to the nature of high security products, detailed specifications may be subject to both secrecy and commercial confidentiality agreements and are not made available in the public domain. For more information on these products, please contact our High Security Specialist Team on 0800 408 4767 or email highsecurity@jacksons-security.co.uk

JAKOUSTIC® CLASS 3



Jakoustic® Class 3 with Rota Spike® Topping

Jakoustic® Class 3 is a variant of the Jakoustic® Reflective barrier that has been tested and certified by LPCB to LPS 1175 C5 (SR3) to provide moderate resistance to determined attempts of forced entry using a range of techniques employing hand and portable power tools.

- LPS 1175 C5 (SR3) / F1 Certified as standard.
- Can be upgraded to G1 Certification. Contact our sales team for more information.
- Double layer of 34mm thick timber boards provide a high level of resistance to cutting
- Approximate Superficial Mass 25kg/m²
- Anti-climb design with completely flat face allowing no foot or hand holds
- Zero visibility through barrier
- Can accommodate changes in ground level or profile
- Hot dip galvanised I-beam posts
- Range of security toppings available
- Up to 28dB* noise reduction
- Available at heights from 2.5 to 6m
- Secured by Design Preferred Specification
- 25 year guarantee using Jakcure® vacuum pressure treated timber



HEIGHT (MM)	POST CENTRES (MM)	GRADIENTS	ANGLES IN FENCE LINE
2500 - 6000	2410	0° TO 18.5°	90°, 180° OR 270°

*Jakoustic® barrier certified laboratory results: Rating according to BS EN 1793- 2:1998; category = B3; laboratory sound reduction 28dB.

CERTIFICATION

- LPS 1175 C5 (SR3) / F1 Certified
- Can be upgraded to meet G1 Certification
- Secured by Design Preferred



FINISHES

- Jakcure® treated timber as standard
- Posts are hot dip galvanised to BS EN ISO1461 as standard
- Optional powder coated posts to BS EN 13438
- Additional marine coating for installations within 500m of salt water or estuary

CONTACT

- For detailed specifications, please contact our High Security Team on [REDACTED]

TRIDENT® JAKOUSTIC® 2

Trident® Jakoustic® 2 system is of a dual layer construction comprising a single facing of interlocking 'V' timber boards, lined with a layer of steel mesh to 1.70m above ground. The interlocking 'V' coupled to a tongue and groove eliminates gaps even when boards shrink and expand with changes in the weather.

The totally flat attack face, steel mesh lining and combination of dissimilar construction materials makes the fence difficult to scale or penetrate.

Trident® Jakoustic® 2 hides its security capability as the mesh lining is fixed to the back of the barrier.



- Secured by Design Preferred Specification
- Up to 28dB* noise reduction
- Superficial Mass 25kg/m²
- Jakcure® vacuum pressure treated timber
- Flat face allowing no foot or hand holds
- Zero visibility through barrier
- Can accommodate changes in ground level or profile
- Post extensions as standard to carry 3 rows of barbed wire topping or may be specified to carry other toppings
- 25-year Jakcure® treatment guarantee

HEIGHT INCLUDING TOPPING (MM)	TOPPING HEIGHT (MM)	POST CENTRES (MM)	TOPPING
3000	600	2410	3 ROWS OF BARBED WIRE

*Jakoustic® barrier certified laboratory results: Rating according to BS EN 1793- 2:1998; category = B3; laboratory sound reduction 28dB.

CERTIFICATION

- Secured by Design Preferred



FINISHES

- Jakcure® treated timber as standard
- Galvanised mesh as standard
- Posts are hot dip galvanised to BS EN ISO1461 as standard
- Optional hot dip galvanised and powder coated posts to BS EN 1343

- Optional hot dip galvanised and marine coating for installations within 500m of salt water or estuary

CONTACT

- For detailed specifications, please contact our High Security Team on [REDACTED]

TRIDENT® JAKOUSTIC® 3

Trident® Jakoustic® 3 represents the ultimate in timber security barrier systems.

It is of a sandwich construction comprising two facings of interlocking 'V' timber boards, lined internally with a layer of high security steel mesh to 2.28m above ground.

The interlocking 'V' coupled to a tongue and groove eliminates gaps even when boards shrink and expand with changes in the weather.

The totally flat faces, double layer of 34mm thick timber and high security steel mesh liner provide a combination of unlike construction materials that makes the fence extremely difficult to scale or penetrate through and is equally effective against attempts to gain entry into or exit from secure sites.

- Secured by Design Preferred Specification
- Dual layer of 34mm thick timber acoustic boards
- Reinforcing layer of galvanised high security mesh
- 28dB* or greater noise reduction potential from increased superficial mass
- Superficial Mass 25kg/m² (for each timber face)
- Jakcure® vacuum pressure treated timber
- Flat face allowing no foot or hand holds
- Zero visibility through barrier
- Can accommodate changes in ground level or profile
- Post extensions as standard to carry 3 rows of barbed wire topping or may be specified to carry other toppings
- 25-year Jakcure® treatment guarantee



HEIGHT (MM)	TOPPING HEIGHT (MM)	POST CENTRES (MM)	TOPPING
3900	600	2410	3 ROWS OF BARBED WIRE

*Jakoustic® barrier certified laboratory results: Rating according to BS EN 1793- 2:1998; category = B3; laboratory sound reduction 28dB.

CERTIFICATION

- Secured by Design Preferred



FINISHES

- Jakcure® treated timber as standard
- Galvanised mesh as standard
- Posts are hot dip galvanised to BS EN ISO1461 as standard
- Optional hot dip galvanised and powder coated posts to BS EN 1343

- Optional hot dip galvanised and marine coating for installations within 500m of salt water or estuary

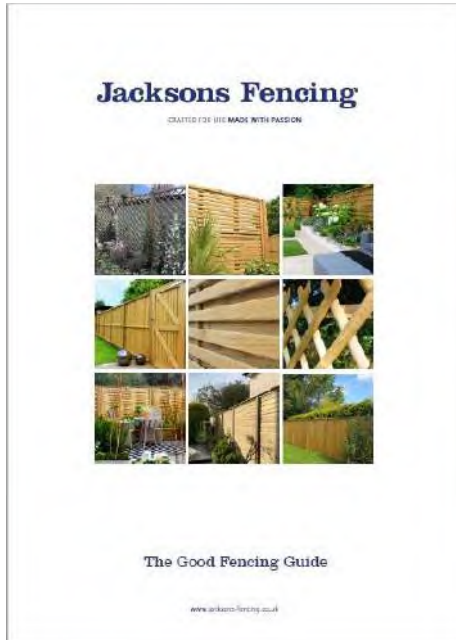
CONTACT

- For detailed specifications, please contact our High Security Team on [REDACTED]

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The Good Fencing Guide showcases our range of timber products designed for residential and agricultural settings, including garden panels, garden gates, trellis and decking.

Visit our website to download or order a copy at www.jacksons-fencing.co.uk/request-a-brochure



We offer a range of steel fencing, vehicle control barriers and hostile vehicle mitigation products suited to a range of applications including commercial premises, schools, high security sites, critical national infrastructure and sports pitches.

Visit our website to download or order a copy at www.jacksons-security.co.uk/request-a-brochure



CONTACT US

Jakoustic® Acoustic Barrier

For more information on the Jakoustic® range of environmental noise barriers including detailed specifications, technical drawings and certificates, please contact our Acoustic Team on 0800 408 4767 or email acoustic@jacksons-fencing.co.uk

Jakoustic® High-Security Barriers

To discuss requirements for high security versions of Jakoustic®, please contact our High Security Team on 0800 4767 or email high.security@jacksons-fencing.co.uk

Jacksons Commercial Solutions

To discover more about the full range of Jacksons fencing and access solutions in steel, timber and timber and steel combinations, automated gates and outdoor storage compounds for commercial, education and industrial applications, please contact our Commercial Team on +44 (0)1233 750 393 or email commercial@jacksons-fencing.co.uk

Jacksons for Homeowners

In addition to our commercial and security products, Jacksons is one of the UK's leading manufacturers and suppliers of timber fencing, gates, decking, garden structures, landscaping timbers, household waste and recycling storage to homeowners, for more information, please contact our Retail Team on +44 (0) 1233 750 393 or email sales@jacksons-fencing.co.uk

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Continuous Improvement

We operate a continuous improvement policy throughout the organisation. Products and specifications are subject to change without notification.

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Euroguard®

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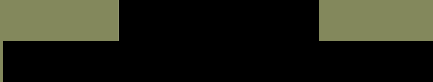
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Jacksons Fencing has a certified Quality Management System that complies with the requirements of LPCB: ISO 9001:2015

Jacksons Fencing



www.jacksons-fencing.co.uk
www.jacksons-security.co.uk



Land off Paygrove Lane, Longlevens,
Gloucester

Walkover Survey



March 2022

All Ecology Ltd

[Redacted]
[Redacted]
Web: www.allecolony.co.uk

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Document Control

Site: Land off Paygrove Lane, Longlevens, Gloucester

Title: Walkover Survey

For: Coombes: Everitt Architects Limited

Project Number: 1552.1

Document Version: 1.0

Survey Date(s): 28th January 2022

Document Date: 2nd March 2022

Version	Date	Version Details	Prepared by	Reviewed by	Approved by
1.0	02/03/22	-	DR	JG	JG



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Notice to Readers:

The results of the survey and assessment work undertaken by All Ecology are representative at the time of surveying.

Every endeavour has been made to identify the presence of protected species on site, where this falls within the agreed scope of works.

The flora and fauna detailed within this report are those noted during the field survey and from anecdotal evidence. It should not be viewed as a complete list of flora and fauna species that may frequent or exist on site at other times of the year.

Up to date standard methodologies have been used, which are accepted by Natural England and other statutory conservation bodies. No responsibility will be accepted where these methodologies fail to identify all species on-site.

All Ecology cannot take responsibility where Government, national bodies or industry subsequently modify standards.

All Ecology cannot accept responsibility for data collected from third parties.

Reference to sections or particular paragraphs of this document taken out of context may lead to misrepresentation.

Summary

In January 2022, All Ecology was commissioned to undertake a Walkover Survey of a site known as Land off Paygrove Lane, Longlevens, Gloucester. The site comprises a field of improved grassland bound by species-poor hedge along the west boundary with the other boundaries being fenced with some areas of scrub. The field is surrounded by residential housing on all aspects.

The site is the subject of a reserved matters planning application subsequent to outline approval 16/01558/OUT for a small housing development of ten houses to be constructed near the site's east boundary, and associated infrastructure, which was supported by an Ecological Appraisal of the site carried out by All Ecology in 2015. The present walkover survey was carried out in order to satisfy two planning conditions associated with ecology.

Boundary hedge, trees and scrub will be retained, albeit subject to 'cut-back' where necessary and reinforced with additional planting. The boundary habitats are considered to provide most ecological value with other habitats on site being common and easy to replace. No further surveys of habitats are deemed necessary.

The site provides potential habitat for a range of fauna. The following require further consideration:

- Bats – The hedges may be utilised by foraging and commuting bats. No further bat activity surveys are required provided the retained hedgerows are not subject to lighting. The trees did not provide any potential for roosting bats.
- Badgers and other mammals – No further surveys are required but precautionary methods of working to avoid trapping mammals have been suggested.
- Birds – No further surveys are required at this time but any removal of scrub habitat or pruning of existing hedgerows should be undertaken outside the bird nesting season unless a pre-works survey confirms absence.

Details for mitigation/enhancement are given.

Contents

Summary	1
Contents	2
1.0 Introduction	3
Background	3
Objectives and Aim	4
Site Location, Aerial Photograph and Proposed Site Plan.	4
2.0 Methodology	6
Personnel	6
Habitat Survey	6
Fauna	6
Valuation of Ecological Features	6
Nomenclature	7
Limitations	7
3.0 Results	8
Habitats	8
Fauna	10
4.0 Development Constraints and Recommendations	13
Development Proposals	13
Habitats	13
Protected and Notable Species	14
5.0 References	16
6.0 Appendix 1	17
Enhancement Plan	17

1.0 Introduction

Background

- 1.1 In January 2022 All Ecology was commissioned to undertake a Walkover Survey of a site known as Land off Paygrove Lane, Longlevens, Gloucester. The site is approximately 1.4 ha in size comprising a field of improved grassland. The site has a species-poor hedgerow along the west boundary with the other boundaries being fenced with some areas of scrub. The field is surrounded by residential housing on all aspects, in an area, which is mainly urban interspersed with occasional recreational green spaces.
- 1.2 The site is the subject of a reserved matters planning application subsequent to outline approval 16/01558/OUT for a small housing development of ten houses to be constructed near the site's east boundary, and associated infrastructure. A portion of the existing field will be retained to form a playing field with a new hedgerow to be planted between the development and this open greenspace.
- 1.3 A previous Ecological Appraisal of the site was carried out in 2015 by All Ecology Ltd. Planning permission for the proposed development has been approved; however, the current Walkover Survey was carried out in order to satisfy two planning conditions associated with ecology as follows:

Condition 12

- 1.4 Bird and bat boxes (or facilities of a similar nature) shall be installed in accordance with details to be submitted to and approved in writing by the Local Planning Authority. They shall be installed in full in accordance with the approved details prior to occupation of the respective buildings or prior to the end of the first planting season following completion of the development in the event of tree-mounted fittings.
- 1.5 Reason: To secure biodiversity mitigation and enhancement in accordance with Policies SD10 and INF 4 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017, Paragraphs 17, 109 and 118 of the NPPF and Policy B.8 of the 2002 City of Gloucester Second Deposit Local Plan.

Condition 13

- 1.6 No development shall commence until a site walkover survey has been undertaken by a qualified ecologist to investigate the presence of newts on the site and the results have been submitted to the Local Planning Authority. If their presence is confirmed no development shall commence until a mitigation strategy has been submitted to and approved in writing by the Local Planning Authority (including a timetable for its implementation) and the approved strategy shall thereafter be implemented in accordance with its terms.
- 1.7 Reason: To mitigation potential impact on biodiversity in accordance with Policies SD10 and INF 4 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017, Paragraphs 17, 109 and 118 of the NPPF and Policy B.8 of the 2002 City of Gloucester Second Deposit Local Plan.

Objectives and Aim

- 1.8 The main objectives and aim of the survey were to identify features of ecological interest, undertake a basic search of habitats present for evidence of use, or potential use, by protected species, and to identify any other possible ecological constraints to any development of the site.

Site Location, Aerial Photograph and Proposed Site Plan.



Figure 1: Site location plan.



Figure 2: Aerial photograph indicating site boundaries.



Figure 3: Proposed site layout and street scene.

2.0 Methodology

Personnel

- 2.1 The survey was carried out by Daniel Roberts BSc Hons QCIEEM and was overseen by James Godbeer BSc Hons MCIEEM, an ecologist with over 14 years' experience working as a consultant. James has extensive experience of managing environmental contracts, and particular experience in surveying, assessment and mitigation for rare and protected species. He has considerable knowledge of the development and planning process including Ecological Impact Assessments, sustainable ecological design and he has completed ecology chapters of Environmental Statements. James holds a number of protected species licences including bats (all species, all counties, Class Licence Registration No. 2015-12313-CLS-CLS), and Great Crested Newts (Class Licence Registration No. 2019-44282-CLS-CLS). He has successfully obtained European Protected Species mitigation licences for a number of bat species including Lesser Horseshoe, Greater Horseshoe, Serotine, Brown Long-eared, Common Pipistrelle and Natterer's bats, for a number of roost types including maternity and hibernation sites.

Habitat Survey

- 2.2 The site was visited on the 1st February 2022 and surveyed in accordance with the Joint Nature Conservation Committee (JNCC) Phase I Habitat Survey methodology (JNCC, 2010). This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential that might warrant further study.

Fauna

- 2.3 The habitats present on the site were searched for signs of animal activity and trees were assessed for their potential to support bat roosts.
- 2.4 The site and surroundings, for a minimum distance of 30 m where access was available, were searched for signs of Badgers. These include setts, latrines, dung pits, snuffle marks or hairs caught in hedges or on fencing.
- 2.5 Incidental observations of invertebrates and birds were recorded and a search made for any signs of previous nesting.
- 2.6 Any refuges on site such as logs or other debris were lifted and inspected for reptiles and amphibians. There were no ponds indicated on OS maps within 500 m of the site to be subject to a Great Crested Newt Habitat Suitability Index (HSI) Assessment to assess its suitability for this species.

Valuation of Ecological Features

- 2.7 The valuation process used in this report follows the Guidelines for Ecological Impact Assessment in the UK and Ireland from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018).
- 2.8 The value of areas of habitat and plant communities has been measured against published criteria where available. Biodiversity Action Plans (BAPs) have been searched to identify whether action has been taken to protect all areas of a particular habitat and to identify current factors

causing loss and decline of particular habitats. The presence of injurious and legally controlled weeds has also been taken into account.

- 2.9 When assigning a level of value to a species, its distribution and status (including a consideration of trends based on available historic records) has been taken into account. Other factors influencing the value of a species are: legal protection, rarity and Species Action Plans (SAPs). Guidance, where it is available, for the identification of populations of sufficient size for them to be considered of national or international importance has also been taken into account.

Nomenclature

- 2.10 The English name only of flora and fauna species is given in the main text of this report; however, scientific names are used for invertebrates where no English name is available. Vascular plants and charophytes follow the nomenclature of The Botanical Society for the British Isles (BSBI) 2007 database (BSBI, 2007) with all other flora and fauna following the Nameserver facility of the National Biodiversity Network Species Dictionary (<http://www.nhm.ac.uk/nbn/>), which is managed by the Natural History Museum.

Limitations

- 2.11 The site was fully accessible with no limitations to undertaking the survey in accordance with the stated methodology.

3.0 Results

Habitats

- 3.1 The following habitats or vegetation types were identified during the course of the habitat survey:
- Improved grassland
 - Species-poor hedge
 - Scattered scrub
 - Standard tree
 - Fence
- 3.2 The majority of the site was improved grassland. This was dominated by Cock's-foot with locally abundant Yorkshire-fog and occasional False Oat-grass and Perennial Rye-grass. Forb content comprised of occasional Ribwort Plantain, Creeping Buttercup and Dandelion with rare occurrences of Meadow Buttercup, Broad-leaved Dock and Creeping Thistle. Areas of locally frequent Common Nettle, Cow Parsley and Cleavers with rare Dead-nettle sp., Lord's-and-Ladies and Groundsel were recorded, mainly around the peripheries.
- 3.3 An overgrown species-poor hedge was present along the west boundary. Hawthorn and Ash were found to be frequent with rare Elder, Ivy and Crack Willow; parts of the hedge were overgrown with bramble. There was a short section of hedge present along the north boundary which was dominated by Wild Privet with occasional Elder and bramble agg. A mature Ash tree was present on the east boundary of the site.
- 3.4 There were small areas of scattered bramble scrub in the south corner of the field and occasionally outgrowing from the west boundary hedge.
- 3.5 Fencing is present along the north, east and south boundaries. This is a combination of concrete post and chain-link fencing and timber panel fencing. Sections of the fence were covered in Bramble and Honeysuckle. Leyland Cypress and a small Ash tree were present on the east boundary with some overhanging Sycamore branches.



Photograph 1: General view of the field.



Photograph 2: Overgrown hedge on the west boundary.



Photograph 3: Species poor hedge on part of the north boundary.



Photograph 4: Bramble scrub overgrowing from the west boundary.



Photograph 5: Panel fence.



Photograph 6: Chain link fence.

Fauna

Bats

- 3.6 There were no buildings on site and only small numbers of mature trees on boundaries of the site. Trees were inspected for potential bat roosting features including rot holes, split bark, flaking bark, cracks and crevices of which none were found. The site is generally open and any foraging areas for bats are likely to be restricted to the boundary vegetation with west boundary hedge being the main area of interest. This hedge may also be used by bats commuting from possible roosting sites and foraging areas in the surrounding area although species are likely to be restricted to urban species such as pipistrelles.

Badgers

- 3.7 The grassland provides good foraging habitat for Badgers and a number of mammal paths were noted through the grass. However, these could not be attributed to Badgers with any certainty. The site was inspected for signs of badger activity such as digging, snuffle marks, dung/latrines and setts, of which none were found. It is likely that Badgers are generally absent from the site but they may pass through or forage on site on occasion.



Photograph 7: Mammal path into bramble scrub on the south boundary.

Otters and Water Voles

- 3.8 There are no watercourses on or adjacent to the site with no potential for these species to be present here.

Hazel Dormouse

- 3.9 The potential for the site to support Dormice is negligible. Potential foraging habitat is limited to the species-poor hedge along the west boundary. The hedgerow is not connected to any other areas of suitable habitat such as woodland or extensive networks of hedges. It is therefore likely that Dormice are absent from the site.

Other mammals

- 3.10 The section of species-poor hedge and scattered scrub provide cover for a range of mammal species, including Hedgehogs, but the majority of the site is open improved grassland and as such is only expected to support a limited number of common small mammals.

Birds

- 3.11 The species-poor hedge has potential to support nesting and foraging birds. The survey was carried out in January, which is outside the nesting season, and therefore a search for old nests was carried out of which none were found; however, it is possible that nests could have been missed in the denser areas of the hedge and scrub and it is likely that birds will nest here in the future

- 3.12 In terms of foraging habitat, the improved grassland is unlikely to provide an important foraging resource for birds but the species-poor hedge and areas of scrub are likely to be utilised by a range of birds.

Reptiles

- 3.13 The small areas of scrub and the hedgerow provide some cover for reptiles but the improved grassland is poor foraging habitat. The grassland is overgrown but has only recently developed from the short, regularly managed grassland that was previously recorded. The variation in structure and mosaic of habitats preferred by reptiles is still not present expect for some small

isolated patches. The site is surrounded by residential dwellings and gardens in an urban area and therefore is isolated from any off-site optimal reptile habitat. It is therefore likely that they are still absent from the site.

Amphibians

- 3.14 The hedgerow and scrub provide limited terrestrial habitat for amphibian species but no ponds are present on site. With regard to the specially protected Great Crested Newt, there were no ponds indicated on maps of the area within 500 m of the site and this species is therefore likely to be absent from the site.

Invertebrates

- 3.15 The habitats on site are common habitat types that do not provide much potential for rare invertebrate species. It is mostly common assemblages of invertebrates that are expected to be present.

4.0 Development Constraints and Recommendations

Development Proposals

- 4.1 The site is the subject of a reserved matters planning application subsequent to outline approval 16/01558/OUT for a small housing development of ten houses to be constructed near the site's east boundary, and associated infrastructure. A portion of the existing field will be retained to form a playing field with a new hedgerow to be planted between the development and this open greenspace.

Habitats

- 4.2 The NERC Priority Habitats include all hedgerows with at least 80% cover of at least one woody UK native species (JNCC, 2020). The hedge on site had at least 80% cover of native species and as such qualifies as NERC Priority Habitat although it was species-poor. It is understood that this hedgerow is to be retained and this being the case, no further assessment is necessary.
- 4.3 The grassland on site was improved grassland. This was surveyed in January which is outside the optimal period for grasses; however, it evidently fails to qualify as good semi-improved grassland. In order to be a NERC Priority Habitat, grassland typically has to be unimproved (good semi-improved grassland can also qualify) and would have to be examples of grasslands such as lowland calcareous grassland or lowland dry acid grassland, habitats not found on site. Therefore, no further grassland survey at the optimal time of year is required.
- 4.4 The remaining habitats on site are common, of low ecological value and easy to replace. Any impacts as a result of loss/changes to these habitats in terms of their vegetation are considered to be negligible.
- 4.5 Where new trees or shrubs are to be planted, native tree and shrub species should be used as these are most beneficial to invertebrates, and many also produce seeds, nuts and berries that are food for native mammals and birds. Planting of non-native plant species should be limited to those that are not invasive and should prioritise those that provide a good source of nectar for invertebrates e.g. Jasmine.
- 4.6 A new section of native hedge will be planted west of the new houses and road between the development and adjacent playing field. The following species mix is suggested:
- Hawthorn 40%
 - Blackthorn 15%
 - Hazel 10%
 - Field Maple 10%
 - Holly, Dog-rose, Spindle, Wild Privet and Wych Elm, all 5%.
- 4.7 The hedge should be planted in double staggered rows 500 mm apart at 400 mm centres to achieve 5 planted per linear meter. All stock would be protected from damage using approved proprietary 1200 mm shrub shelters, secured with stakes and ties.

Protected and Notable Species

Bats

- 4.8 There were no buildings on site. None of the trees on site were found to have potential roosting features for bats and the majority of trees are to be retained. Two trees on the east boundary are to be removed and the following procedures should be employed in the unlikely event a bat or bats are discovered:
- If the roost is still on the tree and bats are not injured, seek advice from a licensed ecologist. If help is not available, allow bats to fly out of harm's way.
 - If the timber is felled, the roost is not exposed and the bats are not injured, temporarily seal and isolate the roost and seek advice from a licensed ecologist. If advice is not readily available, position the roost off the ground, re-open it and allow bats to relocate of their own accord.
 - If the roost has **been** exposed, and especially if bats have been injured, collect bats in a secure box or bag (using a glove) and contact a licensed ecologist.
 - Note the date, locality, type of tree, situation in tree and bat species if known.
- 4.9 The site is generally poor for bats being mostly open grassland but the boundary hedge and trees provide limited foraging habitats and the hedge could also be used as a flight line. The hedge and trees on the west boundary are to be retained and will not be subject to lighting and therefore no further bat activity surveys are required. The new residential gardens on site may also increase potential bat foraging opportunities on site.
- 4.10 The potential for foraging and commuting bats is likely to be limited to urban light tolerant species; however, a suitable lighting design strategy should be in place on site. In general, measures should include the use of lighting only where absolutely necessary utilising highly directional warm white LED lighting, an example being down spots at 2.5 m high using warm white (2700 K) 8W LED lamps, 550 lumens, 35 degree beam angle. These could be individually activated by PIR sensors on a 5 minute cut off to further reduce their impacts. These will assist in lighting only the areas where lighting is required and minimising light spill either directly or through reflected light. The retained hedges on the site should not be subject to lighting.
- 4.11 Four Ibstock Enclosed Bat Box "C" will be installed near the apex of gable end walls of the new buildings. These will be installed on different elevations in order to provide small variations in conditions within each box and therefore maximise the potential for use. The locations of new bat roosts are indicated on the enhancement plan presented in Appendix 1.

Badgers and other mammals

- 4.12 The potential for other species of protected or notable mammal species to use the site is deemed to be low. No constraints are predicted as a result of the potential presence of small mammals and passing Badgers. As a precaution it is recommended that during the construction phase of the project any trenches and other excavations are back-filled before nightfall or a ramp left to allow animals to easily exit, and any open pipes larger than 150 mm should be capped off overnight.

Birds

- 4.13 The site provides bird foraging and nesting habitat within the hedge and trees with the grassland on site providing limited foraging opportunities for common bird species.
- 4.14 All nesting birds are protected under The Wildlife and Countryside Act 1981 (and amendments). No further surveys are recommended at this time but as a precaution it is recommended that any scrub removal and pruning of existing hedges should be carried out outside the bird nesting season of March – August. Where this is not possible, the vegetation would need to be surveyed for nesting birds by a suitably qualified ecologist prior to works. If they are found, then the nest and surrounding habitat must remain intact until the young have fledged.
- 4.15 The new development should include enhancements for nesting birds to compensate for any loss of areas of nesting habitat and generally enhance the site. The new buildings will provide a good opportunity to enhance the site for birds and the following will be installed on the north and/or east sides of the buildings:
- Schwegler House Martin nests (9 or equivalent) will be provided under the eaves or on the north to east sides of the buildings.
 - Individual boxes, such as the Schwegler Bird Home 1MR (or equivalent), will be installed at a height of at least 2 m.
- 4.16 The locations of bird boxes are indicated on the enhancement plan presented in Appendix 1.

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6.0 Appendix 1

Enhancement Plan





Cotswold Oak Ltd

Paygrove Lane

Construction Environmental Management Plan

663578-00 (00)

MARCH 2022





RSK GENERAL NOTES

Project No.: RSK/663578-00

Title: Paygrove Lane Construction Environmental Management Plan

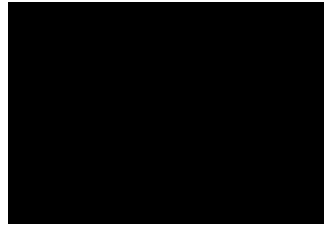
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Date: 07 March 2022

Office: Manchester

Status: Rev00

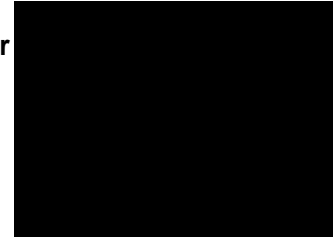
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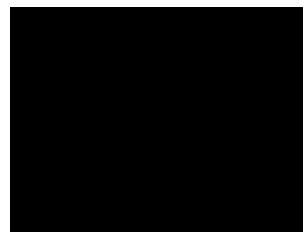
Technical reviewer



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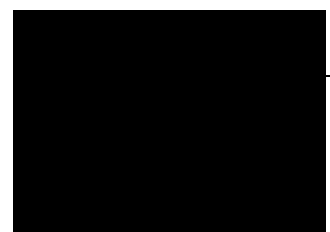
Project manager



Signature

Date: 07/03/2022

Commercial reviewer



Signature

Date: 07/03/2022

RSK ENVIRONMENT Ltd (RSK) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and RSK. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by RSK for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

No part of this report may be copied or duplicated without the express permission of RSK and the party for whom it was prepared.

Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK ENVIRONMENT Ltd.

CONTENTS

1	INTRODUCTION	3
1.1	Aim	3
1.2	Objectives	3
1.3	Statutory Guidance and Best Practices	3
2	THE PROJECT.....	5
2.1	Outline Project Description/Scope of Works	5
2.2	Site Location and Plan	6
2.3	General Site Arrangements.....	7
2.4	Project Programme and Key Dates.....	8
3	ENVIRONMENTAL ASPECTS	9
3.1	Residents and Local Community.....	9
3.2	Air Quality	9
3.3	Noise and Vibration	10
3.4	Ecology.....	11
3.5	Water Resources and Flood Risk.....	12
3.6	Traffic and Transport	12
3.7	Waste Management	12
3.8	Compliance Obligations	13
4	ENVIRONMENTAL MANAGEMENT PROCEDURES	14
4.1	Fuel Storage and Refuelling.....	14
4.2	Use and Storage of Hazardous Materials/Substances	15
4.3	Use of Plant and Equipment.....	15
4.4	Site Set Up, Groundwork and Construction	16
4.5	Pollution Control/ Nuisance and Disturbance.....	16
4.6	Good Housekeeping.....	19
4.7	Landscape and Ecological Management Plan	19
4.8	Waste Management	21
4.9	Traffic Management.....	23
5	EMERGENCY PREPAREDNESS AND RESPONSE.....	24
5.1	Emergency Preparedness.....	24
5.2	Incident Reporting and Investigation	24
5.3	Incident Response.....	26
6	GENERAL ENVIRONMENTAL REQUIREMENTS	32
6.1	Roles and responsibility and Authority	32
6.2	Competence, Training and Awareness	34
6.3	Documentation	35
6.4	Monitoring, Inspections and Audits	36
6.5	Daily Inspections	36
6.6	Monthly Audits.....	37
6.7	Review and Updates to the CEMP.....	37
6.8	Management Review.....	37
6.9	Legal and Other Requirements	38



6.10 Review and updates to the CEMP38

TABLES

Table 5.1: Incident Classification25
Table 5.2: List of Emergency Contacts26
Table 6.1: Project Roles and Environment33

FIGURES

Figure 2.1: Location of the Site6
Figure 2.1: Location of the Site6
Figure 2.1: Location of the Site6

APPENDICES

APPENDIX 1 PROPOSED SITE LAYOUT39
APPENDIX 2 ENVIRONMENTAL OBLIGATIONS TABLE40

1 INTRODUCTION

RSK Environment Ltd. has been commissioned by Cotswold Oak Ltd, to produce a Construction Environmental Management Plan (CEMP) to support the discharge of planning conditions associated with the proposed development of land at Playing Field Rear 3-29 at Paygrove Lane, Gloucester with Gloucestershire City Council (GCC) (ref: 16/1558/OUT).

1.1 Aim

The aim of this CEMP is to ensure that the construction works outlined in this document do not result in unacceptable environmental impacts. In particular, the CEMP shall:

- Provide a mechanism for ensuring that measures to mitigate potentially adverse environmental impacts are implemented
- Provide assurance to third parties that their requirements with respect to environmental performance will be met
- Provide a framework for compliance auditing and inspection to enable the Project to be assured that its aims with respect to environmental performance are being met.

1.2 Objectives

The main objective of this CEMP is to set out how construction works will be managed to reduce, avoid and mitigate adverse impacts.

Accordingly, this CEMP contains the site-specific control measures that will be applied by the main contractor and where relevant its sub-contractors during the construction stages. In preparing this CEMP the requirements of the client's Health and Safety and Environmental (HSE) management system, planning conditions and site-specific assessment and management plans were taken into consideration.

A copy of this CEMP will be provided to each Contractor working on behalf of Cotswold Oak Ltd. The Contractor is required to maintain a copy of the CEMP at the work site office for reference by the entire workforce. It must be accessible to all site personnel and representatives of the relevant enforcement authority, and all subcontractors.

1.3 Statutory Guidance and Best Practices

All site works shall be undertaken in compliance with this CEMP and with all applicable legal and regulatory requirements. It is the full responsibility of the contractors to ensure that their works do not contravene legal requirements, and adherence to this CEMP alone cannot be a full defence regarding legal action against the client.

The contractor shall comply as necessary with the Construction (Design and Management) Regulations 2015 (CDM) and shall comply with all applicable pollution control regulations in which case the contractor shall obtain and keep current any necessary consent, authorisation, approval or permission. The contractor shall actively maintain a regulatory compliance checklist (e.g. a Consents Register).

The contractor should where relevant undertake construction works in accordance with current guidance and best practice, including:

- Environmental Good Practice on Site Guide (C741, 4th edition, Ciria, 2015);
- Gloucestershire City Council (GCC) requirements;
- Design Manual for Roads and Bridges (DMRB) standards;
- Pollution prevention guidance set out at <https://www.gov.uk/guidance/pollution-prevention-for-businesses>
- Relevant pollution prevention guidance (PPG) and/or Guidance for Pollution Prevention (GPP) (both now withdrawn); see for instance <http://www.netregs.org.uk/environmental-topics/pollution-prevention-guidelines-ppps-and-replacement-series/guidance-for-pollution-prevention-gpps-full-list/>
- Control of Dust from Construction Sites (CRE DTi Feb 2003); and
- British Standard 5228-1:2009+A1:2014: 'Code of Practice for noise and vibration control on construction and open sites – Noise'.

This CEMP is a live document and is subject to change throughout the project. Where necessary, agreement to the changes will be sought from the local authority.

1.3.1 Environmental Management System

This document has been produced in accordance with principles outlined in ISO14001:2015. The Principal Contractor is required to adhere to these environmental values and standards whilst implementing this document, including the promotion of environmental awareness among their staff, sub-contractors and suppliers engaged on the construction works.

The Principal Contractor appointed to the Project will be expected to demonstrate the same level of commitment to the principles of ISO 14001:2015, and to have an EMS certified to the standard. The Principal Contractor is required to mirror the RSK environmental values and standards including the promotion of these values and standards among their staff, sub-contractors and suppliers engaged on the construction works.

2 THE PROJECT

The client is Cotswold Oak Ltd who shall have ultimate responsibility for the construction works. The client will employ contractor (and directly or indirectly as required) certain sub-contractors to carry out the works on site.

The main details of the project are summaries in this section; the description is limited to an overview of the main elements/approaches sufficient to provide an understanding of the approach to the planned works, and the roles of those main parties responsible for undertaking each part of the works.

2.1 Outline Project Description/Scope of Works

The proposed development was submitted for planning approval for the construction of a proposed residential development which comprises:

- A redevelopment of up to 10 dwellings (approximately 0.47ha);
- Public open space including associated landscaping; and
- 22 car parking spaces.

The proposed residential development covers an area of c.1.42ha for which outline planning permission was granted by GCC on the 12th of December 2021 (ref: 16/1558/OUT). The proposed site is a former sports field.

The CEMP has been prepared to discharge planning condition 17 which states:

“Prior to commencement of the development hereby permitted, an Environmental Construction Management Plan shall be submitted to and approved in writing by the Local Planning Authority which specifies mitigation measures in respect of the following issues (including preparatory groundworks) in order to prevent nuisance. The development shall not be commenced until the approved plan has been made fully operational, and thereafter it shall be operated and maintained for the full duration of the construction phase. The scheme shall include details of how dust will be qualitatively monitored:

1. *Dust from demolition*
2. *Dust from groundworks*
3. *Dust from haul roads*
4. *Dust from stockpiles and material handling/removal*
5. *Light from security compounds*
6. *Storage of waste*
7. *Keeping highways clear of mud*
8. *Parking for contractors*

Reason - To safeguard the amenities of the area and the waterway in accordance with Policies FRP.9, FRP.10, FRP.11 and BE.21 of the 2002 City of Gloucester Second Deposit Local Plan, Policy SD15 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017 and Paragraphs 17, 109, 120 and 123 of the

NPPF. This is necessary pre-commencement of development due to the harm that could otherwise be caused by early-phase works.”

A detailed drawing showing the proposed site perimeter and layout, prepared by Costwold Oak, has been included as Appendix 1 of this CEMP to discharge planning condition 17. Site offices, welfare facilities, wheel washing, delivery and laydown areas are to be identified at the detailed design stage of the development.

2.2 Site Location and Plan

The proposed residential redevelopment is located at land at Playing Field Rear 3-29, Paygrove Lane, Gloucester, GL2 0AZ, as shown in Figure 2.1 below.

The site is located approximately 2.5km to northeast of Gloucester City Centre. The site is rectangular in shape comprising mainly of a playing field grassland, existing hedgerow and hardstanding with an access track running north and east of the grassland. The site is bounded by residential areas with a park to the east adjacent to Paygrove Lane. The wider context of the site includes arable fields and woodland which lie approximately 850m to the east, separated from the site by residential development and the A417.

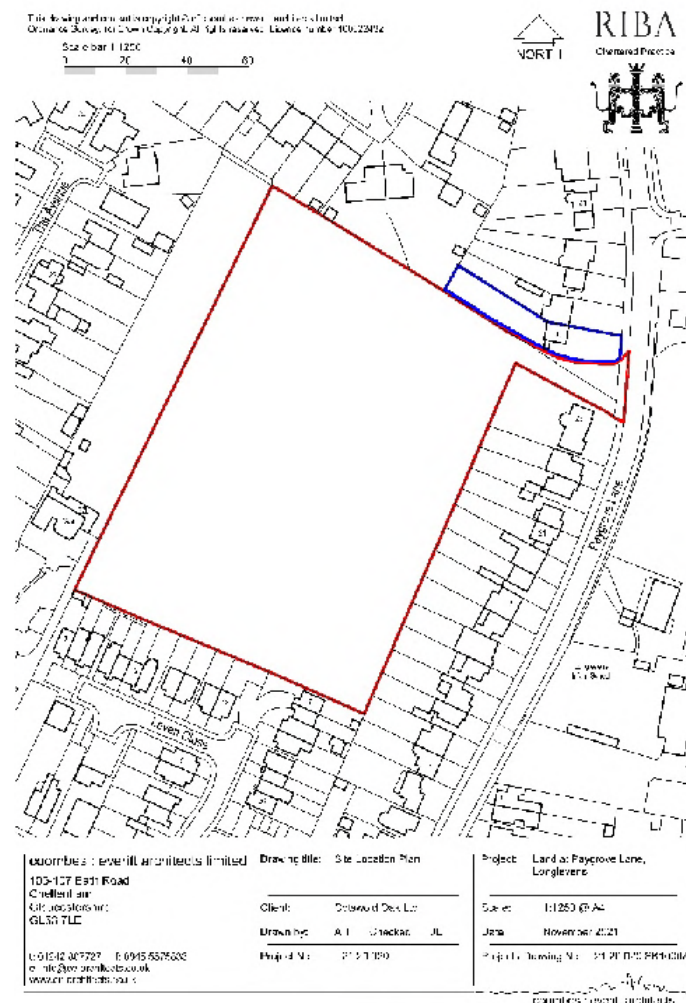


Figure 2.1: Location of the Site

2.3 General Site Arrangements

2.3.1 Site Set Up and Compound

The site and compounds shall be constructed in accordance with the client HSE Policy. Full details can be obtained by reference of the HSE Manual however as a minimum this will include the display of:

- Environmental Policy;
- Details of environmental constraints including mapping;
- Traffic Management Information; and
- Site Specific Information.

2.3.2 Fencing and Site Security

Fencing and security arrangements at the compound will include secure anti-tip fencing, CCTV Cameras security plazas and guards with canine units at night and out of hours. Such security measures will be provided 24/7.

The following measures may be used by the contractors to prevent unauthorised access to the site:

- Use of high perimeter fencing or hoarding, but only where necessary for site security and public safety, and placed so that Public Rights of Way (PRoW) PRoW are maintained or appropriately diverted;
- Site lighting at site perimeters;
- Adequate security guards and patrols;
- CCTV and infra-red surveillance and alarm systems where required;
- Communications initiatives for local schools to warn of dangers, and involving schools in response to incidents involving their pupils;
- Consultation with neighbours on site security matters;
- Consultation with local crime prevention officers on security proposals for the site with regular liaison to review security effectiveness and response to incidents; and
- Immobilisation of plant out of hours, removing or securing hazardous materials from site, securing fuel storage containers and preventing unauthorised use of scaffolding to gain access to restricted areas and neighbouring properties.

2.3.3 Site Lighting

Site lighting will be at the minimum luminosity necessary and use low-energy-consumption fittings. The luminosity of the perimeter lighting will be sufficient to provide a safe route for the passing public. Precautions will be in place to ensure site hoarding does not cast shadow on neighbouring footpaths, roads and amenity areas.

Lighting will be activated by motion sensors and will comply with the Institute of Lighting Professionals' Guidance notes for the reduction of obtrusive light and the provisions of BS 5489, Code of practice for the design of road lighting, where applicable.

Lighting will also be designed, positioned and directed so as not to unnecessarily intrude on adjacent buildings, ecological receptors, structures used by protected species and

other land uses to prevent unnecessary disturbance, interference with local residents, railway operations, passing motorists, or the navigation lights for air or water traffic. This provision will apply particularly to sites where night working will be required.

2.3.4 Working Hours

The normal hours of working (including access and egress) on any part of the development during the construction period will be:

- 07:30 hours to 17:00 hours Mondays to Fridays.
- 08:00 hours to 13:00 hours on Saturdays.

An additional one hour start up and shut down period is permitted at the start and end of each day. This time may be used for deliveries, movement to place of work, unloading, maintenance and general preparation work. There will be no operation of plant or machinery liable to cause a nuisance.

The following controls will also apply to the works:

- No works will take place on Sundays or Public Holidays
- There will be no stacking of lorries on the site boundary outside of the working hours.

Any works outside these normal hours will be subject to the requirement to obtain consent from the Local Authority. The agreement should include working hours and methods to ensure that the 'best practicable means' to control potential nuisance are included.

Normal hours of work set out above do not apply to emergency works nor to equipment that is required to operate continuously.

2.4 Project Programme and Key Dates

It is anticipated that the development will take approximately 12 months with works commencing June/July 2022.

3 ENVIRONMENTAL ASPECTS

For the Paygrove Lane development, the key environmental sensitivities of the sites and in the vicinity of the site are identified and described in this section. In addition, the potential for environmental impacts on these features, likely to arise as a result of the planned construction works to be undertaken, are also summarised in this section.

3.1 Residents and Local Community

The site is located within proximity to a number of residential and commercial properties including those located in the local settlement areas known as Longlevens and southeast is Barnwood. Further receptors, The University of Gloucestershire, is located southwest of the site, as well as properties east and north.

Given the location and nature of the development, the construction process may impact upon residential properties located within the vicinity of the proposed development. The particular sensitivity of each receptor to various construction activities will depend on location and proximity to the site and identified transport routes, however, it is anticipated that the following environmental issues will be of concern:

- Nuisance including:
 - Mud on roads spread by construction traffic;
 - Excessive or poorly directed light; and
 - Litter.
- Dust and fumes from transport and construction activity;
- Noise and vibration from transport and construction activity;
- Traffic and transport disruption;
- Disruption to business; and
- Reduction of access to amenity space.

3.2 Air Quality

Atmospheric emissions from construction activities will depend on a combination of the potential for emissions (the type of activity and prevailing conditions) and the effectiveness of control measures. In general terms, there are two sources of emissions that will need to be controlled to minimise the potential for adverse environmental effects:

- Exhaust emissions from site plant, equipment and vehicles; and,
- Fugitive dust emissions from site activities.

3.2.1 Exhaust Emissions from Plant and Vehicles

The operation of vehicles and equipment powered by internal combustion engines results in the emission of exhaust gases containing the pollutants Nitrogen Oxide (NO_x), Particulate Matters less than 10 µm (PM₁₀), volatile organic compounds, and carbon

monoxide (CO). The quantities emitted depend on factors such as engine type, service history, pattern of usage and fuel composition. The operation of site equipment, vehicles and machinery will result in emissions to atmosphere of exhaust gases, but such emissions are unlikely to be significant, particularly in comparison to levels of similar emission components from vehicle movements on the surrounding highways network.

Construction traffic is likely to comprise haulage/construction vehicles and vehicles used for workers' trips to and from the site.

3.2.2 Fugitive Dust Emissions from Construction Works

Fugitive dust emissions arising from construction activities are likely to be variable in nature and will depend upon the type and extent of the activity, soil type and moisture, road surface conditions and weather conditions. Periods of dry weather combined with higher-than-average wind speeds have the potential to generate more dust.

Construction activities that are considered to be the most significant potential sources of fugitive dust emissions are:

- Earth moving, due to the handling, storage and disposal of soil and subsoil materials;
- Construction aggregate usage, due to the transport, unloading, storage and use of dry and dusty materials (such as cement and sand);
- Movement of heavy site vehicles on dry or untreated haul routes; and
- Movement of vehicles over surfaces where muddy materials have been transferred off-site (for example, onto public highways).

Fugitive dust arising from construction and demolition activities is mainly of a particle size greater than the PM10 fraction (the particle size which can potentially impact upon human health); however, it is noted that demolition and construction activities may contribute to local PM10 concentrations.

Appropriate dust control measures, as described in the Control of Dust from Construction Sites (BRE DTi Feb 2003), will be implemented. These can be highly effective for controlling emissions from potentially dust generating activities identified above, and adverse effects can be greatly reduced or eliminated.

3.3 Noise and Vibration

Construction phase noise impacts arising from equipment, vehicular movements and processes related to the construction of the proposed development have the potential for a short-term impact however standard construction methodologies are to be employed to control noise and vibration during construction in accordance with current legislation and standards including British Standard 5228-1:2009+A1:2014: 'Code of Practice for noise and vibration control on construction and open sites - Noise'.

The Control of Pollution Act 1974 (COPA 74) gives local authorities power for controlling noise and vibration from construction sites. If deemed necessary by the Council, a Section 61 consent may be utilised to agree methods, times durations and noise levels with Cotswold Oak.

During site preparation, construction and maintenance, the movement of plant and vehicles on site will result in noise and vibration. Additionally, construction traffic routes can lead to elevated traffic noise for receptors alongside these routes. This will be temporary in nature (12 months).

Best practicable means (BPM) will be applied during construction works to minimise noise (including vibration) at neighbouring residential properties and other sensitive receptors (including local businesses and quiet areas designated by the local authority) arising from construction activities.

Jacksons Acoustic Fencing will be implemented to the site boundary, preventing noise for up to 28-32 decibels (Db). Examples of potential Jackson Acoustic Fencing as shown Figures 3.1 and 3.2 below.



Figure 3.1 Jacksons 12k Envirofence



Figure 3.2 Jackson Acoustic Reflective

3.3.1 Measures to Reduce Potential Noise and Vibration Impacts

Best Practicable Means (BPM) are defined in Section 72 of the Control of Pollution Act 1974 and Section 79 of the Environmental Protection Act 1990 as those measures which are “reasonably practicable having regard among other things to local conditions and circumstances, to the current state of technical knowledge and to financial implications”.

3.4 Ecology

There are no national or local designations for nature conservation along or adjacent to the route of the temporary access road, with the closest SSSI being 1.8km north of the site boundary. The immediate surrounding area comprises residential areas with rural, managed land of an agricultural nature approximately 830m to the east and is considered to be of limited ecological value.

There is an existing hedgerow on site with measures proposed in places to form boundary planting. There are plans for native species tree planting and native species hedgerow planting.

3.4.1 Arboricultural Impact Assessment

An Arboricultural Impact Assessment has been carried out, prior to any site preparation works there is an outline for one small tree and one small tree group to be removed. They are of quality and amenity value. Once construction has been completed there will be new trees planted to mitigate for the loss of trees and enhance tree cover on site.

No trees of significant value shall be removed to enable the construction of the proposal.

3.4.2 Protected Species

As per decision notice there is mention of protected species such as the potential for bats and birds on site. All Ecology has been commissioned by Cotswold Oak to fulfil these conditions. Once the information becomes available, the CEMP will be updated

3.5 Water Resources and Flood Risk

No main rivers are located in the vicinity of the site. The site sits within Flood Zone 1 as identified on the Environment Agency indicative flood map, and therefore, the probability of river or sea flooding is low with a 1 in 1,000 annual probability of river or sea flooding (<0.1%).

Temporary measures to manage runoff (quality and quantity) during construction to prevent impacts or pollution of the wet ditch will be addressed within Section 4 of this CEMP. These measures will be inclusive of any required mitigation and/or monitoring, as required as well as current best practice measures.

3.6 Traffic and Transport

The main access to the development will be via the B4063 to the east via Old Cheltenham Road, Church Road and Paygrove Lane. The A40 is north of the site and creates a separate access route.

There are 22 parking spaces on site suitable for accessible use as well as the additional housing parking spaces.

The development is inclusive of vehicle access for emergency service vehicles and car turning areas.

3.6.1 Public Rights of Way

There are no Public Rights of Way (PRoW) that pass through the site.

If works need to take place near the footpaths along Paygrove Lane it will only be for short duration and this would be managed to ensure nothing is causing nuisance to the public. Consents/ agreement for closure agreement with the Council is down to Cotswold Oak Ltd.

The development is inclusive of proposals for the creation of a new pedestrian prioritised streets, pass gates with foot access to the playing fields and pedestrian zones to the side of the car parks.

3.7 Waste Management

The proposed site is predominantly playing field and hardstanding meaning there would be limited, if any, demolition waste to dispose of due to the limited scale and nature of the proposed scheme. It is considered that this proposed development will make use of the existing utilities system and sustainable methods of recycling will be adopted as part of the proposals. This includes the provision of bin storage areas within the proposed layout. It is therefore considered that this proposed development will not have a

significant environmental impact on the surrounding area as a result of waste production. Standard construction waste and materials management will be employed at the site in accordance with the Client HSE policies and current guidance and regulations.

3.8 Compliance Obligations

Certain aspects of the construction work for this Project could be subject to environmental permits, consents, authorisations and permissions. A full schedule of the various relevant obligations and the status of each consent is contained in Appendix 2.

4 ENVIRONMENTAL MANAGEMENT PROCEDURES

Environmental management measures shall be incorporated into the Risk Assessments and Methods Statements (RAMS) prepared by the Contractor. All RAMS shall be communicated to the workforce by the Site Manager.

4.1 Fuel Storage and Refuelling

Fuel storage and refuelling will be managed as follows during construction:

4.1.1 Fuel Storage

- Fuel levels shall be monitored and recorded regularly (sudden changes may be a sign of leaks).
- Fuel tanks, secondary containers and storage compounds shall be inspected regularly for damage, corrosion, leaks, faults and vandalism. Repair defects/faults immediately and retain records.
- The secondary containment system must provide storage for at least 110% of the tank's maximum capacity and ensure that any valves, filters, sight gauges, vent pipes or other ancillary equipment are also situated within the secondary containment system and arranged so that any discharges would be contained.
- Fully lockable and labelled 'Fuel Safe Static Tank' will be deployed.
- Sufficient spill kits will be provided. Spill kit supply to be monitored regularly to ensure adequate stock remains full.
- All drains located adjacent or near to refuelling points shall be covered by Gully Guards before commencing transfer. All fuel transfers to be supervised.
- Drums must be stored in a secure interceptor drum store within the designated refuelling area.
- Oil spill and oil impacted water must be collected in a fuel safe container with fuel tag and fuel spills must be contained using the spill kits provided. Spills should be reported to the contractor's Site Manager immediately.
- Records must be maintained of all environmental incidents, mitigation works, clean up method and validation.
- A suitable container for hazardous wastes must be provided within the waste compound.

4.1.2 Refuelling

- Where possible, refuelling should only be carried out in a designated area, which will be secured/locked out of hours.
- The refuelling area shall be located away from drains and watercourses (>10m from a watercourse and >50 metres from a spring, well or borehole).

- Refuelling will always be supervised by a competent supervisor.
- Mobile plant must be refuelled away from surface waters, drains, permeable pavements and open excavations. A fuel drip tray must be used.

4.2 Use and Storage of Hazardous Materials/Substances

The use and storage of solvents, cements, adhesives, grout and concrete shall be managed as follows during construction:

- All drains adjacent or near to concreting works shall be covered with Gully Guards before commencing mixing;
- Concrete washings must be treated in compliance with RPS 235 'Treating and using water that contains concrete and silt at construction sites'.
- Surplus dry concrete, cement and grout is to be collected and reused where possible e.g. as inert rubble; Reuse of dried materials may require environmental permits or exemptions.
- Areas of permeable pavement are not to be used for the temporary storage of cement bags. If unavoidable ensure adequate protection measures are in place to prevent the pavement from becoming blocked;
- All hazardous materials shall be labelled, sealed and stored with their COSHH assessment in a bunded and lockable container away from drains and watercourses when not in use;
- Hazardous liquids shall be transferred using a funnel and drip tray and sealed and returned to the container immediately after use. Damaged containers shall be reported to the Site Manager;
- COSHH datasheet will be read and understood before using any hazardous material. All usage shall comply with its requirements;
- Hazardous liquids must be re-sealed after use. Empty containers are to be disposed of to the designated container within the waste compound; and
- Construction workers are required to wear PPE such as gloves and face masks (where appropriate) to prevent dermal contact and inhalation or ingestion.

4.3 Use of Plant and Equipment

- Mains electricity shall be used where available. If not, generators are to be used and must be sized for the required output; if diesel they must be set up by the supplier.
- All plant shall be suitability maintained and noise screens shall be used where required. Use generators having a sound power level rating below 65db(A), fully canopied and silenced. Position exhausts away from site boundaries and occupied areas when in use
- To assist with noise attenuation, where possible, generators will be located away from adjacent residents, also taking account of prevailing wind conditions.

- Siting of portable generators must consider proximity to sensitive receptors (e.g. >10m from a watercourse and >50 metres from a spring, well or borehole) and must be fitted with a drip tray.
- Turn off all plant overnight.
- All equipment shall be inspected before use and any defects/faults reported to the Site Manager.
- Sufficient spill kits shall be provided. Kit must be replenished as required.

4.4 Site Set Up, Groundwork and Construction

Groundwork and construction will be managed as follows during construction:

- Local Authority consent must be obtained for particularly noisy activities before starting works. For example, crushing and piling. Contractors and operatives must be informed of consent conditions.
- Minimise the use of builders skips and inspect lifting and locking points, doors and door locks and general condition weekly as a minimum.
- Ordered materials shall be adequately managed to avoid spoilage or over-ordering and surplus materials shall be minimised: provide a suitable and sufficiently sized materials storage compound that is lockable and provides an above-ground covered area, protected from wind and rain. Encourage the reuse of cut-offs and arrange for suppliers to take back unused surplus materials and packaging.
- Surplus materials are to be reused on site where possible. All reuse and recycling to be carried out in accordance within the terms of a valid waste exemption or voluntary codes of practice/protocols.
- Excavated material surplus shall be minimised so far as practicable; details of all inert material reuse on site including composition and disposal location must be mapped and records retained.
- If necessary temporary bunding and/or settlement ponds will be installed to allow for isolation and onsite treatment of any sediment laden or contaminated water prior to discharge to the drainage system.

4.5 Pollution Control/ Nuisance and Disturbance

Mud, dust, noise, light, litter and water pollution have the potential to cause nuisance and in some cases complaints and statutory nuisance and therefore must be minimised. The following processes and procedures shall be implemented to manage potential nuisance issues.

4.5.1 Noise

- All work will be carried out where possible in accordance with BS 5228-1:2014 - Code of practice for noise and vibration control on construction and open sites.
- Plant shall be selected with noise levels in mind and it is important that quiet plant or silent plant is used. If possible, electrically powered plant should be used.

- Only plant that conforms to the relevant noise emission standards would be used during the construction of the proposed development.
- Use of acoustic screens or covers where required.
- Noisy works and deliveries to and from the site shall be conducted within the core working hours. Where necessary, deliveries outside of these core hours would be agreed in advance with the local authority.
- If operations involving high noise levels have to take place, consideration should be given to the people in the immediate vicinity and such works should be limited to the times which will have least impact on the neighbourhood.
- No radios to be permitted on site.

4.5.2 Lighting

- Lighting shall be switched off when not in use unless specifically needed for construction activities or for security and / or health and safety requirements.
- Glare (and the potential for complaints) caused by poorly directed security and floodlighting shall be minimised by ensuring that light fittings are horizontally mounted and directed inwards on Site.
- Temporary lighting fixtures are to be installed and designed to provide full cut-off or should be directionally shielded to ensure that artificial light is controlled and substantially confined to the defined area intended to be illuminated.
- Post-installation checks and monitoring of the lighting installations shall be undertaken to ensure that correct tilting angles and appropriate direction of lighting is achieved. This will allow adjustments to be made, where practicable, should undue light spill or glare be identified.
- Wherever possible, lighting shall be located and directed so that it does not cause unnecessary intrusion to adjacent buildings.
- The construction areas close to walkways or roadways shall be lit in an appropriate way to minimise glare and shall be clearly defined at all times to ensure the safety of motorists, cyclists, pedestrians. This will also assist in defining the limits of the construction area for motorists, cyclists and pedestrians.
- Temporary walkways, roads or parking areas shall be illuminated in accordance with current guidance stipulated in the current ILP Guidance Notes.
- Care should be taken to avoid casting shadows from hoarding on the surrounding and adjacent footpaths and roads.
- Light spillage shall be reduced by directing any construction lighting below the horizontal plane, at an angle of less than 70 degrees away from features that offer suitable bat roosting potential.

4.5.3 Dust and Mud

- All work will be carried out where possible in accordance with Control of Dust from Construction Sites (BRE DTi Feb 2003).

- Where foreseeable and significant dust is to be generated during an operation, dust fencing and/or barriers must be provided to minimise impact.
- Timing of earthworks and material movements shall be planned to reduce double handling and minimise traffic movements and therefore associated dust and mud.
- Stripping and stockpiling of soil shall be minimised where possible.
- Site roads shall be kept clear of soil and debris as much as possible.
- If dust levels remain excessively high when adequate control measures are in place and operating effectively, then reduce or postpone works during such times (e.g. during dry or windy periods).
- Water can be sprayed onto material to dampen down any potential contaminated dust and prevent it from becoming airborne.
- Construction vehicles shall be regularly maintained to ensure mud-flaps etc. are effective.
- Activities associated with the use of construction vehicles (such as washdown facilities) shall be appropriately managed to contain contaminants and regulate the release of water back into the natural environment.
- Site layout shall be planned so that machinery and dust causing activities are located away from receptors, as far as is possible.
- Where feasible the site or specific operations shall be fully enclosed where there is a high potential for dust production and the site is active for an extensive period.
- The site shall be set up with hoarding to reduce the liberation of dust from the site. The contractor shall consider the use of a 'green'/ vegetated hoarding to reduce particles and reduce carbon dioxide levels.
- Haul routes shall be hard surfaced and/or effectively damped down.
- All vehicle engines will be switched off when not in use to reduce particulate emissions.
- Exhaust systems will be fitted with particulate filters and catalytic converters as necessary.
- Stockpiles shall be covered, seeded or fenced (as appropriate) to prevent wind whipping.
- Excavated materials undergoing treatment shall be covered to reduce the release of odours and vapours.
- Mechanical road sweepers shall be employed to clean roads after movement of soil and of any dust and debris if it is generated within the vicinity of the site entrance.
- All loads entering / leaving the site shall be covered.
- Drop heights must be kept to a minimum and conveyors and enclosed wherever possible.

4.5.4 Water Pollution

- Surface water and drains must be protected from silt run-off: use gully guards to protect drains and use straw bales, gravel traps or silt fencing to protect surface waters. All silt protection measures must be inspected frequently and maintained throughout the works.
- Stockpiles of contaminated material must be situated on an impermeable surface at least 10m from any surface waters or drains, and run-off collected within a bund.
- Tracking or washing out next to drains/surface waters must be avoided.
- When dewatering, any pump shall be switched off before removing the last portion of water and suspended solids will be allowed to settle out before discharging.
- All drains located adjacent or near to generators to be covered with gully guards.
- Potentially contaminated water must be tested before dewatering. Contaminated water must be treated or discharged off site.
- Road sweepers shall be utilised where necessary.
- Silty water and associated run-off to surface water and drains must be avoided: minimise any areas of soil stripping and stockpiling, control water volumes used to suppress dust, batter/sheet stockpiles where required.
- If a discharge consent is required, then all conditions within the consent must be understood before commencement of dewatering.

4.6 Good Housekeeping

- Maintain good housekeeping and site working practices to control litter, insects or vermin. For example, dispose of food into appropriate receptacles.
- The site boundary shall be secured appropriately, and all site gates shall be kept locked / closed out of working hours and kept closed and /or manned during working hours.

4.7 Landscape and Ecological Management Plan

Prior to any habitat clearance or construction works, the following section relating to species mitigation and habitats shall be considered.

4.7.1 Vegetation Clearance

4.7.2 Species

Bats

Should any evidence of roosting bats be identified, which suggest a roost is present, specific mitigation will need to be agreed in consultation with the local planning authority. A European Protected Licence (EPS) licence from Natural England will be required to

permit roost destruction, avoiding direct impacts to bats with appropriate mitigation implemented to ensure that favourable conservation status is maintained.

A sensitive lighting strategy, as detailed below, shall be implemented to minimise impacts to bats utilities the site during the operational phase of development. During construction, use of external flooding lighting during the spring/ summer – to autumn period is not anticipated during British summertime daylight hours (when bats are likely to be most active across the Site. However, should this occur floodlighting shall be directed away from retained hedgerows/ woodland areas to reduce the potential for disturbance of dispersing bats.

Potential disturbance impacts to nocturnal wildlife (e.g. bats and badgers) will be addressed through the provision of a sensitive lighting scheme for the construction phase of development. Survey work across the Site completed in 2014 and 2015 demonstrated that bat species are active across the Site, with hedgerows and the railway corridor being used as foraging and commuting corridors. Policy LB8 of the draft Local Plan identified the need for a sensitively designed lighting scheme to avoid light spill onto key habitat features therefore minimising disturbance for protected species. In order to achieve this the lighting strategy for the Site during the construction phase will include the following components:

- Light spill onto retained hedgerows should be minimised wherever possible, with a c. 5m dark corridor either side of hedgerow features being preferable.
- Artificial lighting to be provided along main access roads through the Site will be reduced to the minimum level deemed acceptable under adoptable road standards.
- Any artificial lighting along foot/path cycle ways or private roads/ driveways will be minimal, with products selected with the aim of reducing light spill onto any adjacent semi-natural habitat.
- A lux model will be provided as part of the Lighting Strategy for the development. Lux levels of below 1 lux will be required along hedgerows and associated buffer corridors.
- A commitment will be made to shut off lights completely during the core night time period (between 12pm and 5am).
- The use of floodlighting should be kept to a minimum, with lights directed away from key habitat features, such as hedgerows and woodland blocks and, where possible, a commitment will be made to shut off lights completely during the core night time period (between 12pm and 5am).

Birds

Where loss of bird nesting habitat is proposed, this will be undertaken outside of the bird nesting season (March to August inclusive), or immediately following confirmation by a suitable qualified ecologist that no active nests are present. Where active nests are present, removal of nesting habitat (including a 5m buffer radius) will need to be delayed until young have fledged as confirmed by an ecologist.

To enhance bird nesting opportunities, bird boxes, may be implemented. Starling nest boxes (e.g. Schwegler Starling Box 3S), general purpose nest boxes (e.g. Schwegler

1B) or sparrow terraces (e.g. Schwegler 1SP) on new buildings and on retained trees and woodland blocks. Locations will need to be provided on a PEA walkover.

In the event that any vegetation removal works are required during the nesting season for birds, a pre-works check for any active nests should be undertaken by a suitably qualified ecologist.

Any significant pruning works to trees or hedgerows should be timed to avoid the period March to August (inclusive) when birds are most likely to be nesting. Lighter management works should also be aware of the presence of nesting birds during this time and delay any actions likely to cause disturbance.

4.8 Waste Management

The contractor shall apply the principles of the waste hierarchy (eliminate, reduce, reuse, recycle, dispose) to waste management of the site.

The development shall seek to promote the re-use of excavated materials through optimisation of cut and fill operations in order to improve the sustainable and cost-effective development of land, as per the Definition of Waste: Development Industry Code of Practice (DoWCoP). In many instances the DoWCoP can provide an alternative to Environmental Permits or Waste Exemptions when seeking to reuse excavated materials.

The contractor shall prepare a Site Waste Management Plan. The measures to avoid waste issues are likely to include:

- A waste collection area shall be set up before site works start. This area shall be as close to the site compound as possible with adequate hardstanding for the waste containers and unobstructed access for telehandler and waste removal vehicles.
- Front-end loader (FEL) or rear-end loader (REL) skips shall be provided to segregate wastes including plasterboard, timber and metal. A designated area shall be provided for inert wastes, for example bricks, clay pipes and roof tiles. A designated container[s] shall be provided for hazardous wastes, which and must be clearly labelled.
- Wastes shall be collected by a licenced waste carrier. A copy of all Waste 'Duty of Care' documentation shall be held on site.
- Duty of Care documentation must be completed for all waste transfers and copies provided to the Client every week. Waste transfer notes or hazardous waste consignment notes and Duty of Care procedures are to be audited regularly (monthly as a minimum).
- The Site Waste Management Plan shall be made available on site and its requirements understood by all contractors and operatives before starting work on site.
- Road sweepers shall be deployed as necessary. All road sweepings must be removed from site accompanied with a completed waste transfer note from the driver. If road sweepings are inadvertently discharged on site, these should be disposed of appropriately.
- All waste incidents shall be reported immediately to the Site Manager and Works Environmental Manager.

- Soil and recycled aggregate transfers shall be carried out in accordance with an approved Materials Management Plan (or Remediation Strategy in Scotland) and all transfer tickets must be retained on site.
- Contact the Environmental Advice Line (0845 003 8752) or the Works Environmental Manager if specialist advice on waste segregation and disposal is required.
- Monthly updates on the amount of waste successfully recycled will be made available to the Site Manager and displayed in the site office and can also be issued to the council upon request.
- Skips and other storage receptacles used for the containment of construction, demolition and excavation waste will be colour-coded in line with the generic scheme developed by the Institution of Civil Engineers. They will also have appropriate signage to facilitate separation of waste for re-use, recycling or disposal and the separation of inert, hazardous and non-hazardous wastes. Plastic sheeting will be used to prevent leaching from waste soils and aggregates where these are not contained within skips or other storage receptacles.
- Skips and storage receptacles will be sheeted, or otherwise remain lidded or closed, when waste is not being deposited into them. They will also be covered to prevent the escape of waste whilst in transit and loaded for maximum payload efficiency.
- Skips and storage receptacles shall be inspected on arrival to ensure they are fit for purpose. Skips and storage receptacles that are not fit for purpose will be taken out of use immediately with appropriate signage used to signify that they should not be used.
- Mixing inert, hazardous and non-hazardous wastes, either whilst stored on site or upon collection, will not be permitted.
- Liquid wastes will be stored on hard-surfaced areas with secondary containment systems to prevent spillages.
- Waste will not be stored within 10m of any controlled watercourse, borehole, well, spring, surface water drainage system or foul water drainage system.
- Storage receptacles will be used for the collection and storage of waste within site operation facilities to facilitate the segregation of waste for re-use, recycling and recovering.

Wherever possible, the following waste streams will be diverted from landfill:

- All Plasterboard waste shall be segregated on site and returned for recycling (e.g. to British Gypsum).
- The site works shall be designed to retain as much soil on site as possible whilst maintaining protection of human health and the environment.
- All timber is to be segregated on site and sent to a local charity (or similar outlet) for recycling.
- All metal is to be segregated on site and sent for recycling.
- All inert waste (e.g. bricks, blocks, concrete) will be segregated on site and used under roads, driveways etc as appropriate.
- All mixed waste removed from site shall be taken to a material recycling facility for further segregation to maximise recycling and recovery.

- All hazardous waste shall be segregated from all other wastes and clearly labelled.
- All other site waste shall be segregated on site.

4.9 Traffic Management

The contractor shall provide for the safe and secure management and control of pedestrians and vehicular movements, both on and off site, to ensure the safety of all members of the general public and workforce at all times throughout the construction work period in accordance with all requisite Acts and Regulations, including, but not limited to, the:

- Health and Safety at Work etc Act 1974
- Management of Health and Safety at Work Regulations 1999
- Construction (Design and Management) Regulations 2007
- Supply of Machinery (Safety) Regulations 1992
- Provision and Use of Work Equipment Regulations 1998.

The contractor shall be responsible for:

- Promotion, management and control of such general provisions and measures for traffic management and control to be implemented by all contractors and sub-contractors throughout the extent and duration of the construction.
- On-site provision for site access roads and pedestrian footways, with controlled access from the public domain for pedestrians and vehicles, on-site parking provisions, standing, lay-down and unloading facilities for delivery vehicles, and on-site compound, welfare facilities and material holding areas for use by all contractors and sub-contractors.
- Ensuring that the on-site provisions are controlled, managed and shall be safe at all times through the provision of planned and informed procedures and segregation between vehicular and pedestrian traffic.

The strategy, together with appropriate procedures and traffic management measures, as well as measures to encourage more sustainable transport choices, are contained in the Traffic Management Plan for the site.

5 EMERGENCY PREPAREDNESS AND RESPONSE

5.1 Emergency Preparedness

5.1.1 Spill Kits

Spill kits capable of dealing with hydrocarbon and chemical spills shall be available at all worksites. Each storage location shall be clearly visible to the workforce, for instance by deploying clear signage.

If a construction compound, fuel storage point or COSHH store is provided then additional spill kits will need to be available at each separate location.

The spill kit contents shall include absorbent pads, absorbent booms, absorbent granules and hazardous waste disposal sacks as a minimum. Regular checks of the spill kits shall be completed to ensure they remain adequately stocked to deal with environmental incidents.

Spill drills shall be performed periodically to confirm that the workforce can effectively contain and clear up potentially polluting spillages. All drills will be documented and details kept on record for the duration of the works.

5.1.2 Fire Prevention

Means to raise the alarm in the event of a fire shall be available at the points of work. An assembly point shall be designated a safe distance from the active works locations and will be communicated to all members of the workforce before works commence. The workforce shall assemble at the point for a roll-call and to receive further instructions. All individuals at the worksite, including visitors, will be obliged to immediately sign in on arrival.

5.1.3 Extreme Weather

The contractor's Site Manager shall register to receive Met Office weather warnings. All warnings issued by the Met Office with the potential to impact upon the works shall be communicated by the Site Manager to the workforce in a timely manner so that measures can be implemented where necessary. In the absence of the Site Manager the Works Environment Manager shall also receive and act upon all alerts.

Each Contractor shall maintain provisions to deal with extreme hot weather events. Measures shall include provision of safe drinking water and adequate shade.

5.2 Incident Reporting and Investigation

5.2.1 Reporting

All incidents, including near misses, shall be classified according to the categories outlined in Table 5.1. All categories of environmental incident shall be reported by the contractor to the Client as outlined below.

Table 5.1: Incident Classification

Incident Classification	Definition
Near Miss	An event, controlled through implementation of an effective incident control measure (e.g. drip tray used, effective use of noise barrier).
Minor Environmental Incident	Incidents that have caused minor harm or damage to the environment e.g. <ul style="list-style-type: none"> • a minor fuel spill below 20 litres onto ground which is immediately cleared; • a minor spill of a chemical not classified as presenting an ecotoxic risk; • exceeding noise levels; • silt runoff from site which does not enter into a surface water feature; or • excess dust emissions.
Major Environmental Incident	Incidents that have caused or may cause significant harm or damage to the environment e.g. <ul style="list-style-type: none"> • a minor fuel spill which impacts a sensitive land feature, a water body, or drains; • a major fuel spillage over 20 litres; • any spillage of a chemical which is classified as presenting an ecotoxic risk; • silt runoff from site which enters a water feature; or • receipt of a nuisance complaint.

Minor incidents and near misses must be reported to the Client within 24 hours. Major incidents must be reported to the Client as soon as reasonably practicable.

The contractor, after informing the Client, shall report all environmental incidents that are required to be reported to the Environment Agency and/or to any other relevant statutory or regulatory bodies. Emergency contact details are outlined in Section 6.2.3 for all contacts relevant to the works.

5.2.2 Investigation

Reporting of an incident to the Client shall where necessary commence the incident investigation which shall be jointly conducted between the Client and its contractor[s].

The contractor shall prepare an investigation report for all environmental incidents. The report is to include:

- Summary of the environmental incident, describing the:
 - nature of the incident;
 - details of any pollutant released including the type and quantity of pollutant released;
 - location for the incident (e.g. grid reference);
- Receptors that were or could have been impacted

- An analysis of what led to the incident occurring
- Summary of immediate actions taken to mitigate the incident
- Summary of any remedial action required
- Lessons learned and future measures or actions to be implemented.

The Client will verify the incident investigation and agree with its contractors any further actions which are to be implemented to prevent a reoccurrence of comparable incidents. A timeline for the implementation of all actions shall be established and the contractors shall provide details of when they have been implemented.

An incident investigation shall be complete when all details have been recorded on file.

5.2.3 Emergency Contacts

In the event of an emergency occurrence at the Site, the Client and its contractors shall determine the relevant statutory and regulatory bodies that must be notified. Notification shall be in accordance with the measures outlined above in Section 5.2.1.

Table 5.2: List of Emergency Contacts

Emergency Contacts	
Contact	Contact details
Principal Contractor – David Knight	[TBC]
Environment Agency Emergency Number	0800 807060
Health and Safety Executive (HSE Construction)	01519 229235
Local Authority – Gloucester City Council	
Fire	999 / 112
Police	999 / 112
Ambulance	999 / 112

5.3 Incident Response

This section consists of standard incident response procedures, intended to provide guidance for the containment and limitation of adverse effects. All pollution incidents should be managed through the STOP - CONTAIN - NOTIFY concept.

As soon as an incident is identified, the first action should be to **STOP** and prevent further discharge to drainage/river/ground.

CONTAIN may constitute control of discharge in the event of a spill, or cessation of works if it is the works that are resulting in the incident, e.g. halting excavations until silt runoff is contained. It is recognised that due to personal health and safety risks it may not always be safe to stop the source of the spill, for instance if a significant volume of an unidentified substance has been released.

NOTIFICATION should take place as soon as practicable, and frequently can take place while further release is being stopped or while a spill is being contained. The emergency contact numbers outlined in Table 6.2 should be used.

5.3.1 Oil, Fuel or Chemical spill to ground

- i. Wearing protective clothing, prevent further release at source e.g. switch off tap/ valve, correct leaking drum and make safe the area.
- ii. If the spill is migrating, create a temporary bund to prevent further spread by using spill kit materials / sandbags.
- iii. If drains or field ditches are located nearby, install drain seals/ deploy additional spill kit materials to prevent the spill discharging to the drain or ditch.
- iv. Apply absorbent granules or pads (available from spill kit) to the affected area.
- v. The Contractor will notify the Environment Agency regarding the nature and scale of incident. The following information should be included in the notification:
 - Time of discharge;
 - Type/quantity of material discharged;
 - Location of discharge; and
 - Site contact details.
- vi. The Contractor will notify the Client of the incident and communicate the information provided to the Environment Agency.
- vii. The Client will notify the Local Planning Authority regarding the nature and scale of the incident as per the requirements of the Environmental Damage (England and Wales) Regulations 2015.
- viii. Containment measures should remain in place until the nature and extent of the contamination can be assessed and a remediation strategy must be prepared.

All impacted materials shall be disposed of in accordance with relevant legislative and regulatory requirements and the Duty of Care requirements outlined in the CoCP.

5.3.2 Discovery of unexpected contamination

- i. On the discovery of unexpected contamination, the Contractor will immediately halt works in the area.
- ii. If impacted materials have already been removed they shall be returned to the excavation or placed on to a membrane, e.g. terram, to prevent migration of the contaminant to another area.
- iii. Contractor to report the situation to the Client.
- iv. Arrangements will be made between the Contractor and the Client for samples of the contamination to be collected and tested on fast turnaround.
- v. Contractor to only continue with works in the area once the test results have confirmed the contaminant and a safe means of working has been established.

The Contractor shall be free to continue works in areas unaffected by the contamination, BUT the Contractor will not speculatively continue to excavate material to find the extent of the contamination without supervision from a geo-environmental engineer.

All impacted materials will be disposed of in accordance with relevant legislative and regulatory requirements as well as relevant Duty of Care requirements.

5.3.3 Oil, Fuel or Chemical spill to Surface water feature

- i. Wearing protective clothing, prevent further release at source e.g. switch off tap/ valve, correct leaking drum and make safe the area.
- ii. If source not readily identifiable, contain first (see below) then identify and prevent further release at source.
- iii. Immediately deploy appropriate sized boom from nearest spill kit across affected surface water feature. Use stakes to attach it to the sides of the surface water feature. Tie booms together to increase length if required.
- iv. Supplement with additional booms across the surface water feature, as required, to contain any migration of the spill not halted by the first installation.
- v. The Contractor shall notify the Environment Agency regarding the nature and scale of incident. The following information should be included in the notification:
 - Time of discharge;
 - Type/quantity of material discharged to surface water feature;
 - Location of discharge; and
 - Site contact details.
- vi. The Contractor shall notify the Client of the incident and communicate the information provided to the Environment Agency.

All impacted materials will be disposed of in accordance with relevant legislative and regulatory requirements and relevant Duty of Care requirements.

5.3.4 Oil, Fuel or Chemical spill to Drainage system

- i. Wearing protective clothing, prevent further release at source e.g. switch off tap/ valve, correct leaking drum and make safe the area.
- ii. If source is not readily identifiable, contain the visible pollutant first, then identify and prevent further release at source.
- iii. Immediately deploy appropriate drain cover(s) to affected gullies.
- iv. Supplement with booms around the gully to contain any migration of the spill.
- v. The Contractor shall notify the Environment Agency and the relevant water company regarding the nature and scale of incident. The following information should be included in the notification:
 - Time of discharge;
 - Type/quantity of material discharged to the drain;
 - Location of discharge, specifically which drain; and

- Site contact details.
- vi. The Contractor shall notify the client of the incident and communicate the information provided to the Environment Agency.

All impacted materials shall be disposed of in accordance with relevant legislative and regulatory requirements and relevant Duty of Care requirements.

5.3.5 Explosion / Fire procedure

Explosion/fire incidents should also be dealt with through health and safety procedures. In the event that a fire is detected or an explosion occurs:

- i. Notify the emergency services and evacuate the area.
- ii. Attempt to tackle the fire with site equipment only when it is safe to do so.
- iii. Ensure that pollution of nearby water bodies including surface water drainage from fire control water or other substances is minimised. Where possible and safe to do so, any site drainage systems should be protected through the deployment of drain seals/ spill kit materials to ensure any firefighting waters are captured and can be disposed of appropriately.
- iv. At a time when it is acceptable to do so, the Environment Agency shall be notified regarding the nature and scale of incident. The following information should be included in the notification:
 - Nature of the incident;
 - Time and date of the incident;
 - Quantity of fire control water discharged to surface water feature/drainage, where relevant;
 - Location of discharge; and
 - Site contact details.

5.3.6 Silt

In the event of an unexpected discharge of silty water, then:

- i. Prevent further release at source e.g. cease dewatering the excavations.
- ii. Contain silt and protect sensitive receptors from further discharge:
 - If a drain is located nearby, install drain seals or deploy spill kit materials to prevent discharge.
 - If silt flow is in the direction of surface water features deploy hay bales around surface the feature.
 - If silt is being generated by runoff from stockpiles deploy spill kit materials, silt fencing or move soil to form a bund at the base to prevent further silt laden runoff from the stockpile.
- iii. If silt is discharged without prior approval the Environment Agency shall be notified. If the silt discharge enters the drainage system the relevant water company shall also be notified regarding the nature and scale of incident. The following information should be included in all notifications:

- Time of discharge;
- Type/quantity of material discharged;
- Location of discharge, e.g. which drain or surface water feature; and
- Site contact details.

5.3.7 Complaint over a nuisance

This procedure should be followed for all nuisance complaints including noise, dust and light.

- i. Immediately stop the activity leading to the complaint; or where not possible to entirely stop the activity reduce it to the lowest possible level e.g. shut off all non-essential plant.
- ii. Remain polite and courteous. If able to resolve the issue through discussion with the complainant, then determine what action is needed and put it into practice.
- iii. Record the details of the complainant including their name, contact details and address. Contractors shall report the details of the complaint and the complainant to the client.
- iv. The contractor and the client will register the complaint on the Complaints Log.
- v. The client will act on the complaint and remedial actions will be put in place within 24 hours.

5.3.8 Contamination of or by waste materials

- i. Assess whether the area needs to be evacuated, such as if fumes are being given off.
- ii. Assess whether the damage can be undone through segregation.
- iii. Complete a risk assessment for the task including consideration of any COSHH risks.
- iv. If it is safe to do so segregate the waste. If it is not safe to do so, then the full waste quantity is to be consigned as hazardous waste.
- v. Contractor to report the incident to the client.
- vi. Waste to be collected from site in accordance with normal practice.

5.3.9 Discovery of archaeological artefact or Heritage feature

- i. Immediately stop works in the area of the artefact or feature.
- ii. Ensure the area is isolated from interference by erecting fencing around the discovery. Prevent vehicles from navigating through this area.
- iii. Provide a safe means for pedestrians; and if possible vehicles, to move around the isolated area.
- iv. Contractor shall report the find to the client.

- v. Client to arrange for the find to be assessed by a qualified heritage or archaeological specialist. The Contractor is to prevent tampering with the find until it has been assessed.
- vi. Works to proceed in accordance with the recommendations given by the heritage or archaeological specialist.

5.3.10 Ecological discovery or Damage

- i. Immediately stop works in the area.
- ii. Contractor to immediately report the incident to the client.
- iii. Client to arrange for a qualified ecologist to assess the discovery or damage caused.
- iv. Works to proceed in accordance with the advice received from the ecologist.

5.3.11 Vandalism/Theft procedure

Acts of theft and vandalism present the risk that damage may be caused to equipment containing hazardous substances that could cause pollution, or damage may be caused to measures which have been installed to prevent the release of pollution. On identifying an act of vandalism or theft:

- i. The contractor shall notify the Police of the incident.
- ii. Inspect all fuel storage tanks/drums and equipment to ensure there has been no release of the fuel or other hazardous substances, e.g. hydraulic fluid.
- iii. If a spill is identified follow the procedures for Oil, fuel or chemical spills.
- iv. Inspect pollution protection measures, e.g. drainage or silt protection, to ensure it has not been interfered with. Where it is possible, correct any issues identified without causing further release.
- v. Inspect site boundaries to identify the access point if not immediately clear and secure the site.

6 GENERAL ENVIRONMENTAL REQUIREMENTS

6.1 Roles and responsibility and Authority

The contractor shall make available sufficient time and resources for the effective management of environmental risks that could arise during construction work. This includes appointing adequately qualified personnel with knowledge and capability in the environmental management of construction site works. Persons having responsibility for environmental site management, and in particular any persons required to undertake and oversee response to any incidents with potential environmental consequences, shall be empowered to make decisions and take appropriate action necessary to avoid or mitigate adverse environmental effects, even when this may lead to delay and/or additional cost to the contractor.

6.1.1 Project Roles

The Cotswold Oak project team and all appointed contractors will be responsible for ensuring that the potential risks to the environment are adequately avoided or controlled by the application of measures as documented within this CEMP, which shall be complied with throughout construction.

6.1.2 Principal Contractor

Cotswold Oak Ltd will be the Principal Contractor, who will be responsible for the CMP. This 'responsible person' (David Knight) as site manager and Principal Contractor will manage all construction traffic and will ensure that the preferred routeing for construction vehicles as identified under section 4.1 is always used unless it is otherwise agreed with Herefordshire District Council (HDC) as Highway Authority to use an alternative road network.

The roles of the Principal Contractor will include:

- Overall management of construction traffic;
- Ensuring that the preferred routes for construction vehicles are always used by construction traffic unless otherwise agreed with HDC as the Highway Authority;
- Ensuring that all vehicles accessing the site meet their legal obligations for safe operation and obey any traffic marshal, signs, road markings and traffic signals;
- The provision of safe and adequate vehicle loading/unloading areas;
- Ensuring that there is no parking on the highway during site operating hours; and
- Encouraging all suppliers and hauliers to seek the Fleet Operator Recognition Scheme (FORS) accreditation and favour those with the certification.

Table 6.1: Project Roles and Environment

RACI DETAILS – R - Responsible: The individual(s) who perform an activity responsible for action/implementation- although usually only one, Rs can be shared A - Accountable: the individual who is ultimately accountable including yes/no decision and power of veto – only one (A) can be assigned C - Consulted: the individual (s) to be consulted prior to a final decision being made or action taken – two-way communication I – Informed: the individual (s) who need to be informed after a decision is made or action is taken – one-way communication	Developer	Project Manager/Director	Site Manager/ Sub-contractor Manager	Works Environmental Manager	All Site Staff/	Engineers/ Foremen
Process Task						
Developing and maintaining the DCEMP	C	R	R	A	I	
Monitor environmental aspects through review of construction method statement, identify and control issues		R	I			
Monitoring construction works to ensure any necessary environmental issues and control measures are in place; ensuring they are effectively communicated and appropriate and implemented on site			R	C		I
Ensuring the work is performed by training and qualified staff; and providing training where necessary		R	R	A		I
Ensuring that adequate resources are allocated for environmental management;	I	C	R		I	
Ensuring that all relevant environmental documentation and information (including permissions, consents, permits and assessments) is communicated;	I	R	C		I	
Ensuring that environmental incidents and complaints are investigated, recorded and reported following the correct procedures and taking preventative action	C	C	C	R	C	I
Regular site inspections and maintaining a record of environmental performance; and reporting performance and monitoring environmental performance	I	A	C	R		
Following good practice and minimising impact of activities on the environment;					R	
Understanding project environmental obligations and mitigation measures;		A			I	R
Liaison with local authority, other statutory bodies, members of the public, press and the media.		R		C		
Supporting all site staff with environmental management including reviewing and commenting on method statements and risk assessments;				R		
Ensuring that the environmental policy of the client is delivered		R	A	C	I	I
Providing information on waste management/reduction procedures to relevant staff			R		I	

6.2 Competence, Training and Awareness

The contractor shall ensure that appropriate training is delivered to all site operatives and only appropriately qualified sub-contractors are appointed.

Every member of the workforce shall be required to participate in a site induction prior to starting to work on the Site. The level of induction training will depend upon the position and duties the person is to perform. The site induction will include:

- A brief overview of the works to be undertaken and any potential environmental aspects associated with the construction activities;
- A summary of the sensitive environmental receptors near the Site;
- An overview of the applicable environmental mitigation and pollution control measures; and
- An overview of the health & safety management measures in particular emergency response procedures required at the Site.

The Client will require its contractors to provide continuing training and awareness raising of the workforce. This shall be delivered in the form of Toolbox Talks tailored to the specific environmental mitigation measures required dependent on the work activities being undertaken and to raise awareness on environmental best practice.

Records of all inductions and Toolbox Talk deliveries shall be maintained at the site office. Copies shall be made available to the Client on request.

6.2.1 Internal Communication

Environmental mitigation measures shall be incorporated into the Risk Assessments and Method Statements (RAMS) prepared by the Client's contractors. All RAMS shall be communicated to the workforce by the Site Manager. The contractor's Site Manager, Works Environmental Manager and other relevant Team Members shall meet weekly to review the status of environmental aspects including but not limited to:

- Works activities underway and planned;
- Mitigation measures required to be implemented;
- Results of weekly inspections and any audit results/ feedback;
- Any corrective and preventive actions required to be implemented;
- Identification of areas for continual improvement;
- Status of staff competence and training needs; and
- Status of the CEMP and of any required consents and approvals and the need for review and updating.

The Client shall be informed of the outcome/ minutes of all such meetings.

Additional and ongoing communication of environmental performance and requirements is to be determined by the Works Environmental Manager and provided as appropriate.

Site notice boards will display the Environmental Policy of the Client, emergency contacts list, relevant statutory and non-statutory advice and guidance; and any other relevant information. These environmental notice boards will be situated in prominent positions including the main reception area of the site office.

6.2.2 Toolbox Talks

Toolbox Talks will be used to inform all site personnel of key information concerning the management of the site, procedures to be followed and expected standards / controls when working on the project. The Toolbox Talks will cover a broad range of topics including those related to best practise environmental management.

A record of Toolbox Talks will be kept on site, stating date, description of non-conformance, potential implications, proposed corrective actions, individual responsible and target date. Toolbox Talks shall include, but will not be limited to, instances where:

- There is a change to existing legislation, which requires an operational change;
- Site inspections or audits have identified corrective actions which require communicating; and
- There are significant changes in environmental conditions, i.e. heavy rainfall.

The frequency and topics of the Toolbox Talks shall depend upon the phase of construction. They shall be provided as often as necessary to address site-specific environmental requirements.

6.2.3 External Communication

The Contractor shall take reasonable steps to engage with local community groups and residents prior to and during construction, by newsletters and flyers. Neighbouring properties will be informed in advance of works taking place, where possible within 2 weeks. Details shall include planned work locations, type of works, duration, anticipated effects of the works, contact details for enquiries and complaints procedure.

The contractor, with the agreement of the Client, shall provide details visible at the site entrance so contact can be made if required.

All communications received by the contractor that are relevant to these works, including enquiries and complaints, shall be passed to the Client's Project Team.

All complaints will be acknowledged by the contractor or client on receipt and the Client and Contractor shall assess the complaint and determine what information is required from all parties in order to formulate a response. All complaints shall be recorded and investigated.

Through the induction all members of the workforce shall be made aware that any direct approaches from members of the public should be directed to their Site Manager. The Site Manager shall record all approaches made by members of the public and shall advise the Client's Project Team of all comments received at the worksite from members of the public.

6.3 Documentation

The Site Manager and/or Works Environmental Manager shall be responsible for documenting and retaining safe all suitable records relating to environmental issues at the site and/or arising from site operations. Documents shall be stored in a suitable manner and backups created to safeguard the records. This CEMP shall be a controlled document and authorised latest version shall be signed and dated by the responsible

person[s]. Other site data records and environmental management documentation would include, but not necessarily be limited to the following:

- Copies of relevant consents, permissions, or other approvals/ authorisations
- Environmental data records including waste transfer notes/ records of waste collection and treatment/disposal
- Records of any environmental incidents including actions taken and resolution
- Records of complaints including actions taken and resolution
- Records of all plant / equipment entering / leaving site together with any relevant compliance documentation (for instance in respect of noise or air pollutant emissions class)
- Copies of any enforcement notices or instructions issued by the local authority or any statutory regulatory body
- Record of any prosecutions pending or resolved and any penalties enforced
- Records of daily site inspections
- Records of weekly/monthly audits and minutes of environmental team briefings
- Records of staff training including site inductions and toolbox talks

6.4 Monitoring, Inspections and Audits

The Contractor shall be responsible for managing environmental performance during all site works. This will be supported with a programme of monitoring, inspections and audits.

6.5 Daily Inspections

Daily inspections shall be undertaken by the Contractor and recorded as follows:

- i. Visual inspection of the site perimeter to check for dust deposition (evident as soiling and marking) on vegetation, cars and other objects.
- ii. Visual inspection of the local haul roads to check their condition to ensure there is no build-up of dust or earth deposits liable to cause dust emissions as vehicles pass.
- iii. Vehicle, equipment and plant inspections shall be completed to check the absence of damage or maintenance issues and that it is correctly functioning.
- iv. Visual inspection of all acoustic barriers / screening to check they are present and in good condition.
- v. Visual inspection of waste containers and waste storage areas to verify wastes are being correctly segregated and to confirm the absence of mixing of hazardous and non-hazardous wastes.
- vi. Visual inspection of all site areas to ensure there is no deposited or wind-blown litter.
- vii. If a waste collection is made, a check shall be made of the Waste Transfer Note / Hazardous Waste Consignment Note provided for the collection.

On all days when potentially dust emitting activities are being conducted, the level of dust generation shall be kept under constant review. A record shall be added to the official site diary when such activities are conducted, the dust emission conditions observed and; when necessary, the mitigation measures taken.

Any elements of the site management found to be in an unsatisfactory condition during the site inspection shall be addressed on the day. In the event it is not possible to address the matter on the day it is raised, a note of the reason why shall be made on the inspection record sheet.

6.6 Monthly Audits

Only suitably trained and competent staff will be authorised to perform environmental audits.

Monthly Audits (or at a suitable frequency to be determined by the nature / duration of the work) of the worksites and Contractors shall be undertaken by or on behalf of the Client. All aspects of the environmental management at the site shall be assessed against this EMP. The audit shall include checks of the site records including the daily inspection record sheets, vehicle arrival logs and waste disposal paperwork. All audits shall be documented; where audit actions are raised, close out of these actions shall be assessed at the following audit.

An audit of an Environmental Management Process will be undertaken by the Environment Manager quarterly throughout the Project duration and will typically cover the activities identified in the above chapters.

6.6.1 Non-conformity and corrective action

Where the client has a concern or raises an issue for resolution, or where potential issues are raised from an inspection or audit of the site/ operations, or by a regulatory authority, the contractor shall investigate the root cause and any implications arising from the issue and shall if necessary following discussion with the client implement measures to rectify the problem.

The contractor shall monitor the effectiveness of the corrective action and report the outcome to the client and where relevant the regulatory authority. All documentation of the issue/ event and corrective action/ outcome shall be retained by the contractor.

Where necessary the CEMP and any associated documentation shall be revised and re-issued to avoid recurrence of the issue/ problem.

6.7 Review and Updates to the CEMP

This CEMP is a live document and will be continuously updated as required; or following any significant change to the work activities, client requirements, or legislation and updated as required.

6.8 Management Review

A management review of the performance of the Environmental Management System will be undertaken at least every 6 months and will include the client's Project Manager

and senior management (as a minimum this should include the Project Director and HSEQ Manager and a senior corporate representative) and key personnel including the Environmental Manager. Matters such as staffing, training, matters arising from audits and inspections and performance against Key Performance Indicators (KPIs) will be discussed and where there is a shortfall in performance, actions shall be agreed to rectify this.

6.9 Legal and Other Requirements

Certain aspects of the construction work for this Project may be subject to environmental permits, consents, authorisations and permissions.

6.9.1 Legal and Consents Register

The Legal and Consents Register identifies the key environmental legislation that applies to the works. The Register includes a schedule of all consent submissions and a tracker to confirm they are in place for the start of works.

The register is a live document and will be reviewed monthly. The Site Manager will be responsible for ensuring appropriate resources are available and work is planned to meet the legislative requirements.

6.10 Review and updates to the CEMP

The sitewide CEMP will be reviewed every 6 months as a minimum; or following any significant change to the work activities, client requirements, or legislation and updated as required. Therefore, this CEMP is a live document and will be continuously updated as required.



APPENDIX 2 ENVIRONMENTAL OBLIGATIONS TABLE



	Site Process	Consent/ License/ Permit	Controlling Regulations	Issuing Authority	Submission Date	Approval Period	Consent Approval Date	Reference No.	Surrender Date
Water	Discharging water to a river, stream, ditch	Discharge consent to controlled water	Water Resources Act Groundwater Regulations Environmental Permitting (England & Wales Regulations)	Environment Agency	TBC	TBC	TBC	TBC	TBC
	Installation/operation of septic tanks.								
	Site set-up sewage discharge for enabling works	Permission to discharge trade effluent to sewer	Water Industry Act	Local Water Company	TBC	TBC	TBC	TBC	TBC
	Temporary and permanent works over and within 7-10m (note the distance may vary between EA regions). Anticipated works requiring consent are detailed in Section 2.1 and 3.7.	Flood defence consent (formerly known as land drainage consent/ works affecting watercourses consent)	Water Resources Act Land Drainage Act Local Byelaws	Environment Agency	TBC	TBC	TBC	TBC	TBC
Abstracting or taking water from rivers, streams, lakes, ponds, tidal waters or groundwater. Constructing or altering any impounding works in rivers, streams, ponds or tidal waters.	Abstraction licence: <ul style="list-style-type: none"> • Full licence – applicable to most abstractions over 20m³ a day. • Transfer licence – moving water from one 	Water Resources Act	Environment Agency	TBC	TBC	TBC	TBC	TBC	



	Site Process	Consent/ License/ Permit	Controlling Regulations	Issuing Authority	Submission Date	Approval Period	Consent Approval Date	Reference No.	Surrender Date
	Dewatering activities may require a licence. Note: licence is not required for abstraction for any purpose of less than 20 cubic metres a day.	location to another with no intervening use. Temporary licence – over 20m3 a day over a period of less than 28 consecutive days.							
	Use herbicides near water	Prior permission	Food and Environmental Protection Act (Control of Pesticides Regulations)	Environment Agency	TBC	TBC	TBC	TBC	TBC
Waste Management	Transfer/disposal of controlled waste	Controlled waste transfer notes	Environmental Protection Act Waste (England and Wales) Regulations	Producer Haulier	As part of site records	As part of site records	As part of site records	As part of site records	As part of site records
	Transfer/disposal of hazardous waste (England & Wales)	Hazardous waste consignment notes	Hazardous Waste Regulations	Producer Haulier	As part of site records	As part of site records	As part of site records	As part of site records	As part of site records
	Carrying waste other than your own (controlled or hazardous)	Waste carrier's registration certificate	Waste (England and Wales) Regulations	Environment Agency	TBC	TBC	TBC	TBC	TBC
	Keep, treat and dispose of waste	Environmental permit May need planning permission	Environmental Permitting (England & Wales) Regulations	Environment Agency Local authority	TBC	TBC	TBC	TBC	TBC



	Site Process	Consent/ License/ Permit	Controlling Regulations	Issuing Authority	Submission Date	Approval Period	Consent Approval Date	Reference No.	Surrender Date
			Town and Country Planning Act						
	Reuse waste materials off site	Environmental permit or exemption from Environmental Permitting regulations	Environmental Permitting (England & Wales) Regulations	Environment Agency	TBC	TBC	TBC	TBC	TBC
	Treatment of contaminated land and water	Mobile Treatment Licence	Environmental Permitting (England & Wales) Regulations Contaminated Land (England) (Amendment) Regulations	Environment Agency	TBC	TBC	TBC	TBC	TBC
	Handling asbestos	Licence for work with asbestos from HSE Asbestos licensing unit	Control of Asbestos Regulations	HSE Asbestos Licences Unit	TBC	TBC	TBC	TBC	TBC
	Manufacturing of aggregates and soils from demolition, construction, tunnelling and excavation wastes or waste ash, slag, clinker or rock, e.g. screening of soils	Exemption from waste management licensing	Environmental Permitting (England & Wales) Regulations	Environment Agency	TBC	TBC	TBC	TBC	TBC
Nuisance	Crushing and screening operations	Environmental permit or exemption (T5/T7) Authorisation to operate a part B prescribed process.	Environmental Permitting (England & Wales) Regulations	Local authority environmental health Environment Agency	TBC	TBC	TBC	TBC	TBC



	Site Process	Consent/ License/ Permit	Controlling Regulations	Issuing Authority	Submission Date	Approval Period	Consent Approval Date	Reference No.	Surrender Date
			Pollution Prevention and Control (England & Wales) Regulations						
	Managing noise and vibration levels	Prior consent under Section 61 (optional)	Control of Pollution Act	Local authority environmental health	TBC	TBC	TBC	TBC	TBC
Biodiversity	Cutting, topping or uprooting protected trees	Prior consent	The Town and Country Planning (Tree Preservation) (England) Regulations	Local authority planning dept	TBC	TBC	TBC	TBC	TBC
	Works affecting hedgerows	Prior consent	Hedgerow Regulations	Local authority planning dept	TBC	TBC	TBC	TBC	TBC
	Works affecting designated areas i.e. SSSIs, AONB	Prior consent	Wildlife and Countryside Act Habitat Regulations Countryside and Rights of Way Act	Natural England	TBC	TBC	TBC	TBC	TBC
	Works near badger setts	Prior consent	Protection of Badgers Act	Natural England	TBC	TBC	TBC	TBC	TBC
	Disturb or translocate protected species (esp. bats, badgers and newts)	Licence	Wildlife and Countryside Act Habitat Regulations as amended	Natural England	TBC	TBC	TBC	TBC	TBC



	Site Process	Consent/ License/ Permit	Controlling Regulations	Issuing Authority	Submission Date	Approval Period	Consent Approval Date	Reference No.	Surrender Date
	Removal and/or introduction of fish with inland waters	Prior consent	Salmon and Freshwater Fisheries Act	Environment Agency	TBC	TBC	TBC	TBC	TBC
	Treatment of Japanese knotweed – burning on site	Prior consent	Wildlife and Countryside Act Clean Air Act Environmental Permitting (England & Wales) Regulations	Environment Agency Local authority environmental health	TBC	TBC	TBC	TBC	TBC
	Treatment of Japanese knotweed – burial	Formal notification	Wildlife and Countryside Act Environmental Permitting (England & Wales) Regulations	Environment Agency	TBC	TBC	TBC	TBC	TBC
Cultural Heritage	Demolition or alteration of a listed building and historic structures within its grounds.	Planning Permission & Scheduled monument consent	Planning (Listed Buildings and Conservation Areas) Act	Local planning authority	TBC	TBC	TBC	TBC	TBC
	Works on/near scheduled ancient monuments (SAM's)	Planning Permission & Listed building consent	Town and Country Planning Act Ancient Monuments and Archaeological Areas Act	Local planning authority English Heritage	TBC	TBC	TBC	TBC	TBC



	Site Process	Consent/ License/ Permit	Controlling Regulations	Issuing Authority	Submission Date	Approval Period	Consent Approval Date	Reference No.	Surrender Date
	Demolition of an unlisted building in a conservation area.	Planning Permission & Conservation area consent	Planning (Listed Buildings and Conservation Areas) Act	Local planning authority	TBC	TBC	TBC	TBC	TBC



Cotswold Oak Ltd

Playing Field at Rear 3-29 Paygrove Lane, Gloucester

Construction Method Statement

111215

MARCH 2022

RSK

CONTENTS

1 INTRODUCTION	1
1.1 Objectives	1
2 CONSTRUCTION PROGRAMME AND METHODOLOGY	3
2.1 Construction programme	3
3 ESTIMATED VEHICLE MOVEMENTS	6
3.1 Construction traffic	6
3.2 Operational traffic	6

FIGURES

Figure 2-1 Indicative site layout	3
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APPENDICES

APPENDIX 1 PROPOSED SITE LAYOUT	1
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1 INTRODUCTION

RSK has been instructed by Cotswold Oak Limited to prepare a Construction Method Statement (CMS) to support the proposed erection of 10 dwellings, public open space and associated works on land to the rear of 3-29 Paygrove Lane, Gloucester.

It is understood that Gloucester City Council (GCC) has granted Outline planning permission for the proposed residential development (ref. 16/01558/OUT) subject to the discharge of planning conditions. Relevant to this proposal is Condition 22 – Construction Method Statement. Condition 22 stipulates:

“No development shall take place, including any works of demolition, until a Construction Method Statement (for highways impacts) has been submitted to, and approved in writing by, the local planning authority. The approved Statement shall be adhered to throughout the construction period. The Statement shall:

- I. specify the type and number of vehicles;*
- II. provide for the parking of vehicles of site operatives and visitors;*
- III. provide for the loading and unloading of plant and materials;*
- IV. provide for the storage of plant and materials used in constructing the development;*
- V. provide for wheel washing facilities;*
- VI. specify the intended hours of construction operations;*
- VII. measures to control the emission of dust and dirt during construction*

Reason

To reduce the potential impact on the public highway and accommodate the efficient delivery of goods and supplies in accordance paragraph 35 of the National Planning Policy Framework and Policy INF1 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017. This is required pre-commencement of development due to the harm that could otherwise be caused by early-phase works.”

The construction process of the proposed development will require the movement of equipment (via Heavy Goods Vehicle (HGV)) and materials to the site as well as associated staff movements.

This CMS outlines the management of these movements and the interaction with the surrounding road network with the measures outlined within should be adhered to during this phase in order to discharge this condition 22 of the approved planning application.

1.1 Objectives

The key objectives of this CMS are as follows:

- To ensure that parking of site operative vehicles/visitor parking is provided appropriately;
- Enhance highway safety through imposed vehicle and road user safety/routeing internally to the site;



- Outline on-site storage for plant and materials used in construction;
- To minimise, as far as is reasonably practicable, control and minimise the emission of dust and dirt during construction; and
- To indicate the location of any wheel washing facilities and operating hours.

2 CONSTRUCTION PROGRAMME AND METHODOLOGY

2.1 Construction programme

The programme of construction works for the development will be provided closer to the start of construction works. The construction of the proposed development is anticipated to take approximately twelve months from site setup to the start of the commercial operation. It is anticipated that construction working hours will extend to a maximum of 07:30 to 19:30 Monday – Friday with no works permitted on weekends or Bank Holidays.

The programme will comprise the following phases:

- On-site access and infrastructure – Construction of new access and construction compound;
- Mobilisation – Delivery of plant, equipment and construction materials;
- Foundation works – A hardstanding area will be constructed for the base of the dwellings;
- Assembling of components – Delivery of equipment and installation on site; and
- De-mobilisation – Removal of any temporary plant and equipment upon completion of works.

The site is located on vacant land with no existing buildings requiring demolition. There is an existing access point located on Paygrove Lane which will be utilised by the proposed development during construction.

2.1.1 Construction compound

A temporary construction compound will be constructed internally within the site Red Line Boundary, as illustrated in Figure 2-1. This layout is also provided in Appendix 1.



Figure 2-1 Indicative site layout

The compound, welfare facilities and site parking will be located wholly within the site and will not require use of the highway or other public areas to load or store materials.

The construction compound will include:

- Laydown areas;
- Car parking for construction workers;
- Wheel-washing facilities;
- Parking and unloading areas for HGVs; and
- Waste storage facilities.

Sufficient parking on-site will be provided by the Principal Contractor for staff, subcontractors and visitors. Parking facilities will be restricted to the temporary compound. Parking on the nearby road verges will be strictly prohibited. The Principal Contractor will be required to monitor and take necessary action to prevent site vehicles parking outside of the agreed parking positions.

Furthermore, there is enough space on site for a large HGV construction vehicle to turn on site so that vehicles can deliver and remove materials to and from the site in forward moving gear.

Health and safety signs and relevant construction information including the Principal Contractor information will be displayed on the hoardings at various points around the perimeter of the site for the safety of both staff and visitors.

2.1.2 Size of construction and delivery vehicles

In consideration of the type and volume of expected materials to be delivered, delivery vehicles will not be restricted, aside from the legal limits of size and weight. The vehicles to be used will include small and medium size vans, self-tipping, off-loading, HIAB and grab vehicles and concrete mixers.

2.1.3 Anticipated construction vehicle numbers

At the time of writing, the number of construction vehicles associated with the development proposals are unknown and are likely to be determined upon the appointment of a Principal Contractor.

Considering the size and nature (10 residential dwellings) of the approved development, the number of associated daily construction vehicles is likely to be low. Additionally, access of an 11m refuse vehicle has been indicated in the Transport Note developed for this development.

Likewise, the widening and improvement of the existing access point, including the land under the ownership of Cotswold Oak Ltd at plot 33 indicates the provision of sufficient access by a rigid 11m HGV though assessment of an articulated vehicle is recommended for delivery of materials such as roof trusses etc. It is noted that internal turning circle availability enables HGVs to access and egress the site in a forward moving gear with good visibility present onto Paygrove Lane.

2.1.4 Loading, unloading and storage

It is understood that loading and unloading of plant or materials associated with the construction of the development proposals will be undertaken within the site red line boundary.

There will be sufficient space for the storage and manoeuvring of construction vehicles and material on-site. Apart from using the public highway to transport materials and remove spoil, all construction vehicle related activities will be carried out on-site.

The use of a delivery scheduling procedure will ensure that the number of delivery vehicles attending the site at any one time, do not exceed the space available on site for the standing and unloading of delivery vehicles.

2.1.5 Control of emissions of dust and dirt during construction

Prevention measures should be taken to minimise the formation and spread of dust and dirt. During dry periods dust should be controlled at source by a continuous fine water spray utilising a tractor mounted water bowser.

The wheels of construction vehicles should always be cleaned before exiting the building site. Refer to Section 2.1.6 detailing the proposed wheel washing facilities.

2.1.6 Procedure for the cleaning of vehicles/plant on site

A dedicated traffic marshal appointed by the Principal Contractor will inspect all vehicles before they are released from the site onto the public highway. Wheel wash provisions will be provided on site prior to the site exit. Any cleaning will be carried out within the site in the wheel cleaning area to prevent detritus and deposits being transferred from the site onto the public highway.

All vehicles and plant entering the proposed development site will have their wheels washed in a facility located at the site access prior to leaving site and will be strictly monitored by the Principal Contractor; All vehicles will exit the site via the wheel washing facility.

The wheel washing facility will be a mobile facility ensuring that traffic leaving the site does not take mud/debris out onto the roads surrounding the site.

In addition to the provision of a Wheel Washing Facility, the Principal Contractors will also provide an approved Mechanical Road Sweeper with vacuum facilities, spray facilities and on-board storage as required. This shall be used for the sweeping and cleaning of the roadway system and the public highway immediately adjacent to the site, on a regular basis or as deemed necessary to prevent nuisance or hazards to other highway users. Collected debris is to be disposed of at a licensed waste disposal facility.

3 ESTIMATED VEHICLE MOVEMENTS

3.1 Construction traffic

It is envisaged that the construction phase would last for approximately twelve months. The majority of the HGV movements are expected to occur between the hours of 07:30 to 17:30 Monday to Friday.

It is not anticipated that on a daily basis construction traffic will require significant volumes of traffic. Overall, it is estimated that a total of 20 HGVs per day (two-way movements), associated with the peak period of construction works, will travel to the site during the construction phase. On average, it is anticipated that this would reduce to 10 two-way HGV movements per day across the construction programme.

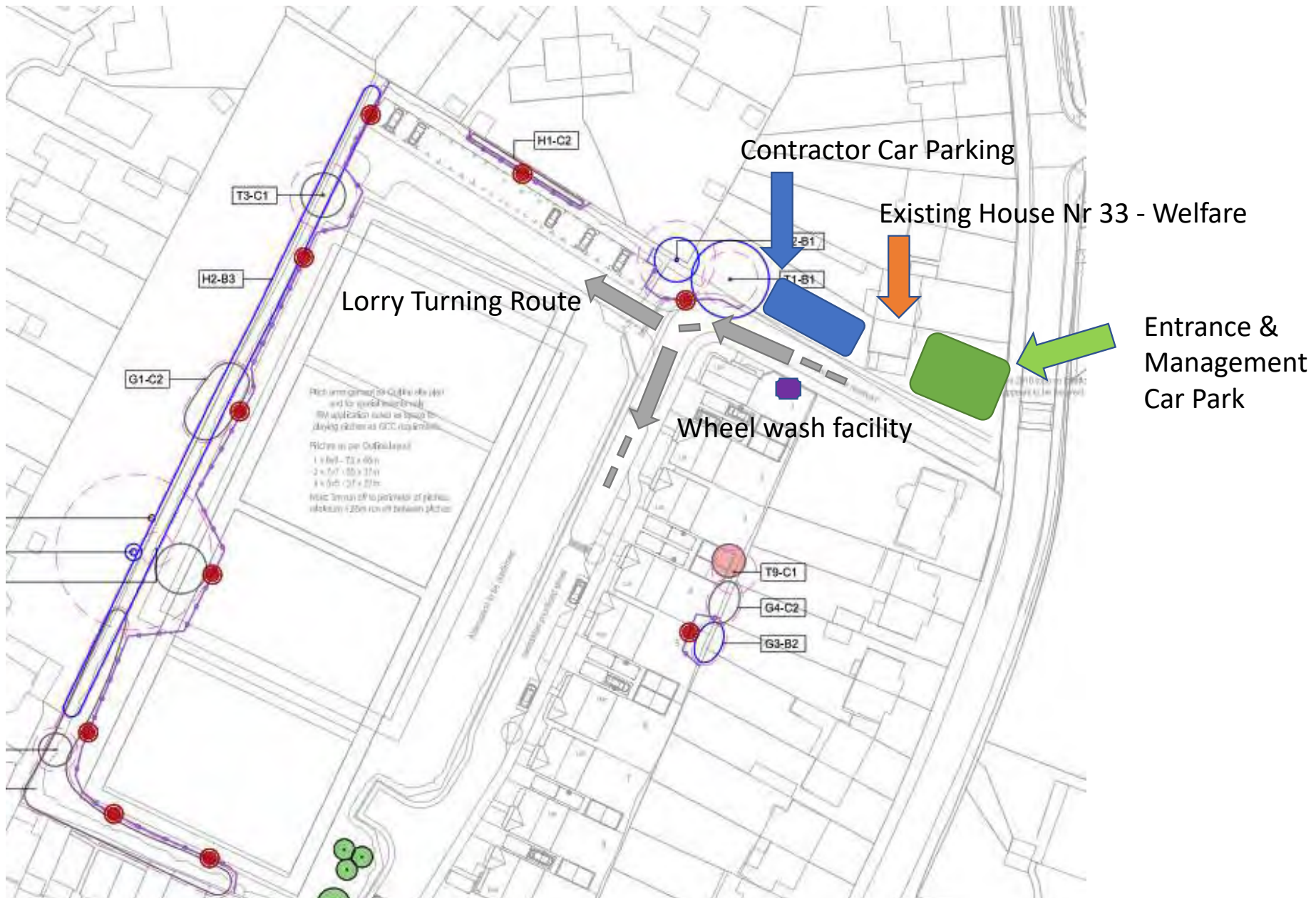
On rare occasions some works will be completed outside of the normal working hours, which means that some workers may leave later in the evenings. However, this would involve a small workforce and only occur for short periods.

3.2 Operational traffic

The operational stage of the project has been considered within the transport associated reports submitted and approved by the Local Planning Authority and have not been considered within this report.



APPENDIX 1 PROPOSED SITE LAYOUT





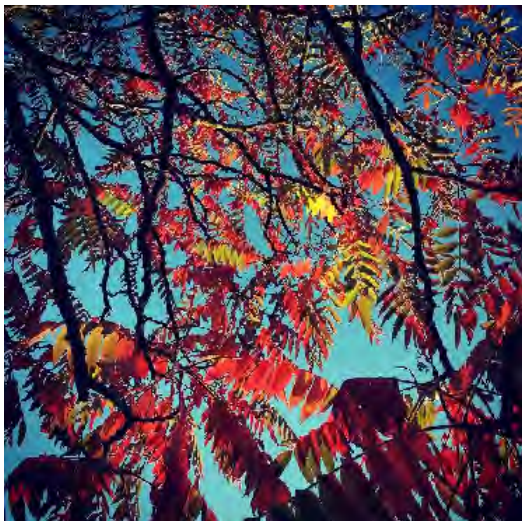
ARBORICULTURAL
CONSULTANTS



Arboriculturist



TREE SURVEY REPORT AND TREE PROTECTION PLAN



For:
NEW RESIDENTIAL DEVELOPMENT
AND ASSOCIATED INFRASTRUCTURE

At:
LAND AT PAYGROVE LANE,
GLOUCESTER

MHP ref: 21341 LAND AT PAYGROVE LANE, GLOUCESTER_TS_TPP_V2



CONTENTS:

1	INTRODUCTION	1
2	GENERAL	3
3	ARBORICULTURAL SURVEY.....	5
4	ARBORICULTURAL IMPACT ASSESSMENT(AIA) AND TREE PROTECTION PLAN (TPP)	6
5	CONCLUSION & RECOMMENDATION.....	7
APPENDIX 1 - TREE SURVEY SCHEDULE		
APPENDIX 2 - ARBORICULTURAL IMPACT ASSESSMENT AND TREE PROTECTION PLAN		

Issue record

Date	Version	Notes	Checked by
11.02.2022	V1	Initial issue	MR
16.02.2022	V2	Plan update – T5 canopy	MR

1 INTRODUCTION

1.1 Introduction

1.1.1 Outline planning permission has been granted by Gloucester City Council (GCC) for *residential redevelopment of up to 10 dwellings and public open space including associated landscaping, car parking and access* (GCC ref 16/01558/OUT) at Playing Field Rear 3 – 29 Paygrove Lane; hereafter referred to as 'the site'.

1.1.2 Condition 9 of 16/01558/OUT states:

No development including demolition or site clearance shall be commenced on the site or machinery or material brought onto the site for the purpose of development until full details of adequate measures to protect trees and hedgerows have been submitted to and approved in writing by the local planning authority. These shall include:

A. Fencing. Protective fencing must be installed around trees and hedgerows to be retained on site. The protective fencing design must be to specifications provided in BS5837:2005 or subsequent revisions, unless agreed in writing with the local planning authority. A scale plan must be submitted and approved in writing by the local planning authority accurately indicating the position of protective fencing. No development shall be commenced on site or machinery or material brought onto site until the approved protective fencing has been installed in the approved positions and this has been inspected on site and approved in writing by the local planning authority. Such fencing shall be maintained during the course of development,

B. Tree Protection Zone (TPZ) The area around trees and hedgerows enclosed on site by protective fencing shall be deemed the TPZ. Excavations of any kind, alterations in soil levels, storage of any materials, soil, equipment, fuel, machinery or plant, citing of site compounds, latrines, vehicle parking and delivery areas, fires and any other activities liable to be harmful to trees and hedgerows are prohibited within the TPZ, unless agreed in writing with the local planning authority. The TPZ shall be maintained during the course of development Reason To ensure adequate protection to existing trees which are to be retained and to retain habitat, in the interests of the character and amenities of

the area and protecting biodiversity in accordance with Policies SD10 and INF 4 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017, Paragraphs 17, 109 and 118 of the National Planning Policy Framework and Policies B.8, B.10 and BE.4 of the Second Deposit City of Gloucester Local Plan (2002). Receipt of details pre-commencement is necessary to fully protect retained trees.

- 1.3.1 A proposed site layout (Drawing no 7876-PL0C) was submitted with the outline application.
- 1.3.2 I have been supplied with the latest proposed site layout plans (21.20.020 SK003 B).

1.2 Site details

- 1.2.1 For location purposes, the site can be located using the following grid reference: SO 85619 19860

1.3 Instruction and scope

- 1.3.1 I am instructed by Cotswold Oak to visit the site and to carry out an assessment of arboricultural features in accordance with British Standards (BS) 5837:2012 'Trees in Relation to Design Demolition and Construction – Recommendations'.
- 1.3.2 I am to prepare the following information in relation to the planning application:
- Tree survey and schedule of findings.
 - An arboricultural impact assessment & tree protection plan in relation to the latest proposals.

2 GENERAL

2.1 Statutory tree protection and other designations

2.1.1 I have carried out the following desk-based tree-related constraints checks in relation to the site.

	General summary information	Relevant to site?
Conservation Area ¹	<ul style="list-style-type: none"> All trees with a trunk diameter greater than 75mm at 1.5m height are protected in the same way as for TPO (see below). Six weeks' notice must be given to the Local Planning Authority (LPA) prior to carrying out any tree works so that possible requirement for TPO can be assessed. 	No
Tree Preservation Order (TPO) ²	<ul style="list-style-type: none"> It is an offence to cut down, uproot, top or lop, wilfully damage or wilfully destroy relevant trees or woodlands. Formal permission must be applied for (and granted) by the LPA before carrying out tree works. Penalties of up to £20K (Magistrates Court) or unlimited fine (Crown Court). 	No

2.2 Limitations

2.2.1 In some instances, I have been unable to access or clearly observe the trunks of trees as they are offsite. Where this is the case, I have made my best endeavours to accurately estimate dimensions and tree condition.

2.2.2 Trees are living organisms and self-supporting dynamic structures. Their physiological and structural condition can change rapidly in response to a wide range of biotic/abiotic factors. As such, the findings and recommendations of my tree survey are limited to 24 months from the date of my site visit.

¹ <https://www.gloucester.gov.uk/environment-waste-recycling/nature-and-conservation/trees-and-high-hedges/>

² <https://www.gloucester.gov.uk/environment-waste-recycling/nature-and-conservation/trees-and-high-hedges/>

2.3 Wildlife informative

2.3.1 Tree works should not be carried out until a reasonably detailed inspection of relevant trees has been carried out to determine if bat roosts and/or bird nests are present.

2.3.2 It is a criminal offence to intentionally damage/destroy the nest of any wild bird while it is in use or being built. Similarly it is an offence to intentionally/recklessly disturb roosting bats or to damage or destroy a bat roost.

2.3.3 The Arboricultural Association publishes useful advice in relation to trees and nesting birds³.

Helpful advice with regards to bats and tree work is published by the UK Government⁴, the Arboricultural Association⁵ and The Bat Conservation Trust⁶.

³ <https://www.trees.org.uk/Help-Advice/Public/When-is-the-bird-nest-season>

⁴ <https://www.gov.uk/guidance/bats-protection-surveys-and-licences>

⁵ <https://www.trees.org.uk/Help-Advice/Public/Bats-and-trees-Who-does-what-where>

⁶ <https://www.bats.org.uk/about-bats/where-do-bats-live/bat-roosts/roosts-in-trees>

3 ARBORICULTURAL SURVEY

3.1 Site visit

3.1.1 I visited the site on 25.11.2021.

3.2 Findings

3.2.1 My findings are set out within the Tree Survey Schedule with explanatory key at **Appendix 1**.

3.3 General site characteristics

3.3.1 General site characteristics can be summarised as:

- A flat, disused playing field surrounded on all sides by residential gardens of varying sizes. Access is via a single track off Paygrove Lane.

3.4 Key arboricultural features

3.4.1 The key arboricultural features associated with the site can be summarised as:

- An overgrown and encroaching hedgerow along the western boundary with trees present within in.
- A small number of trees located in surrounding gardens that are close to the site boundary and/or with canopies overhanging into the site.

4 ARBORICULTURAL IMPACT ASSESSMENT(AIA) AND TREE PROTECTION PLAN (TPP)

4.1 Arboricultural Impact Assessment.

4.1.1 A combined AIA & TPP is included at **Appendix 2.**

Tree removals

4.1.2 The plan shows the tree survey and constraints information in relation to the current proposed layout and confirms one small tree and one small tree group shall be removed. These are a single ash tree (T9) and a group of Leyland cypress, both of quality and amenity value.

4.1.3 New tree planting is proposed that will mitigate for the loss of these trees, and enhance tree cover on site.

4.2 Tree Protection Plan

4.2.1 The Tree Protection element of the plan demonstrates how retained trees can be effectively protected and retained as part of the construction of the proposals.

4.2.2 Locations and specifications of tree protection barriers are provided.

4.2.3 Tree protection barriers must be put in place before any other work is carried out on site, including demolition and remain in place for the duration of construction works.

5 CONCLUSION & RECOMMENDATION

5.1 Conclusion

5.1.1 The current development proposals are feasible from an arboricultural perspective and at the details provided within this report should be adequate to fulfil the requirements of condition 9 of 16/01558/OUT. For the following key reasons:

- No trees of significant value shall be removed to enable the construction of the proposals.
- Tree protection measures can be put in place to ensure that construction works do not result in damage to the retained trees.
- New tree planting will establish and mature to enhance the character of the site.

APPENDIX 1 – TREE SURVEY SCHEDULE

TREES

Ref	Common name	Height (m)	Est	Stem dia (mm)	Est	N	Est	E	Est	S	Est	W	Est	Estimated first branch height (m)	1st branch direction	Estimated canopy height (m)	Life stage	Special status	General observations & management recommendations	Struct. cond.	Phys. cond.	ULE	Quality grading	RPA radius (m)	RPA area (m2)	TPO
T1	Walnut	12	#	400	#	7	#	7	#	7	#	7	-	1.5	SE	0.5	EM	None	Off site in adjoining garden. Twin leaders from 0.5m. Wide spreading.	Fair	Good	20+	B1	5	72	None
T2	Sycamore	17	#	600	#	4	#	4	#	4	#	4	-	3	N	4	EM	None	Off site in adjoining garden. Multiple leaders, dense, upright form.	Fair	Good	20+	B1	7	163	None
T3	Ash	14	#	500	#	4	#	4	#	4	-	4	#	3	W	3	EM	None	Growing in hedgerow, dense bramble around base, early onset of ash die back evident.	Fair	Fair	10+	C1	6	113	None
T4	Willow	4	#	1200	#	1.5	#	1.5	#	1.5	#	1.5	#	3	SW	2	OM	None	Old tree, pollarded regularly at 3m. Just off site in adjoining garden.	Fair	Good	20+	B1	14	651	None
T5	Willow	7	-	290	-	1	-	9	-	8	-	0	-	1	SE	0.5	EM	None	Leans significantly to S & E.	Poor	Good	10+	C1	3	38	None
T6	Willow	4	#	1200	#	0	-	0	-	0	-	0	-	3	SE	3	Dead	None	Old pollard, just off site. Dead.	Dead	Dead	<10	U	14	651	None
T7	Sycamore	11	-	300	#	3	#	3	#	3	#	3	#	2	E	2	EM	None	Growing on edge of site in area of dense bramble.	Fair	Fair	10+	C1	4	41	None
T8	Cypress	14	-	500	#	4	-	4	#	3	#	3	#	1	N	2	M	None	Noticeable tree, just off site in adjoining garden.	Fair	Good	20+	B1	6	113	None
T9	Ash	11	-	350	#	5	-	2	#	1	-	4	-	2	W	1	M	None	Multi-stemmed tree, just located within site.	Fair	Fair	10+	C1	4	55	None

GROUPS

Ref	Common names of woody species present	Estimated average trunk diameter at 1.5m (mm)	Estimated minimum & maximum heights (m)	Estimated average height (m)	Estimated average canopy height (m)	Life stage	Special status	General observations & management recommendations	Struct. cond.	Phys. cond.	ULE	Quality grading	RPA radius from canopy edge (m)	Protected status
G1	2 x Ash	300	12 & 12	12	4	EM	None	Growing in hedgerow surrounded by dense ivy, early onset of ash die back evident.	Fair	Fair	10+	C2	As shown on plan	None
G2	15 + Sycamore	180	12 & 12	12	2	EM	None	Group of slim formed trees grown in close proximity, close to boundary.	Fair	Good	10+	C2	As shown on plan	None
G3	3 x Field maple	300	11 & 11	11	2	M	None	Group growing in adjoining garden and overhanging into site.	Fair	Good	20+	B2	As shown on plan	None
G4	Leyland cypress	150	8 & 6	7	0	EM	None	Planted as boundary hedge in adjoining garden, canopy overhangs into site.	Fair	Fair	10+	C2	As shown on plan	None

HEDGEROWS

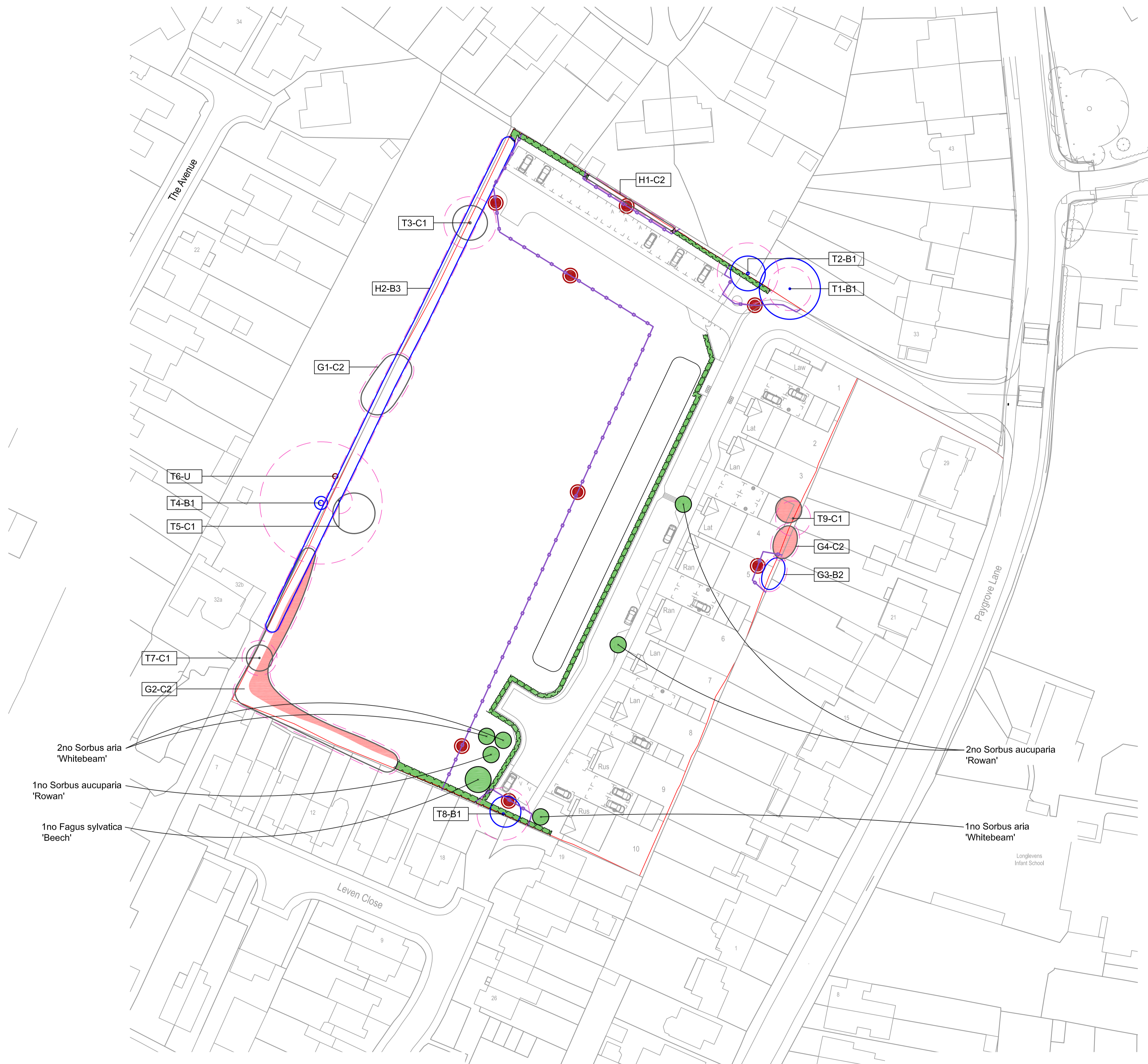
Ref	Common names of woody species present	Estimated minimum & maximum heights (m)	Estimated average height (m)	Estimated average trunk diameter (mm)	Estimated average lateral spread (m)	Estimated average canopy height (m)	Life stage	Special status	General observations & management recommendations	Struct. cond.	Phys. cond.	ULE	Quality grading	RPA radius from canopy edge (m)
H1	Privet, elder	4 & 4	4	75	1	0	M	None	Rooted in adjoining garden, spreading into site.	Fair	Good	20+	C2	As shown on plan
H2	Hawthorn, elder, ash, cherry, bramble	7 & 2	5	100	3	0	M	None	Haphazard, overgrown with bramble, spreading into <u>site</u> . <u>no</u> recent management.	Fair	Good	20+	B3	As shown on plan

KEY

Assessment criteria	Description
Reference number on plan	T: Tree, G: Group, W: Woodland, H: Hedgerow. This reference is recorded on the Tree Survey and Constraints Plan against the relevant survey item.
Common name (Scientific name)	Common names: normal type. Scientific names where required: italic type in brackets
Heights	Unit: metres (m). Recorded to the nearest half metre for heights upto 10m and to the nearest whole metre for heights above 10m.
Stem diameter	Unit: millimetres (mm). Rounded to the nearest 10mm. Single and multi-stemmed trees are measured at 1.5m above highest ground level or otherwise as in accordance with Annex C, BS5837:2012.
Estimates	Measured tree dimensions are identified by an '-' in the adjacent 'Estimate' column. Where dimensions have been estimated (offsite, or otherwise inaccessible survey items) this is clearly identified by a '#' in the adjacent 'Estimate' column.
Crown spread	Unit: metres (m). Directions refer to the four compass points (north, east, south, west). Dimensions are rounded-up to the nearest half metre for heights up to 10m and to the nearest whole metre for heights above 10m.
Estimated average lateral spread	Unit: metres (m). For hedgerows only. An estimate of the average width between branch tips.
Crown clearance height	Unit: metres (m). The existing height above ground level of: <ul style="list-style-type: none"> • First significant branch and the compass direction of its growth: North (N), North-east (NE), East (E) , South-east (SE) etc. • Canopy (height between branch tips and ground level).
Life stage	Y – young (stake dependent), SM - Semi-Mature (still capable of being transplanted without preparation, up to 30cm girth and not yet sexually mature), EM – Early Mature (not yet having reached 75% of expected mature size), M – Mature (anything else up to normal life expectancy for the species), OM – Over Mature (anything beyond mature and in natural decline), V – Veteran, A - Ancient (any tree displaying characteristics described by the Ancient Tree Forum and referenced by Natural England).
Special status	<ul style="list-style-type: none"> • None • Veteran: any tree judged to meet criteria as defined by the Ancient Tree Forum • Ancient: any tree judged to meet criteria as defined by the Ancient Tree Forum¹
General observations and preliminary management recommendations	General observations are recorded in relation to a survey item's structural and/or physiological condition (eg the presence of any decay and physical defect) and /or any preliminary management recommendations that may be appropriate.
Structural condition	<ul style="list-style-type: none"> • Good: without any observable significant biomechanical structural weaknesses • Fair: with minor biomechanical structural flaws. Some remedial action may be required • Poor:with significant biomechanical weaknesses requiring intervention particularly where risk management is required.
Physiological condition	<ul style="list-style-type: none"> • Good: no indications of impaired physiological function and in optimum condition for age and species • Fair: with indicators of reduced vitality. Some intervention may be required • Poor: with significantly impaired physiological function for age and species
Remaining contribution	Useful life expectancy, or the length of time a tree's is estimated to be able to make a useful contribution, is expressed in years as: <10, 10+, 20+, 40+.
Quality grading	Assessed in accordance with Table 1, BS5837:2012. Colours relate to depiction on the Tree Constraints Plan. <ul style="list-style-type: none"> • Category A (Green) Trees of high quality with an estimated remaining life expectancy of 40 years • Category B (Blue) Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. • Category C (Grey) Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm. • Category U (Red) Unsuitable for retention. Trees in such a poor condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. Note - A, B and C trees are also given a sub-category of 1, 2 or 3 which reflects their arboricultural, landscape or cultural and conservation values respectively. Each subcategory has an equal weight, for example an A1 tree has the same retention priority as an A3 tree. More than one sub-category may be applied to a survey item as appropriate.
RPA radius	Root Protection Area (RPA): a layout design tool. Unit: metres (m). Radial distance from tree centre to define a circle that indicates on the Tree Survey Plan the minimum rooting area required to maintain tree's viability. Calculated in accordance with Annex D, BS5837:2012
RPA area	Unit: square metres (m ²). The area of the RPA radius circle described above. Applies only to individual trees.

¹ LONSDALE, D. (Ed). Ancient and other veteran trees: further guidance on management. The Tree Council. London. 2013.

APPENDIX 2 – ARBORICULTURAL IMPACT ASSESSMENT AND TREE PROTECTION PLAN



Key

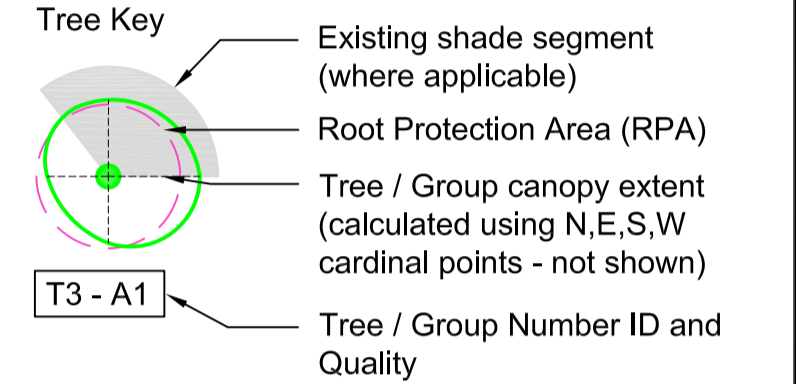
- Vegetation to be removed / area pruned
- Proposed tree planting (see 21.20.020 PL006 Materials Distribution and Landscaping for details)
- Proposed hedge planting (see 21.20.020 PL006 Materials Distribution and Landscaping for details)
- Tree protection fencing
- Signage 'Construction exclusion zone - No Access'

Quality and Suitability For Retention

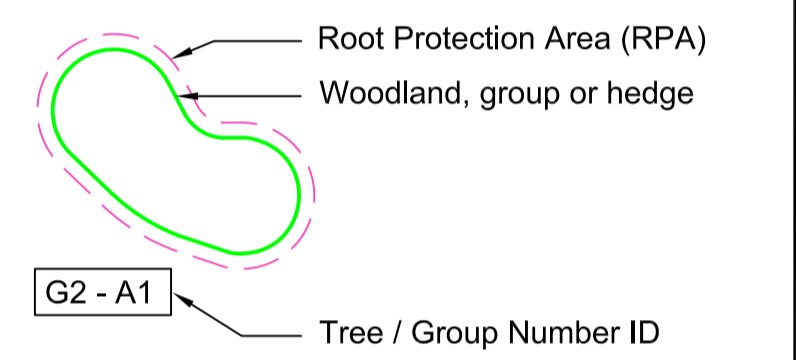
- Category A - High quality and value (Highly desirable for retention)
- Category B - Moderate quality and value (Desirable for retention)
- Category C - Low quality and value (Optional for retention)
- Category U - Poor quality and value (Unsuitable for retention)

Root Protection Areas (RPA)

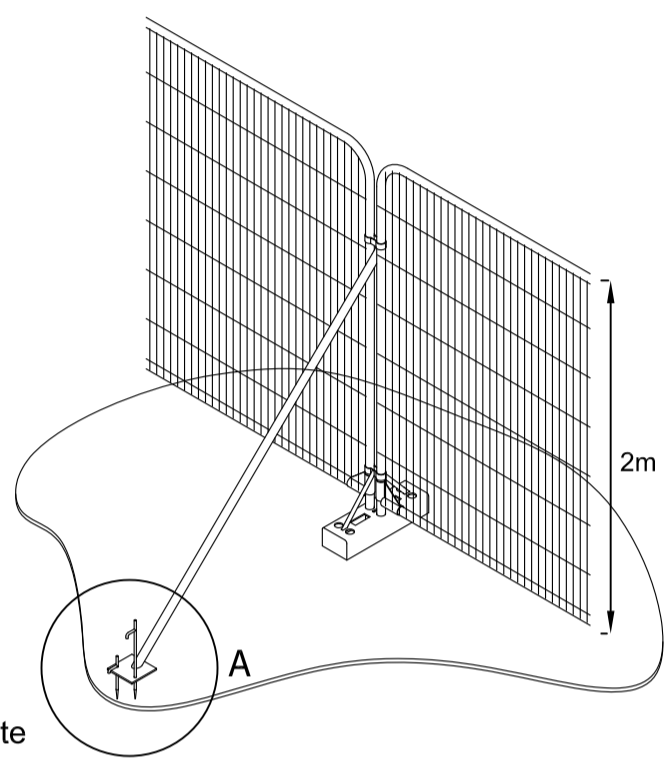
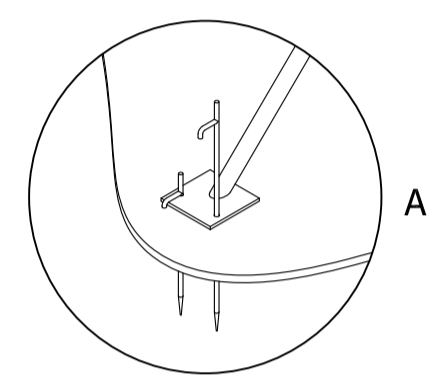
Root Protection Areas (RPA) identified are in accordance with BS5837:2012. RPA's are shown as a pink dashed polyline



Group / Area / Woodland / Hedgerow Key



Protective Barrier



Tree number on plan	Common name	Quality grading	RPA radius (m)	Protected Status
T1	Walnut	B1	5	None
T2	Sycamore	B1	7	None
T3	Ash	C1	6	None
T4	Willow	B1	14	None
T5	Willow	C1	3	None
T6	Willow	U	0	None
T7	Sycamore	C1	4	None
T8	Cypress	B1	6	None
T9	Ash	C1	4	None

Group number on plan	Common names of woody species present	Quality grading	RPA radius (m)	Protected status
G1	2 x Ash	C2	As shown on plan	None
G2	15 + Sycamore	C2	As shown on plan	None
G3	3 x Field maple	B2	As shown on plan	None
G4	Leyland cypress	C2	As shown on plan	None

Hedge number on plan	Common names of woody species present	Quality grading	RPA radius (m)
H1	Privet, elder	C2	As shown on plan
H2	Hawthorn, elder, ash, cherry, bramble	B3	As shown on plan

Notes

- 1) This drawing has been produced to be printed in colour. If you have been given this drawing in monochrome please request a colour version.
- 2) Do not scale directly from this drawing.
- 3) This drawing is to be read in conjunction with all other relevant MHP drawings and information supplied by other consultants.

A Updated layout with arb work adjusted accordingly 15-02-22 GW MR
 Revisions: Date Drawn Checked

Project: Land at Paygrove Lane, Gloucester

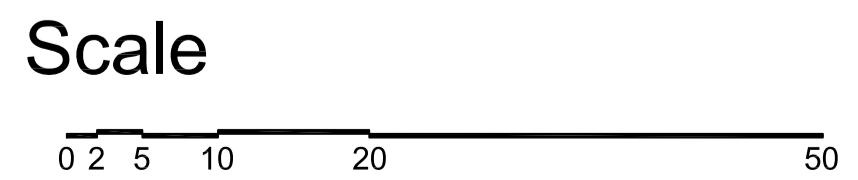
Client: Coombes Everitt

Title: Arbicultural Impact Assessment and Tree Protection Plan

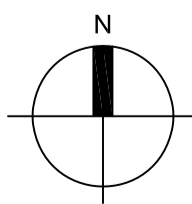
Drawing number: 21341.502 Rev: A

Status: FOR INFORMATION

Drawn By: GW Checked By: JH Date: 09-12-21 Scale @ A1: 1:500



Land at Paygrove Lane, Gloucester
 Arb Impact Assessment & Tree Protection Plan



Land to Rear of Paygrove Lane, Gloucester

Technical Note – Engineering

21-0760_TN002

March 2022

1. Introduction

- 1.1 Cotswold Transport Planning Ltd (CTP) have been appointed by Cotswold Oak Ltd to provide an Engineering Technical Note (TN) in support of a reserved matters planning application for the residential development and associated open space on land to the rear of Paygrove Lane, Gloucester.
- 1.2 The application site benefits from outline planning permission, granted in December 2016 by GCC under LPA Ref: 16/01558/OUT, for the construction of up to 10 no. dwellings with associated parking and landscaping and public open space.

2. Site Location

- 2.1 The site consists of a 1.4ha playing field to the rear of 3 - 29 Paygrove Lane, Gloucestershire, which is located approximately 2.5km north-east of Gloucester City Centre.
- 2.2 A site location plan is contained in **Appendix A**.

3. Development Proposals

- 3.1 As mentioned above, outline planning permission for the erection of up to 10 dwellings, public open space and associated works was granted in 2016 (LPA ref: 16/01558/OUT).
- 3.2 The proposed site layout plan is included at **Appendix B**.

4. Existing Site Conditions

Topography

- 4.1 Refer to **Appendix C** for site topographical survey.
- 4.2 The site is predominantly flat with a gentle fall from the southwest boundary at 19.30m AOD to the northeast boundary at 18.80m AOD, with an average ground gradient of 1:300.



Ground Conditions

- 4.3 Infiltration testing was undertaken on site on 15-16th November 2018 and ground conditions found to be not suitable for soakaways as half drain times could not be achieved and high ground water present. Therefore, discharge to ground at source not possible.

Existing Drainage

- 4.4 There are no public sewer (Severn Trent) assets within the site boundary. A public foul rising main passes along Paygrove Lane. Existing public assets can be found in Leven Close to the south and College Fields to the north. Refer to Appendix D for ST records.
- 4.5 An existing Highways drain runs within the footpath of Paygrove Lane.
- 4.6 The nearest watercourse is the Horsbere Brook located approximately 200m to the east on third party land.

5. Proposed Drainage

Foul Drainage

- 5.1 Refer to **Appendix D** for Engineering Layout.
- 5.2 A gravity connection from the development to the public foul asset within College Fields is feasible with localised raising of ground levels and floor levels in the site.
- 5.3 Severn Trent Water have confirmed capacity within Leven Close and College Fields system. Refer to Appendix C for Severn Trent correspondence.

Surface Drainage

- 5.4 Refer to **Appendix D** for Engineering Layout.
- 5.5 In accordance with the SuDS hierarchy of surface water management the following should be considered, in order, for discharge of development surface water run off:
- Discharge to ground at source – soakaways
 - Discharge to water body
 - Discharge to a surface water sewer, highway drain, or another drainage system
 - Discharge to existing combined drainage



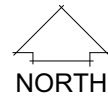
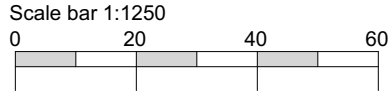
- 5.6 Infiltration testing was undertaken confirms discharge to ground at source not possible.
- 5.7 The nearest watercourse is 200m to the east and a level analysis has shown a gravity connection is not feasible. The connection would also require third party land agreement. Therefore, discharge to watercourse not possible.
- 5.8 A storm connection to the existing Highways drain within the footpath of Paygrove Lane was explored but following a CCTV of the system the condition and capacity was found to be inadequate. Gloucestershire County Council Highways confirmed a connection to highways assets for this development will not be permitted.
- 5.9 A pumped connection from the development to the public storm asset within College Fields is feasible with attenuation required via a SuDS swale, which shall be designed to cater for the 1 in 100 year event with a 40% allowance for climate change.
- 5.10 Severn Trent Water have confirmed capacity within Leven Close and College Fields system. An allowable storm discharge rate of 2 l/s has been confirmed.
- 5.11 Refer to **Appendix E** for Calculations.

6. External Works

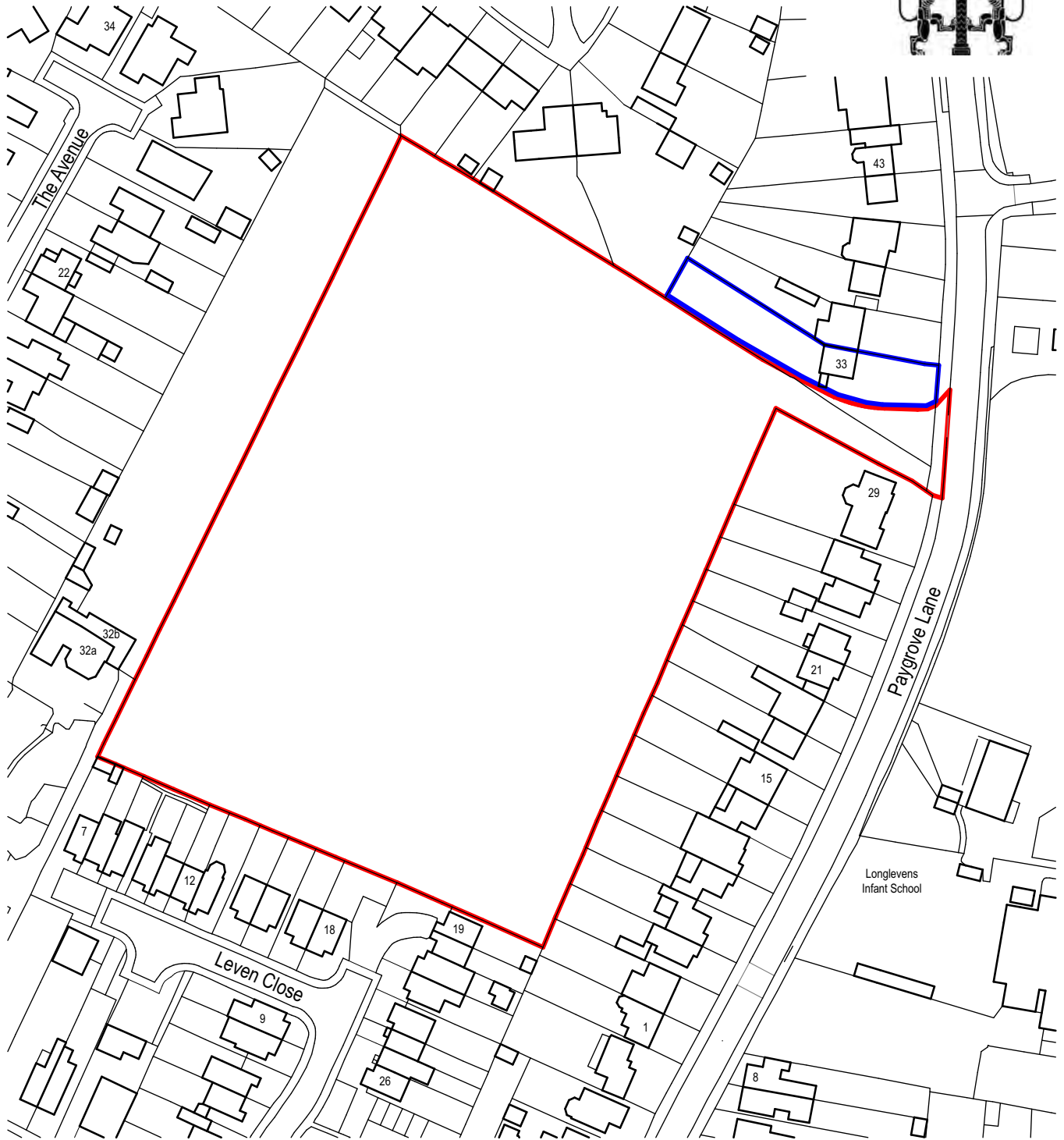
Access

- 6.1 Refer to **Appendix D** for Engineering Layout.
- 6.2 Access to plots to be in accordance with Building Regulations Part M – Category M4(1): Visitable dwellings.
- 6.3 Surface water from the highway will be collected by standard road gullies which connect to the proposed drainage system.
- 6.4 Highways to be of flexible construction comprising of asphalt surface finish..
- 6.5 Finished floor levels to be set a minimum 150mm above external ground level.

APPENDIX A



RIBA
Chartered Practice



coombes : everitt architects limited
105-107 Bath Road
Cheltenham
Gloucestershire
GL53 7LE



www.ce-architects.co.uk

Drawing title: Site Location Plan

Client: Cotswold Oak Ltd

Drawn by: AH Checked: JE

Project No: 21.20.020

Project: Land at Paygrove Lane,
Longlevens

Scale: 1:1250 @ A4

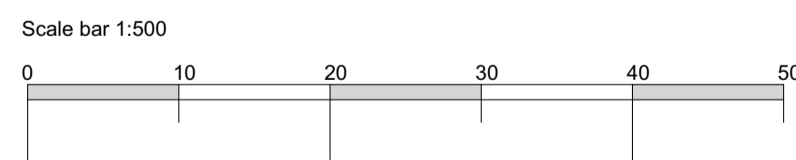
Date: November 2021

Project / Drawing No: 21.20.020 SK1000A

coombes : everitt architects

APPENDIX B

Accommodation schedule						
Unit Mix						
Ref	Bedrooms	Bedspaces	Number	Off	GIFA sq/ft	Total sq/ft
Lawence	2 + study	3	1		935	935
Latchford	3	6	2		1389	2778
Langley	4	7	3		1389	4167
Ranscombe	4 + study	7	2		1615	3230
Ruscombe	5	8	2		1615	3230
						14340



Preliminary

coombes : everitt architects limited
 105-107 Bath Road
 Cheltenham
 Gloucestershire
 GL53 7LE
 www.ce-architects.co.uk

- Preliminary
- Feasibility
- Planning
- Building Regulations
- Tender
- Construction issue
- As Built

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2. Do not scale drawing. all dimensions to be checked on site prior to construction and any discrepancies reported to contract administrator.
3. Do not use this drawing for setting out unless drawing specifically indicates setting out points.
4. Engineering information is indicative only and should be taken from structural engineers design.

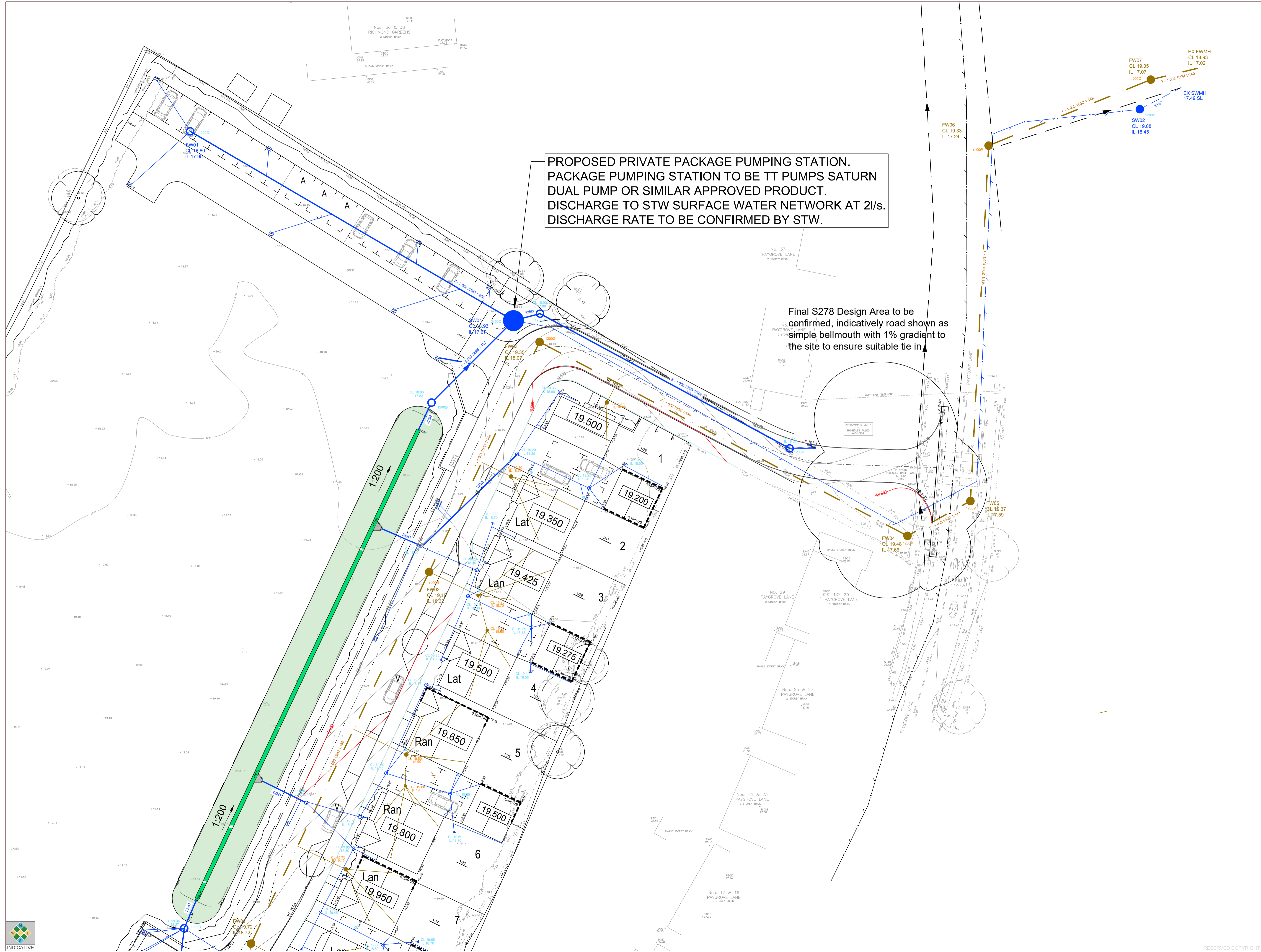


Drawing title: Proposed Site Layout
 Client: Cotswold Oak Ltd
 Drawn by: AH Checked: JE
 Project No: 21.20.020

Project: Land at Paygrove Lane, Longlevens
 Scale: 1:500 @ A1
 Date: January 2022
 Project / Drawing No: 21.20.020 PL005

APPENDIX C

APPENDIX D



PROPOSED PRIVATE PACKAGE PUMPING STATION.
 PACKAGE PUMPING STATION TO BE TT PUMPS SATURN
 DUAL PUMP OR SIMILAR APPROVED PRODUCT.
 DISCHARGE TO STW SURFACE WATER NETWORK AT 2l/s.
 DISCHARGE RATE TO BE CONFIRMED BY STW.

Final S278 Design Area to be
 confirmed, indicatively road shown as
 simple bellmouth with 1% gradient to
 the site to ensure suitable tie in

- Notes:**
- Do not scale from this drawing. All dimensions are in metres, unless stated otherwise.
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 - Drawing to be read in conjunction with all other drawings. Any discrepancies are to be reported to the engineer 5 working days in advance of undertaking any work.
 - All pipework to be 1000 Ø PVC UNO
 - All chambers to be 450 Ø Type D Chambers UNO. Chambers marked with diameter to be Type B Chambers (except chamber at pump).

- KEY**
- SURFACE WATER MANHOLE AND SEWER
 - FOUL WATER MANHOLE AND SEWER
 - HIGHWAY GULLY AND CONNECTION
 - FINISHED FLOOR LEVELS
 - SWALE
 - PROPOSED LEVEL
 - RISING MAIN
 - HEADWALL
 - GRADIENT
 - UNDERBUILD (WITH HEIGHT)

A	16.02.22	ROAD AND LAYOUT AMENDED	PG	KT
Rev	Date	Details	Drawn By	Checked By



CLIENT:
Cotswold Oak Ltd

PROJECT:
**Paygrove Lane,
 Longlevens**

TITLE:
**Engineering Layout
 Sheet 1**

STATUS:
INFORMATION

SCALE @ A1:	DATE:	DRAWN:	CHECKED:	APPROVED:
1:250	26/01/2022	PG	KT	KT
JOB NO:	DRAWING NO:	REVISION:		
CTP-0760	C002	A		








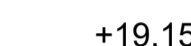


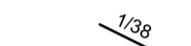

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3. Drawing to be read in conjunction with all other drawings. Any discrepancies are to be reported to the engineer 5 working days in advance of undertaking any work.
4. All pipework to be 1000 PVC UNO
5. All chambers to be 450Ø Type D Chambers UNO. Chambers marked with diameter to be Type B Chambers (except chamber at pump).

KEY

-  SURFACE WATER MANHOLE AND SEWER
-  FOUL WATER MANHOLE AND SEWER
-  HIGHWAY GULLY AND CONNECTION
-  FINISHED FLOOR LEVELS
-  SWALE
-  PROPOSED LEVEL
-  RISING MAIN
-  HEADWALL
-  GRADIENT
-  UNDERBUILD (WITH HEIGHT)

A	19/02/22	RACD AND LAYOUT AMENDED	PG	KT
Rev	Date	Details	Drawn By	Checked By



CLIENT:
Cotswold Oak Ltd

PROJECT:
**Paygrove Lane,
Longlevens**

TITLE:
**Engineering Layout
Sheet 2**

STATUS:
INFORMATION

SCALE @ A1:	DATE:	DRAWN:	CHECKED:	APPROVED:
1:250	26/01/2022	PG	KT	KT
JOB NO:	DRAWING NO:	REVISION:		
CTP-0760	C003	A		



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APPENDIX E

CTP House, Knapp Road
Cheltenham
Gloucestershire, GL50 3QQ

Paygrove Lane



Date 12/01/2022 16:58
File 21-0760 SWALE_A.SRCX

Designed by CG
Checked by KT

Innovyze Source Control 2020.1.3

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 964 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	18.510	0.680	0.0	2.0	2.0	79.5	O K
30 min Summer	18.602	0.772	0.0	2.0	2.0	105.9	O K
60 min Summer	18.688	0.858	0.0	2.0	2.0	133.8	Flood Risk
120 min Summer	18.763	0.933	0.0	2.0	2.0	161.1	Flood Risk
180 min Summer	18.799	0.969	0.0	2.0	2.0	175.4	Flood Risk
240 min Summer	18.820	0.990	0.0	2.0	2.0	183.6	Flood Risk
360 min Summer	18.838	1.008	0.0	2.0	2.0	191.0	Flood Risk
480 min Summer	18.844	1.014	0.0	2.0	2.0	193.5	Flood Risk
600 min Summer	18.842	1.012	0.0	2.0	2.0	192.9	Flood Risk
720 min Summer	18.836	1.006	0.0	2.0	2.0	190.1	Flood Risk
960 min Summer	18.819	0.989	0.0	2.0	2.0	183.3	Flood Risk
1440 min Summer	18.794	0.964	0.0	2.0	2.0	173.1	Flood Risk
2160 min Summer	18.759	0.929	0.0	2.0	2.0	159.9	Flood Risk
2880 min Summer	18.724	0.894	0.0	2.0	2.0	146.8	Flood Risk
4320 min Summer	18.651	0.821	0.0	2.0	2.0	121.3	Flood Risk
5760 min Summer	18.575	0.745	0.0	2.0	2.0	97.5	O K
7200 min Summer	18.497	0.667	0.0	2.0	2.0	75.8	O K
8640 min Summer	18.420	0.590	0.0	2.0	2.0	57.2	O K
10080 min Summer	18.344	0.514	0.0	2.0	2.0	41.4	O K
15 min Winter	18.546	0.716	0.0	2.0	2.0	89.3	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
15 min Summer	117.448	0.0	81.7	19
30 min Summer	79.010	0.0	109.9	34
60 min Summer	50.812	0.0	141.4	64
120 min Summer	31.621	0.0	175.9	122
180 min Summer	23.637	0.0	197.3	182
240 min Summer	19.105	0.0	212.6	242
360 min Summer	14.037	0.0	234.4	362
480 min Summer	11.286	0.0	251.2	482
600 min Summer	9.522	0.0	264.9	600
720 min Summer	8.282	0.0	276.6	720
960 min Summer	6.640	0.0	295.6	834
1440 min Summer	4.854	0.0	324.1	1082
2160 min Summer	3.541	0.0	354.7	1472
2880 min Summer	2.828	0.0	377.5	1876
4320 min Summer	2.055	0.0	411.6	2684
5760 min Summer	1.637	0.0	437.4	3464
7200 min Summer	1.371	0.0	457.5	4184
8640 min Summer	1.186	0.0	475.0	4928
10080 min Summer	1.049	0.0	490.4	5640
15 min Winter	117.448	0.0	91.6	19

CTP House, Knapp Road
Cheltenham
Gloucestershire, GL50 3QQ

Paygrove Lane



Date 12/01/2022 16:58
File 21-0760 SWALE_A.SRCX

Designed by CG
Checked by KT

Innovyze Source Control 2020.1.3

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (1/s)	Max Control (1/s)	Max Σ Outflow (1/s)	Max Volume (m³)	Status
30 min Winter	18.644	0.814	0.0	2.0	2.0	119.1	Flood Risk
60 min Winter	18.735	0.905	0.0	2.0	2.0	150.8	Flood Risk
120 min Winter	18.817	0.987	0.0	2.0	2.0	182.6	Flood Risk
180 min Winter	18.858	1.028	0.0	2.0	2.0	199.5	Flood Risk
240 min Winter	18.882	1.052	0.0	2.0	2.0	209.7	Flood Risk
360 min Winter	18.906	1.076	0.0	2.0	2.0	220.1	Flood Risk
480 min Winter	18.917	1.087	0.0	2.0	2.0	225.2	Flood Risk
600 min Winter	18.921	1.091	0.0	2.0	2.0	226.8	Flood Risk
720 min Winter	18.919	1.089	0.0	2.0	2.0	226.3	Flood Risk
960 min Winter	18.908	1.078	0.0	2.0	2.0	221.0	Flood Risk
1440 min Winter	18.871	1.041	0.0	2.0	2.0	204.9	Flood Risk
2160 min Winter	18.827	0.997	0.0	2.0	2.0	186.6	Flood Risk
2880 min Winter	18.778	0.948	0.0	2.0	2.0	166.8	Flood Risk
4320 min Winter	18.668	0.838	0.0	2.0	2.0	127.2	Flood Risk
5760 min Winter	18.551	0.721	0.0	2.0	2.0	90.7	O K
7200 min Winter	18.427	0.597	0.0	2.0	2.0	58.9	O K
8640 min Winter	18.297	0.467	0.0	2.0	2.0	32.8	O K
10080 min Winter	18.155	0.325	0.0	2.0	2.0	13.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	79.010	0.0	123.1	33
60 min Winter	50.812	0.0	158.4	62
120 min Winter	31.621	0.0	197.2	122
180 min Winter	23.637	0.0	221.1	180
240 min Winter	19.105	0.0	238.0	238
360 min Winter	14.037	0.0	262.5	354
480 min Winter	11.286	0.0	281.4	470
600 min Winter	9.522	0.0	296.7	584
720 min Winter	8.282	0.0	309.7	696
960 min Winter	6.640	0.0	331.2	914
1440 min Winter	4.854	0.0	338.2	1154
2160 min Winter	3.541	0.0	397.2	1604
2880 min Winter	2.828	0.0	422.8	2052
4320 min Winter	2.055	0.0	461.2	2900
5760 min Winter	1.637	0.0	490.0	3696
7200 min Winter	1.371	0.0	512.4	4400
8640 min Winter	1.186	0.0	532.0	5096
10080 min Winter	1.049	0.0	549.3	5648

CTP House, Knapp Road
Cheltenham
Gloucestershire, GL50 3QQ

Paygrove Lane



Date 12/01/2022 16:58
File 21-0760 SWALE_A.SRCX

Designed by CG
Checked by KT

Innovyze Source Control 2020.1.3

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	18.000	Shortest Storm (mins)	15
Ratio R	0.350	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.371

Time (mins) Area
From: To: (ha)

0 4 0.371

CTP House, Knapp Road
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Gloucestershire, GL50 3QQ

Paygrove Lane



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Designed by CG
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Innovyze Source Control 2020.1.3

Model Details

Storage is Online Cover Level (m) 18.930

Swale Structure

Infiltration Coefficient Base (m/hr)	0.00000		Length (m)	75.0
Infiltration Coefficient Side (m/hr)	0.00000		Side Slope (1:X)	3.0
	Safety Factor	2.0	Slope (1:X)	200.0
	Porosity	1.00	Cap Volume Depth (m)	0.000
Invert Level (m)	17.830	Cap Infiltration Depth (m)	0.000	
Base Width (m)	0.6			

Pump Outflow Control

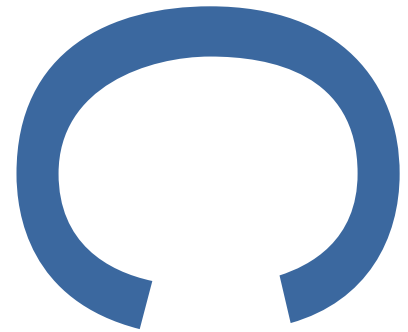
Invert Level (m) 17.730

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	2.0000	0.900	2.0000	1.700	2.0000	2.500	2.0000
0.200	2.0000	1.000	2.0000	1.800	2.0000	2.600	2.0000
0.300	2.0000	1.100	2.0000	1.900	2.0000	2.700	2.0000
0.400	2.0000	1.200	2.0000	2.000	2.0000	2.800	2.0000
0.500	2.0000	1.300	2.0000	2.100	2.0000	2.900	2.0000
0.600	2.0000	1.400	2.0000	2.200	2.0000	3.000	2.0000
0.700	2.0000	1.500	2.0000	2.300	2.0000		
0.800	2.0000	1.600	2.0000	2.400	2.0000		

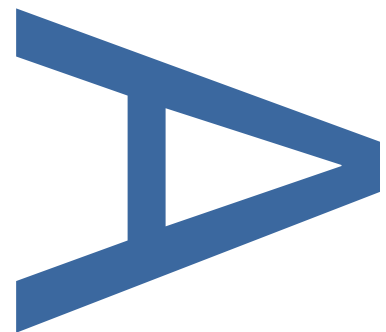
**LAND OFF PAYGROVE LANE,
LONGLEVENS, GLOUCESTERSHIRE**



**WRITTEN SCHEME OF INVESTIGATION
FOR A PROGRAMME OF
ARCHAEOLOGICAL INVESTIGATIONS**



**SITE CODE: PLLG 22
PROJECT REFERENCE: K7635**



MARCH 2022

PRE-CONSTRUCT ARCHAEOLOGY

Written Scheme of Investigation for a programme of archaeological investigations on land off Paygrove Lane, Longlevens, Gloucester

Local Planning Authority: Gloucestershire County Council

Central National Grid Reference: SO 8561 1985

Site Code: PLLG 22

Written and researched by:



Project Manager:

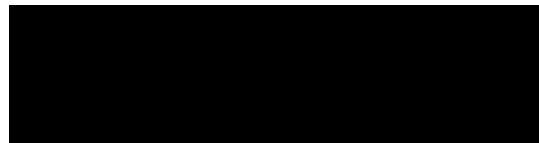
Commissioning Client: Cotswold Oak Ltd.

Contractor: Pre-Construct Archaeology Ltd
PCA Warwick
2 Plestowes Barn,
Hareway Lane,
Barford,
Warwick
CV35 8DD

Tel:

E-mail:

Website:



www.pre-construct.com

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March 2022

CONTENTS

CONTENTS	2
1 INTRODUCTION	3
2 GEOLOGY AND TOPOGRAPHY	6
3 ARCHAEOLOGICAL BACKGROUND.....	7
4 METHODOLOGY	11
5 ACCESS AND SAFETY	18
6 STAFFING.....	19
7 REPORTING	20
8 OWNERSHIP OF FINDS, STORAGE AND CURATION OF ARCHIVE	22
9 MONITORING AND LIAISON.....	23
10 FURTHER CONSIDERATIONS	24
11 BIBLIOGRAPHY	25
FIGURE 1: SITE LOCATION	28
FIGURE 2: PROPOSED EXCAVATIONS.....	29

1 INTRODUCTION

1.1 General Background

1.1.1 Pre-Construct Archaeology Ltd (PCA) has been commissioned by Cotswold Oak Limited to undertake a programme of archaeological investigations on land of Paygrove Lane, Longlevens, Gloucester (Site centred: SO 8561 1985; Figure 1). The work is being undertaken ahead of the redevelopment of the site area with the construction of up to ten dwellings with associated access, parking, landscaping and infrastructure for which an outline application has been approved by Gloucester City Council (Planning Reference: **16/01558/OUT**).

1.1.2 Previous studies of the proposed development area (GCCAS 2000) demonstrated the presence of medieval and later ridge and furrow as well as a single possibly earlier linear and a general scattering of residual artefactual pottery including of Romano-British date. As such, the presence of currently unknown features or deposits could not be ruled out and so it was requested that a programme of archaeological investigations be undertaken.

1.1.3 The definition of an archaeological programme of investigations is ‘a *programme of controlled, intrusive fieldwork with defined research objectives which examines, records and interprets archaeological deposits, features and structures and, as appropriate, retrieves artefacts, ecofacts and other remains within a specified area. The records made and objects gathered during the fieldwork are studied and the results of that study published in detail appropriate to the project design*’ (CIFA 2020a).

1.1.4 This document comprises a Written Scheme of Investigation (WSI) and has been prepared in consultation with the guidelines and standards laid down in the following documents:

- *Standard and Guidance for an Archaeological Excavation*, Chartered Institute for Archaeologists: Reading (CIFA 2020a);

- *Code of Approved Conduct for the Regulation of Arrangements in Field Archaeology*, Chartered Institute for Archaeologists: Reading (CIFA 2020b);
- *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials*, Chartered Institute for Archaeologists: Reading (CIFA 2020c);
- *Management of Archaeological Research Projects in the Historic Environment (Morphe)*, Historic England: London (HE 2015);
- *Gloucestershire Archaeological Archive Standards*, South West Museum Development Programme (SWM 2018);
- *Fieldwork Induction Manual: Operations Manual 1*, Pre-Construct Archaeology Limited: London (Taylor and Brown 2018);
- *Fieldwork Operations Manual, Regional Variation Addendum; Warwick Office*, Pre-Construct Archaeology Limited: Warwick (Webster 2018).

1.1.5 The general aims of these investigations are to:

- determine the presence or absence of buried archaeological remains within the proposed development area;
- determine the character, date, extent and distribution of any archaeological deposits revealed as well as their potential significance;
- determine levels of disturbance to any archaeological deposits from plough damage or from any other agricultural/industrial practices or later building activities;
- gain as full an understanding as practicable of all potential archaeological features and deposits within the development area;
- disseminate the results of the fieldwork through an appropriate level of recording.

1.1.6 The specific aims of these investigations are to:

- further the understanding of the potential features and residual artefacts recorded in the previous phase of evaluation.

2 GEOLOGY AND TOPOGRAPHY

2.1 Geology

2.1.1 The underlying geology for the site is mapped as mudstone of the Charmouth Mudstone formation deposited between 183 and 199 million years ago in the Jurassic Period in an environment dominated by warm shallow seas. This is mapped as being overlain by a combination of sands and gravels of the Cheltenham Sand and Gravel Formation deposited by subaerial slopes to the south of the glacial extent up to three million years ago and comprised of detrital coarse to fine individual clasts forming downslope fans of material (BGS 2022).

2.1.2 This is mapped as being sealed across the majority of the site by freely draining lime rich loamy soils that are aligned broadly northwest to southeast. The current mapping suggests that to the northeast the soils become more clay rich and with gradually greater impeded drainage, this being most likely present in the northeast corner of the site (Landis 2022).

2.2 Topography

2.2.1 The area of investigation is approximately 1.36ha in size and is situated to the immediate west of Paygrove Lane in the Longlevens suburb of Gloucester, roughly 3km to the northeast of the city centre. It is surrounded on all sides by domestic housing and at the time of writing comprises a large playing field. The site is flat at a height of broadly c.19m AOD (above Ordnance Datum) and is situated on a plateau that runs north to south before dropping towards the River Severn estuary to the west and rising towards the Cotswold Plateau to the east. Horsbere Brook, a south to north flowing watercourse, lies 200m to the east of the site and joins the River Severn north of Gloucester.

3 ARCHAEOLOGICAL BACKGROUND

3.1 Introduction

3.1.1 The site has been subject to a previous archaeological evaluation by trial trenching (GCCAS 2000) and a search of the Gloucestershire Historic Environment Records office (GHER search reference: **HER1866721**) was undertaken and this provided a dataset of the currently known historic and archaeological background of the site and surrounding area within a 1km radius. This section is an overview of the records office search to provide context for the archaeological potential of the development site, which falls within this topographical area. For more detailed information please refer to the original HER search document.

3.2 Prehistoric and Romano-British Periods

3.2.1 There is no known Prehistoric or Romano-British activity within the boundary of the site with little beyond unstratified finds being recorded further afield within 900m of the site boundary. A palaeolithic Acheulian flint hand axe is recorded to have been found some 300m to the east of the site in 1948 (HER Reference: **GHER4823**). A Mesolithic or Neolithic worked flint scraper was discovered c.900m to the south of the site and was residual within the fill of a Romano-British ditch. A desk-based assessment of the gravel terraces between the site and the River Severn concluded that prehistoric activity has low potential (Oxford Archaeology 2015; HER Reference: **GHER959**). A denarius of Vespasian (AD69-79) and a Roman brooch were found unstratified c.450-500m to the west and southwest (HER Reference: **GHER1352**).

3.2.2 Despite the proximity of the major Roman town of *Glevum* (Gloucester) 2.8km to the southwest, Roman archaeology at two sites around Oxstalls College Campus, between the development site and the town, has been described as 'surprisingly slight' (HER Reference: **GHER1058**). However, evidence to the south appears more concentrated, adjacent to the west bank of Horsbere Brook c.900-1200m from the site (HER References: **GHER750 & GHER736**).

Fieldwork at the Centre Severn, for example, uncovered an extensive Roman field system of predominantly northwest by southeast orientation, with a hearth and two inhumation burials dated to the 2nd to 4th century (HER Reference: **GHER750**). A possible trackway on the same alignment was recorded just outside the 1km search area c.300m to the east of Centre Severn. (HER Reference: **GHER736**).

- 3.2.3 Closer to the development site, the evidence for activity is sparse: 500m to the south, a trench in Sir Thomas Rich's school grounds uncovered no significant archaeology and c.130m to the east fieldwork at the former Gloscat Annexe (HER Reference: **GHER698**), now College Fields, likewise saw no archaeological features. The development site itself featured an undated north-south ditch which was postulated as 'earlier than the furrows' (GCCAS 2000). At 1m wide by 0.90m deep with a "V"-shaped profile it had potential to be of Romano-British date based on its morphology, it being similar to the Roman examples to the south. Two pieces of Romano-British greyware were noted during the same fieldwork although they were residual finds from a furrow rather than insitu (*Ibid.*).

3.3 Medieval to Post-medieval Periods

- 3.3.1 The Anglo-Saxon chronicle famously records Gloucester as one of the three 'cities of the Britons' that were taken from local kings in 577AD by the brothers *Cuthwine* and *Ceawlin*. At the time, Gloucester probably continued to function as an administrative centre with an entirely rural economy; it attracted a 'Saxon' minster in around AD679 but no significant intermural developments were undertaken until the 10th century. However, the town itself falls outside the study area and there is no known Early Medieval activity within 1km of the site.
- 3.3.2 Medieval to post-medieval, north-south oriented, furrows were a prominent feature of the evaluation of the proposed development site and furrows were frequent and regularly spaced at 3-4m apart (*Ibid.*). A small selection of very abraded medieval pottery sherds was also recovered from the site. A medieval moat was known c.600m to the east

of the site on the Horsbere Brook (HER Reference: **GHER4826**) until being subsumed by a housing estate in 1960. It was described in 1998 as *'90 yards each way the platform is slightly raised ... some remarkable earthworks are to be seen in an adjoining field, but what their object was is not clear'*. The site probably represented a moated manor house, with the earthworks relating to the housing platforms of an associate small settlement. Medieval to post-medieval furrows are well attested on sites to the immediate west of the brook, on two sites around 900m to the south of the current study area (HER Reference: **GHER750**), where quarrying was also seen (HER Reference: **GHER761**); 950m to the west at Oxstalls College (HER Reference: **GHER1058**) and, 970m to the northwest at Brionne Way (HER Reference: **GHER1275**).

- 3.3.3 The current area boundary can be identified on the 1799 enclosure map as within Longlevens Common Fields and is shown on the First and Third Edition County Ordnance Survey maps (1888 & 1925) as divided into long parallel strips running northeast by southwest, before becoming opened up for the current playing fields following the Second World War.

3.4 Conclusions

- 3.4.1 The area of investigation is thought to currently have a moderate to low potential for Prehistoric or Romano-British activity which, if present is most likely to represent agricultural land management. The known Romano-British field systems and possible trackway to the south, parallel to Horsbere Brook extends northwards and could potentially, if continuing, extend into the site however no evidence to suggest they do is currently known.
- 3.4.2 The distribution patterns of medieval and post-medieval archaeology support the general assessment that land use to the northwest of Gloucester focussed on agricultural and quarrying activity on the free draining gravel terraces (ie. HER References: **GHER959** & **GHER1058**) and it is thought likely that the proposed development area avoided this fate. The site appears to have been common land by the post-medieval

period and little additional activity is known before the removal of former field boundaries in the later 20th century.

- 3.4.3 When evaluated, the site showed evidence of frequent furrows, 20th century drainage features and other modern land management activity (gravel land drains, pits, fence posts and landscaping). This agricultural impact may have truncated potentially earlier features/deposits further reducing the potential of the site still further.

4 METHODOLOGY

4.1 Excavation and Sampling

4.1.1 The archaeological investigations will comprise the controlled site strip of the area of the proposed housing down to the top of the natural substrate or potentially significant archaeological deposits, whichever is the higher.

4.1.2 PCA has been informed by Cotswold Oak that no excavation is required as part of the proposed development within the areas of the proposed back gardens and for the area of the car park, which will be laid to grass crete. These areas will be monitored by the PCA team to ensure that archaeological levels are not impacted. Should for any reason ground conditions dictate that archaeological levels are encountered within these areas, they will be archaeologically excavated in accordance with the methodologies set out below.

4.1.3 In advance of the fieldwork PCA will request that the client has demonstrated that all reasonable measures have been taken to secure the site area, identify any constraints and have provided all reasonable information regarding the presence of services, any ecological constraints, the presence of Public Rights of Way, any areas of potentially contaminated land and/or any other known risks to health and safety.

4.1.4 The excavation areas will be stripped by a 'team', comprising a tracked mechanical excavator assisted by two dumpers and monitored by a suitably experienced archaeologist. The strip will start at the southern end of the site moving north (See Figure 2). The dumpers will vary their route to avoid rutting and will traverse the unstripped parts of the site to spoil locally before being transported offsite at a later date. Spoil will be separated into two separate bunds, one for topsoil and the second for subsoil, each of which will be sealed at the end of each working day to ensure no run off occurs. The routes of the dumpers will be periodically monitored to ensure that no rutting ensues to the point where it could

impact potentially underlying archaeological assets.

- 4.1.5 The tracked excavator will be fitted with a toothless ditching bucket and under suitable archaeological supervision will remove overburden to the top of the natural substrate, first significant archaeological horizon, or limit of the proposed development impact, whichever is encountered first.
- 4.1.6 Where appropriate, PCA will request that the LPA sign off blank areas once he is happy to allow for this to take place. No construction related access to areas will be permitted until after the Planning Archaeologist is satisfied that the archaeological aims and objectives for that specific area have been completed.
- 4.1.7 The excavation areas will be subjected to a pre-excavation survey plan once sufficient weathering has taken place with all possible features and deposits being recorded. This survey will then be used to formulate an appropriate excavation strategy that best fulfils the requirements below. Features/deposits will be excavated to retrieve artefactual and ecofactual material, as well as determine their character, significance and date.
- 4.1.8 All areas of the excavation will be inspected periodically throughout the course of the investigations under different lighting conditions and from different angles to ensure that no potential features or deposits are missed. Artefactual material will be recovered from as many contexts as possible regardless of date to help fully characterise the site. Where large finds assemblages are present an appropriate sample subsection will be taken and the methodologies, percentages and any other appropriate information recorded on the appropriate context sheet.
- 4.1.9 All possible archaeological features and deposits will be sampled as follows:
- All structural features (eg. Postholes and hearths), burials, industrial features (eg. Ovens and kilns) etc will be 100% excavated;

- Other discrete features (eg. Pits) shall be excavated to a minimum of 50% based on the potential for the recovery of important material or ecofactual assemblages. Should features be characterised and 'common' to the point that further excavation is unlikely to yield significant new information then discussions on reducing this strategy will be held;
- Features of possible natural origin (eg. Variations in the geology) will be excavated until a full characterisation of the feature type, profile, fill are adequately demonstrated;
- Linear features (eg, ditches and gullies) excluding furrows, are to be excavated to a minimum of 20% or until a full understanding of the feature is ascertained. All intersections will be sampled to establish relationships and a higher percentage of excavation shall be undertaken in areas of potential domestic activity;
- Occupational layers are to be excavated to a minimum 10% with higher percentage for prehistoric layers as required to gain full understanding of the various functions and any spatial variations.

4.1.10 Field excavation techniques and recording methods are detailed in the *PCA Fieldwork Induction Manual* (Operations Manual I; Taylor & Brown 2018) and *PCA Fieldwork Operations Manual Regional Variation Addendum; Warwick* (Webster 2018).

4.2 Recording Methodology

4.2.1 Deposits or the removal of deposits judged by the excavating archaeologist to constitute individual events will each be assigned a unique record number (often referred to within British archaeology as 'context numbers') and recorded on individual pre-printed forms (Taylor and Brown 2018; Webster 2018). Context sheets are to be primarily filled in by the archaeologist who excavated the feature/deposit.

4.2.2 The limits of excavations, heights above Ordnance Datum (m AOD) and all features in plan will be recorded by a Geomax Mesa² rover unit, utilising X-PAD Survey 3 software with RTK differential correction, giving three-dimensional accuracy of 20mm or better. Each point will be

recorded in relation to the OSGB36 geod model and coded to an internal PCA database to provide a dataset which records feature type, context number, associated drawing numbers and any other information that may be relevant. This survey will provide a three-dimensional geo-referenced visual representation of the archaeology present.

4.2.3 Hand drawn sections will be drawn at an appropriate scale, primarily 1:10. Likewise where appropriate, plans of archaeological features will be drawn at a suitable scale to record them in detail. These plans will be accurately related to the National Grid and drawn in relation to a specific geo-referenced baselines provided by the Geomax Mesa² rover unit. All plans and sections will be levelled in respect to AOD and are to be drawn on polyester based drafting film and clearly labelled.

4.2.4 All deposits will be recorded with sufficient data to allow for a full characterisation of the context and its relationships to be made and allow for future studies to query and compare the dataset with confidence.

4.2.5 The primary photographic record of the site will be undertaken using a Canon EOS 1300D digital SLR camera with an 18.0-megapixel resolution. Photographs will be taken of all deposits and all images will be labelled appropriately and cross-referenced in relation to a site specific photography register. All photographic images and associated registers will be regarded as part of the primary archive.

4.3 Human Remains

4.3.1 In the unlikely event that human remains, either inhumations and/or cremations, are exposed during the course of the archaeological investigations then all works will cease immediately and the local police and coroner informed. The area will be screened from view and after informing the client and Planning Archaeologist any remains will be lifted in accordance with professional standards and guidelines once the antiquity of the remains has been suitably proven and Ministry of

Justice Licence applied for as appropriate (in accordance with Section 25 of the Burial Act 1857). The need for a Ministry of Justice Licence applies to both inhumation and cremated remains. Application for a Licence would be made by PCA.

4.4 Finds recovery and processing

4.4.1 All artefacts recovered during the course of the archaeological investigations are the property of the landowner. They will be suitably bagged, boxed and marked in accordance with the *Standards and Guidance for the Collection, Conservation and Research of Archaeological Materials* (CIFA 2020c), and the *Standard and Guide to Best Practice for Archaeological Archiving in Europe* (Perrin et al. 2014).

4.4.2 All finds encountered will be retained on site before returning to the office where they will be identified, quantified and dated to period. A *terminus post quem* will be produced for each stratified context and the dates used to help determine the broad date phasing for the site. On completion of the fieldwork, the finds will be cleaned and packaged according to standard national guidelines (CIFA 2020c). Please note, after quantification and assessment by the appropriate specialists, the following categories of materials will be discarded after a period of six months following the submission of the archaeological fieldwork report, unless there is a specific request to retain them (and subject to the collection policy of the relevant depository):

- where unstratified;
- modern pottery;
- Material that has been assessed and has no clear reason for retention.

4.4.3 The primary archive records will clearly state how all artefact assemblages have been recovered, sub-sampled and processed.

4.5 Treatment of treasure

- 4.5.1 Finds falling under the statutory definition of treasure (as defined by the Treasure Act of 1996 and later revisions) would be reported immediately to the relevant Coroner's Office, the landowner/client and the Planning Archaeologist. A treasure receipt (obtainable from either the FLO or the DCMS website) would be completed and a report submitted to the Coroner's Office and the FLO within 14 days of understanding that the find is treasure. Failure to report within 14 days of discovery is a criminal offence.
- 4.5.2 The treasure receipt and report would include the date and circumstances of the discovery in addition to the identity of the finder (put as PCA/site contractor) and the location of the find in relation to Ordnance Survey.

4.6 Palaeoenvironmental Sampling

- 4.6.1 A structured programme of palaeoenvironmental sampling appropriate to the specific aims of the project will be implemented. The strategy and methodology for the sampling of deposits will be in accordance with English Heritage (now Historic England) Centre for Archaeology Guidelines "*Environmental Archaeology – A guide to the theory and practice of methods, from sampling and recovery to post-excavation*" (2011).
- 4.6.2 Where deposits are dry, bulk samples for the recovery of charred plant remains, small bones and finds, will be taken from sealed and datable features such as pits, ditches, hearths and floors. Each context will be sampled in isolation. The size of the sample is expected to be in the range of 40 litres per context or 100% of smaller contexts. Samples will not be taken from the intersection of features or where context horizons are not fully defined.
- 4.6.3 Where deposits are wet, waterlogged or peaty, monoliths will be taken along cleaned vertical surfaces for the retrieval of pollen, diatoms, ostracods and foraminifera. The numbers to be taken will be agreed

with the client and the Planning Archaeologist. Where bulk samples are to be taken a minimum of 20 litres will be taken from visible layers or spits for the retrieval of plant macro-remains and insects.

- 4.6.4 Environmental samples from dry deposits will normally be processed by floatation following the fieldwork and the residues will be sorted to retrieve small bones, small finds and charcoal that has not floated. Environmental samples from wet deposits will normally be sent to specialists for processing in laboratory conditions.
- 4.6.5 Where guidance is relevant the appropriate English Heritage (now Historic England) papers will be followed (EH 2005; 2006; 2007 & 2011).

5 ACCESS AND SAFETY

- 5.1.1 Access to the site will be arranged in coordination and agreement with the client and suitable welfare provision will be made available.

- 5.1.2 All relevant health and safety legislation, regulations and codes of practice will be respected. The Health and Safety policies will be those of Pre-Construct Archaeology Ltd. and in accordance with all statutory regulations. A Health & Safety Risk Assessment for the site will be produced and made available to all staff.

- 5.1.3 There is a duty of care for the client to provide all information reasonably obtainable on contamination and the location of live services before site works commence.

6 STAFFING

6.1 Staffing and Support

6.1.1 The project will be managed and led by Jonathan Webster, Project Manager at PCA Warwick who will ensure all staff are familiarised with the site, the archaeological background of the area and the ground conditions to maximise the effectiveness of the archaeological investigations.

6.1.2 The following staff will form the project team as appropriate:

- 1x Project Manager
- 1x Archaeological Supervisor
- 1x Archaeological Surveyor
- 2x Archaeological Technicians
- 1x Finds Supervisor
- 1x Palaeo-environmental Supervisor
- 1x Illustrator for post-excavation work.

7 REPORTING

7.1.1 Upon completion of the archaeological fieldwork an appropriate assessment report will be undertaken to go through the results of the investigations, a draft of which be supplied to the client for comment in the first instance. Once approved by the client a copy of the report will be forwarded to the Gloucester City Council planning archaeologist for comment before formal submission to the Local Planning Authority.

7.1.2 Should little or no archaeology be revealed during the archaeological investigations then it is expected that the production and submission of a suitable report will be completed within three weeks of the completion of fieldwork. If significant and/or substantial archaeological deposits are revealed, then one of two approaches will be agreed with the Local Planning Authority as appropriate;

- The production of a full 'grey literature report' within six months of the completion of the archaeological site works. Or;
- The submission of a post-excavation assessment within six months of the completion of the archaeological site works that will include an appropriate timescale for publication in an appropriate journal.

7.1.3 The following specialists will be utilised during the post-excavation assessment as required.

- Animal Bone – Karen Deighton or Kevin Reilly
- Human Bone - James Langthorne
- Prehistoric Pottery – Sarah Percival
- Roman Pottery – Eniko Hudak or Alex Beeby
- Post Roman Pottery – Berni Seddon or Chris Jarrett
- Ceramic Building Material, Stone and Structural Daub - Kevin Hayward
- Fired Clay Objects - Berni Seddon
- Slag and Industrial Waste - Gary Taylor
- Clay Tobacco Pipe and Glass - Gary Taylor or Chris Jarrett

- Coins – Murray Andrews
- Small/Metal Finds – Marit Gaimster
- Lithics – Barry Bishop
- Environmental Archaeology – Kate Turner

7.1.4 All post-excavation investigations will be undertaken in accordance with the guidelines contained in Historic England's *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide* (Historic England 2015).

7.1.5 Once an appropriate report has been submitted and accepted, PCA will supply one digital and one physical copy of the report for inclusion in the Gloucestershire Historic Environment Record (GHER) along with an appropriate shapefile of the site plan 'as excavated'. Contingency will be made for the publication of results. In addition to this, a summary account of the work will be submitted to the editors of any relevant period journals as agreed by the Planning Archaeologist.

8 OWNERSHIP OF FINDS, STORAGE AND CURATION OF ARCHIVE

- 8.1.1 Prior to the start of the investigations, PCA will seek the transfer title of ownership of the complete project archive to a suitable local depository as approved with the local planning authority. This will be undertaken by issuing a "Deeds of Transfer Agreement" form and requesting an accession number. The site archive will then be deposited with the depository as required by the planning authority.
- 8.1.2 During post-excavation assessment all artefactual material recovered will be held in storage by PCA Warwick. Transfer of title and the transfer of the ownership of the archive to the County Archive Facility or any other local registered depository will be arranged at once a full understanding of the archive size is known, and the arrangements will be indicated in the archaeological investigations fieldwork report.
- 8.1.3 PCA will recommend that ownership of all such archaeological finds will be given over to the relevant authority to facilitate future study and ensure proper preservation of all artefacts. In the unlikely event that artefacts of significant monetary value are discovered, and if they are not subject to Treasure Act legislation separate ownership arrangements may be negotiated.
- 8.1.4 The project archive shall be compiled in accordance with the guidelines contained in *Guidelines for the Preparation of Excavation Archives for Long term Storage* (Brown 2011), the *Standard Guide to Best Practice for Archaeological Archiving in Europe* (Perrin et al 2014) and the *Gloucestershire Archaeological Archive Standards* (SWM 2018).
- 8.1.5 A copy of the report will accompany the archive when it is deposited.
- 8.1.6 The Gloucestershire Historic Environment Record is registered with the Online Access to Index of Archaeological Investigations (OASIS) project. PCA will provide appropriate details relating to this project by completing the OASIS form at <http://ads.ahds.ac.uk/project/oasis>, in accordance with the guidelines provided by Historic England and the Archaeology Data Service.

9 MONITORING AND LIAISON

- 9.1.1 PCA will allow the site and all records to be inspected and examined at any reasonable time during or after the archaeological fieldwork by the client or any designated representative of the Local Planning Authority.

- 9.1.2 PCA will liaise closely with the client and the Planning Archaeologist throughout the course of the project and will arrange for onsite meetings at key decision points, if necessary.

10 FURTHER CONSIDERATIONS

10.1 Insurance

- 10.1.1 Pre-Construct Archaeology Ltd is covered by Public and Employer's Liability Insurance. Professional Indemnity £5,000,000 RSA (Saturn) P8531NAECE/1026, Public & Products Liability £10,000,000 Aviva & Towergate Underwriting, 24765101CHC/000133, EOL001198/0104, Employers Liability £10,000,000 Aviva 24765101CHC/000133.

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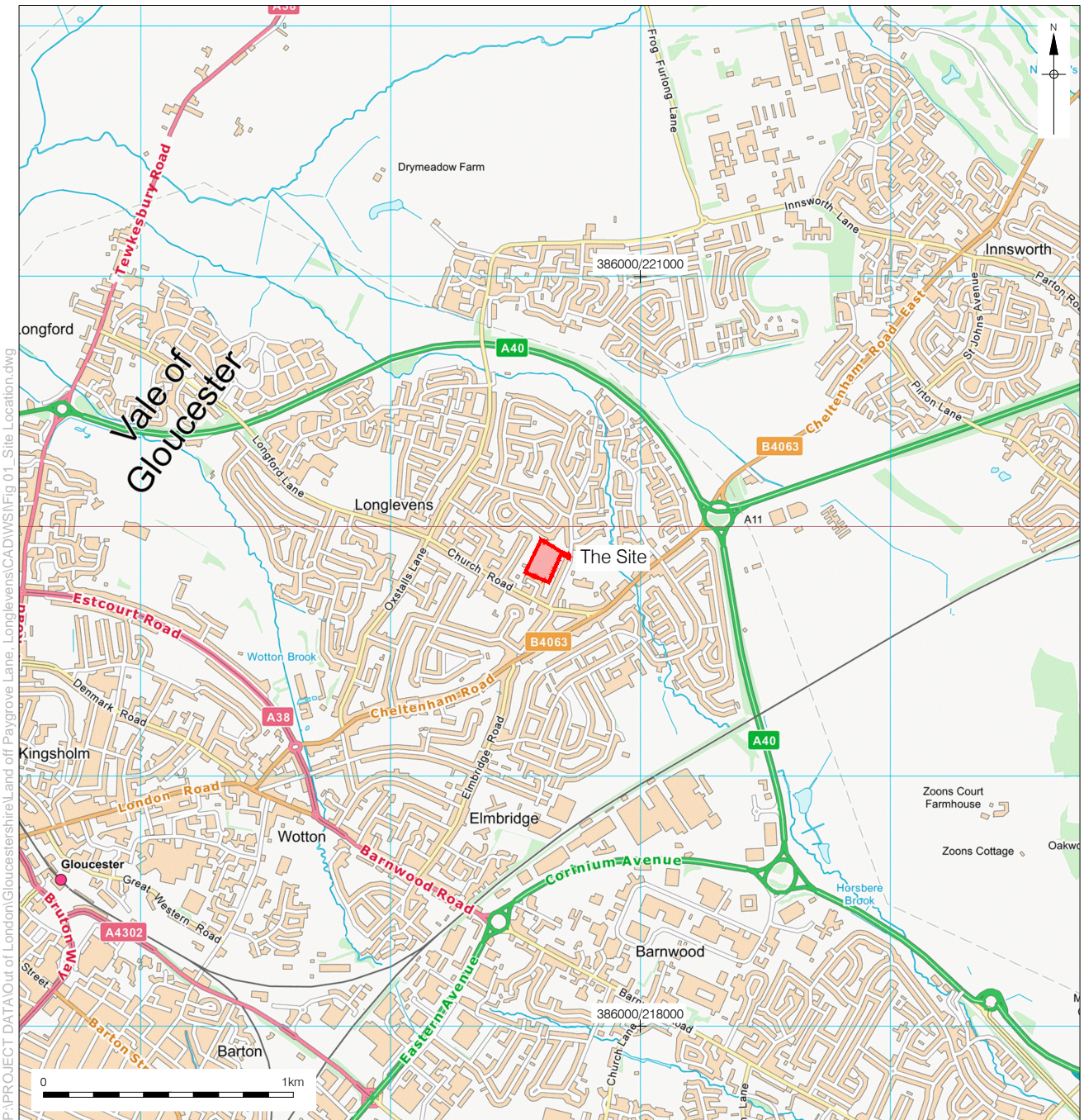
www.bgs.ac.uk

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www.landis.org.uk/soilscales/

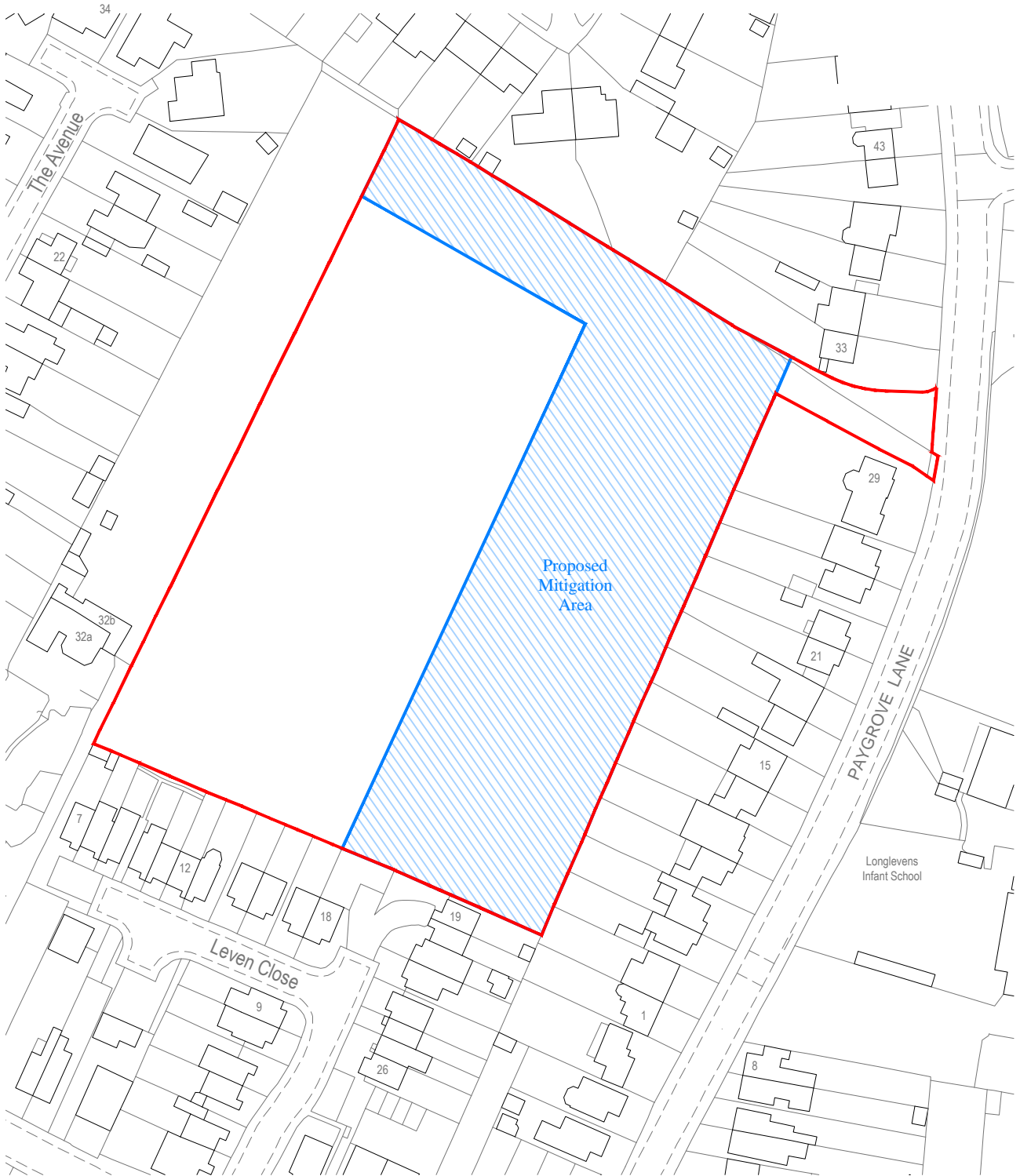
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<http://www.british-history.ac.uk> (accessed 13/01/2022).





385625/219980
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385625/219715
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Figure 2
Detailed Site Plan showing the Proposed Mitigation Area
1:1,250 at A4

PCA

PCA CAMBRIDGE

THE GRANARY, RECTORY FARM
BREWERY ROAD, PAMPISFORD
CAMBRIDGESHIRE CB22 3EN



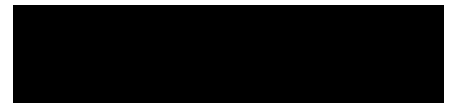
PCA DURHAM

THE ROPE WORKS
BROADWOOD VIEW
CHESTER-LE-STREET
DURHAM DH3 3AF



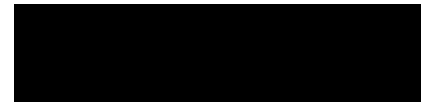
PCA LONDON

UNIT 54, BROCKLEY CROSS BUSINESS CENTRE
96 ENDWELL ROAD, BROCKLEY
LONDON SE4 2PD



PCA NEWARK

OFFICE 8, ROEWOOD COURTYARD
WINKBURN, NEWARK
NOTTINGHAMSHIRE NG22 8PG



PCA NORWICH

QUARRY WORKS, DEREHAM ROAD
HONINGHAM
NORWICH NR9 5AP



PCA WARWICK

2 PLESTOWES BARN, HAREWAY LANE
BARFORD, WARWICK
WARWICKSHIRE CV35 8DD



PCA WINCHESTER

5 RED DEER COURT, ELM ROAD
WINCHESTER
HAMPSHIRE SO22 5LX



Land to Rear of Paygrove Lane, Gloucester

Technical Note – Reserved Matters

21-0760

February 2022

1. Introduction

- 1.1 Cotswold Transport Planning Ltd (CTP) have been appointed by Cotswold Oak Ltd to provide a Technical Note (TN) in support of a reserved matters planning application for the residential development and associated open space on land to the rear of Paygrove Lane, Gloucester.
- 1.2 The application site benefits from outline planning permission, granted in December 2016 by GCC under LPA Ref: 16/01558/OUT, for the construction of up to 10no. dwellings with associated parking and landscaping and public open space. By virtue of planning permission being granted, the principle of development has been established at the site and the immediate local highway network has been assessed as suitable to accommodate additional vehicular trips and the general area is suitable in transport terms.
- 1.3 For the outline application, access was offered for consideration as part of the outline consent and has been approved. Vehicle and pedestrian access is proposed from Paygrove Lane on the eastern boundary of the site.
- 1.4 As such, this report has been prepared to detail the reserved matters application for the internal layout of the development and to confirm the suitability of access arrangements.
- 1.5 Overall, this TN demonstrates that the application site access arrangements are safe and suitable for the proposed development and shall not result in a significant impact on the local highway network, and the internal layout arrangements accord with GCC's Manual for Gloucestershire Streets (MfGS) guidance.

2. Site Location

- 2.1 The site consists of a 1.4ha playing field to the rear of 3 - 29 Paygrove Lane, Gloucestershire, which is located approximately 2.5km north-east of Gloucester City Centre.
- 2.2 A site location plan is contained in **Appendix B**.



3. Development Proposals

- 3.1 As mentioned above, outline planning permission for the erection of up to 10 dwellings, public open space and associated works was granted in 2016 (LPA ref: 16/01558/OUT).
- 3.2 The proposed site layout plan is included at **Appendix C**.

4. Site Access Arrangements

Vehicular Access

- 4.1 As part of the outline planning permission for the site (LPA ref: 16/01558/OUT), the access arrangements were approved from Paygrove Lane.
- 4.2 It is also noted that there have been changes in GCC's local guidance since the grant of planning permission. As a result, the access arrangements have been updated and amended to accord with the most recent MfGS Guidance, which in turn has resulted in a new traffic survey being undertaken, and updated visibility splay requirements.
- 4.3 At the bell mouth, the access has been widened from 4.8m to 6.8m, in accordance with MfGS, to accommodate two-way vehicle movement between a refuse vehicle and a car to reduce any potential conflict with traffic associated with Longlevens Infant School and Paygrove Lane that also serves as a local bus route.
- 4.4 The proposed access arrangements are provided at **Appendix D**.

Proposed Off-site Highway Works

- 4.5 Firstly, the existing access to 33 Paygrove lane will be relocated approximately 2.5m north, as shown in **Appendix D**, in order to accommodate the amended access arrangements.
- 4.6 Secondly, the existing traffic calming measure, in the form of a speed cushion, will be relocated approximately 14m north, see **Appendix D**, in order to accommodate the site access arrangements.

Vehicular Visibility Splay Assessment

- 4.7 To demonstrate that the access is suitable to accommodate the forecast development traffic, a review of the required visibility has been undertaken due to updated



guidance contained in MfGS since the grant of the original outline planning application.

- 4.8 A traffic survey was undertaken in the form of an Automatic Traffic Count (ATC) by 360 TSL Ltd, an independent traffic surveyor, on Paygrove Lane, in the vicinity of the proposed site access.
- 4.9 The ATC survey was undertaken during term time between Wednesday 17th November 2021 and Tuesday 23rd November 2021.
- 4.10 The full results of the traffic surveys are included as **Appendix E** and the average and 85th percentile vehicle speeds are provided in **Table 4.1**.

Direction	Average Speeds (mph)	85 th ile Speeds (mph)
Northbound	18.3mph	22.1mph
Southbound	16.5mph	20.3mph

Table 4.1: Summary of Vehicle Speeds on Paygrove Lane

- 4.11 The ATC recorded 85th percentile speeds of 22.1mph northbound and 20.3mph southbound.
- 4.12 As the average speeds are below 40mph, and the 85th percentile speeds are below 37mph, a deceleration rate visibility parameter of 3.68m/s and a 1.5 second reaction time have been applied, in accordance with Table 10.1 of Manual for Streets 2 (MfS2).

Northbound

- i) 85th Percentile (Design Speed): 22.1 mph
- ii) Reaction Time: 1.5 seconds; and
- iii) Deceleration Rate: 3.68m/s.

Southbound

- iv) 85th Percentile (Design Speed): 20.3mph
- v) Reaction Time: 1.5 seconds; and
- vi) Deceleration Rate: 3.68m/s.

- 4.13 With regards to 'X' distance, the standard 2.4m has been used.
- 4.14 Using the 85th percentile speeds detailed above, the required visibility splays, based on the recommended parameters from the centreline of proposed access, are 24.8m



to the north, to account for southbound speeds, and 28.08m to the south, to account for northbound speeds.

- 4.15 An access visibility arrangement drawing, provided at **Appendix F**, demonstrates the required emerging visibility splays can be achieved from the access. The drawing also demonstrates that suitable visibility splays can also be provided for the relocated access serving No. 33 Paygrove Lane.
- 4.16 To assess the suitability of the access to accommodate the anticipated vehicle movements associated with the proposed development, a swept path analysis assessment has been undertaken.
- 4.17 Vehicle swept path drawings are provided at **Appendix G** to demonstrate that a refuse vehicle and car and two cars can pass simultaneously at the junction.
- 4.18 On this basis the proposed access arrangement in the form of a priority junction with Paygrove Lane are safe and suitable to serve the proposed development.

Pedestrian Access

- 4.19 Pedestrian access to the application site will be from Paygrove Lane. A 2m footway is provided along the southern side of the carriageway and 1m margin is provided on the northern side of the carriageway in accordance with MfGS.

Internal Arrangements

- 4.20 The internal layout has been designed in accordance with the MfGS design criteria for 'Pedestrian Prioritised Streets'. MfGS sets out the criteria for a 'Pedestrian Prioritised Street, as follows:
- i) A maximum design speed of 15mph;
 - ii) A carriageway width between 4.1m – 6.2m (if a bus route);
 - iii) Footways are to be 2m both sides or 1m where there is no frontage access;
 - iv) Cycleways are to be on street; and
 - v) On-street parking to be facilitated through localised carriageway widening.
- 4.21 The internal layout has been designed to achieve a maximum design speed of 15mph and comprises a 2m footway on the eastern side fronting the dwellings and 1m margin on the western side adjacent to the open space. A dropped kerb and tactile



paving is provided adjacent to plot 1 to facilitate access to the open space and parking area.

- 4.22 The internal access road includes a bend to the north-west of Plot 1 and the presence of such a feature acts as natural traffic calming within the development, reducing speeds of vehicles as they travel around the bend. A build out is proposed at mid-point adjacent to plot 4, with on street visitor parking bays and changes in the alignment of the carriageway in order to achieve a design speed of 15mph.
- 4.23 In order to demonstrate that the access to the car parking area serving the open space and pedestrian crossing point has suitable levels of visibility a drawing has been provided at **Appendix H** that demonstrates the car parking area access visibility splays of 2.4m x 15m and pedestrian visibility splays of 1.5m x 15m based on the internal design speed of 15mph.
- 4.24 To assess the suitability of the internal layout to accommodate the anticipated vehicle movements associated with the proposed development, swept path analysis has been undertaken.
- 4.25 The swept path drawings provided at **Appendix G** demonstrate that a refuse vehicle and car can suitably access, egress and turn within the site. Inter-visibility has also been demonstrated where the refuse vehicle and car cannot pass on the internal bend and at the turning head.

Parking

- 4.26 Residential parking standards are set out in MfGS Addendum (2021) and the following are the minimum requirements:
- i) One-bed / Two-bed dwellings – one space;
 - ii) Three-bed / Four-bed dwellings – two spaces; and
 - iii) Five-bed dwellings – three spaces.
- 4.27 The proposed layout provides two parking spaces for the two, three and four bed dwellings and three spaces for the five-bed dwelling that accords with MfGS.
- 4.28 MfGS requires a minimum of one visitor car parking space per five dwellings. Five dedicated visitor parking spaces are provided to also take account of any variation in car ownership/parking demand from the four-bed dwellings.



- 4.29 The proposed site layout plan provided at **Appendix C**, indicates that 22 spaces will be provided for the public open space, including three accessible parking bays.
- 4.30 It has been demonstrated that the proposed parking provision meets the guidance provided in MfGS.

Electric Vehicle Charging

- 4.31 Guidance contained within MfGS states that *'all new dwellings which provide car parking should be fitted with electric vehicle charging infrastructure.'* As such, the dwellings will be provided with active electric vehicle charging facilities, in accordance with MfGS guidance.

Cycle Parking

- 4.32 In terms of the level of cycle parking provision proposed on-site, MfGS refers to LTN1/20 - Cycle Infrastructure Design, stating *'the ratios in table 11-1 should be applied'*.
- 4.33 Table 11-1, within the LTN 1/20 – Cycle Infrastructure Design, states that for residential land-use, a minimum of one cycle space should be provided per bedroom.
- 4.34 A minimum of one cycle parking space per bedroom is therefore to be provided within the proposed garages, which will be sheltered, secure and easily accessible.
- 4.35 Cycle parking will be provided in accordance with LTN 1/20 and MfGS (2021) guidance.

Servicing and Delivery

- 4.36 The internal layout has been designed to accommodate the typical servicing requirements for residential developments.
- 4.37 Refuse collection will take place on site via the internal access road. Swept path analysis drawings demonstrating the suitability of the internal layout to enable a refuse vehicle to manoeuvre internally is shown at **Appendix G**. The internal layout provides adequate turning space within the site, which allows refuse vehicles to access and egress the site in a forward gear.



5. Conclusion

- 5.1 CTP have been appointed by Cotswold Oak Ltd to provide a Technical Note (TN) in support of a reserved matters planning application for the residential development and associated open space on land to the rear of Paygrove Lane, Gloucester
- 5.2 This TN demonstrates that the application site access arrangements are safe and suitable for the proposed development and shall not result in a significant impact on the local highway network, and the internal layout arrangements accord with GCC's Manual for Gloucestershire Streets (MfGS) guidance.
- 5.3 CTP concludes that approval of the reserved matters planning application will not result in a severe or unacceptable impact upon the safety or operation of the surrounding local highway network, and as such there are no significant highways and transportation matters that would preclude Gloucestershire County Council from supporting this planning application.

Appendices

Appendix A Decision Notice 16/01558/OUT

Appendix B Site Location Plan

Appendix C Proposed Site Layout

Appendix D Proposed Site Access Arrangement

Appendix E Traffic Survey

Appendix F Site Access Visibility Splay Arrangement

Appendix G Vehicle Swept Paths

Appendix H Car Park Access and Pedestrian Crossing Point Visibility Splay Arrangement



COTSWOLD
TRANSPORT
PLANNING

Appendix A

Decision Notice 16/01558/OUT

APPLICATION NO: 16/01558/OUT
VALIDATED ON: 21st December 2016

TO:

Gloucestershire County Council
c/o Mr Chris Gentle
Roberts Limbrick Ltd
The Carriage Building
Bruton Way
Gloucester
GL1 1DG

TOWN AND COUNTRY PLANNING ACT 1990
TOWN AND COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE)
(ENGLAND) ORDER 2015

Location: Playing Field Rear 3-29, Paygrove Lane, Gloucester,

Proposal: Outline application (with means of access offered for consideration) for residential redevelopment of up to 10 dwellings and public open space including associated landscaping, car parking and access.

In pursuance of its powers under the above-mentioned Act and Order the City Council as the Local Planning Authority **GRANT OUTLINE PERMISSION** for the development described above in accordance with the terms of the above application and the plan/s submitted therewith subject to the following conditions:

Condition 1

Approval of the details of the appearance, landscaping, layout and scale of the development (hereinafter called "the reserved matters") shall be obtained in writing from the Local Planning Authority prior to the commencement of development except as provided for by other conditions.

Reason

To comply with the requirements of Section 91 of the Town and Country Planning Act 1990 as amended by Section 51 of the Planning and Compulsory Purchase Act 2004.

Condition 2

Plans and particulars of the reserved matters referred to in condition 1 above shall be submitted in writing to the Local Planning Authority and shall be carried out as approved.

Reason

Required to be imposed by Section 92 of the Town and Country Planning Act 1990.

Condition 3

Application for approval of the reserved matters shall be made to the Local Planning Authority before the expiration of 5 years from the date of this permission.

Reason

Required to be imposed by Section 92 of the Town and Country Planning Act 1990.

Condition 4

The development hereby permitted shall begin either before the expiration of 5 years from the date of this permission, or before the expiration of 2 years from the date of approval of the last of the reserved matters to be approved, whichever is the later.

Reason

Required to be imposed by Section 92 of the Town and Country Planning Act 1990.

MAXIMUM PARAMETERS**Condition 5**

The development shall comprise no more than 10 no. residential units.

Reason

To define the terms of this permission.

Condition 6

The scale of development shall be no greater than two storeys.

Reason

To secure the maximum scale parameters in the application in the interests of preserving the character and appearance of the area and the amenities of neighbouring residents in accordance with Paragraphs 17 and 58 of the NPPF, Policies BE.1, BE.7, BE.17 and BE.21 of the 2002 City of Gloucester Second Deposit Local Plan, and Policies SD5 and SD15 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017.

DESIGN**Condition 7**

No above ground construction of a building shall be commenced until details of all building facing materials and finishes for that building have been submitted to and approved in writing by the Local Planning Authority. Development shall be carried out in accordance with the approved details.

Reason

To ensure that the materials and exterior building components are appropriate to their context, in accordance with Policy SD5 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017, Paragraphs 17 and 58 of the National Planning Policy Framework and Policy BE.7 of the Second Deposit City of Gloucester Local Plan (2002).

Condition 8

Street and open space furniture, screen walls, fences/railings and other means of enclosure shall be implemented only in accordance with details (set out on scaled plans in elevation and layout) that have been submitted to and approved in writing by the Local Planning Authority. Boundary treatments shall be designed so as not to compartmentalise areas of the site, to allow for the passage of small mammals.

Reason

In the interests of privacy and security, to ensure that the design and materials are appropriate to their context, and to secure biodiversity mitigation and enhancement in accordance with Policies SD5, SD10, SD15 and INF4 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017, Paragraphs 17, 58, 109 and 118 of the National Planning Policy Framework and Policies BE.5, BE.7 and B.8 of the Second Deposit City of Gloucester Local Plan (2002).

LANDSCAPE

Condition 9

No development including demolition or site clearance shall be commenced on the site or machinery or material brought onto the site for the purpose of development until full details of adequate measures to protect trees and hedgerows have been submitted to and approved in writing by the local planning authority. These shall include:

- A.** Fencing. Protective fencing must be installed around trees and hedgerows to be retained on site. The protective fencing design must be to specifications provided in BS5837:2005 or subsequent revisions, unless agreed in writing with the local planning authority. A scale plan must be submitted and approved in writing by the local planning authority accurately indicating the position of protective fencing. No development shall be commenced on site or machinery or material brought onto site until the approved protective fencing has been installed in the approved positions and this has been inspected on site and approved in writing by the local planning authority. Such fencing shall be maintained during the course of development,
- B.** Tree Protection Zone (TPZ) The area around trees and hedgerows enclosed on site by protective fencing shall be deemed the TPZ. Excavations of any kind, alterations in soil levels, storage of any materials, soil, equipment, fuel, machinery or plant, citing of site compounds, latrines, vehicle parking and delivery areas, fires and any other activities liable to be harmful to trees and hedgerows are prohibited within the TPZ, unless agreed in writing with the local planning authority. The TPZ shall be maintained during the course of development

Reason

To ensure adequate protection to existing trees which are to be retained and to retain habitat, in the interests of the character and amenities of the area and protecting biodiversity in accordance with Policies SD10 and INF 4 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017, Paragraphs 17, 109 and 118 of the National Planning Policy Framework and Policies B.8, B.10 and BE.4 of the Second Deposit City of Gloucester Local Plan (2002). Receipt of details pre-commencement is necessary to fully protect retained trees.

Condition 10

The approved landscaping details shall be carried out in full concurrently with the development and shall be completed no later than the first planting season following the completion of the buildings. The planting shall be maintained for a period of 5 years following implementation. During this time any trees, shrubs or other plants which are removed, die, or are seriously damaged shall be replaced during the next planting season with others of similar size and species unless the local planning authority gives written consent to any variation. If any plants fail more than once they shall continue to be replaced on an annual basis until the end of the 5 year maintenance period.

Reason

To ensure a satisfactory and well planned development and to preserve and enhance the quality of the environment, in accordance with Policies BE.4 and BE.12 of the Second Deposit City of Gloucester Local Plan (2002), Policy SD5 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017 and Paragraphs 17 and 58 of the NPPF.

ARCHAEOLOGY**Condition 11**

No development shall take place within the application site until the applicant, or their agents or successors in title, has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved in writing by the Local Planning Authority.

Reason

To make provision for a programme of archaeological mitigation, so as to record and advance understanding of any heritage assets which will be lost, in accordance with paragraph 141 of the National Planning Policy Framework, Policy SD9 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017 and Policies BE.36, BE.37 & BE.38 of the Gloucester Local Plan (2002 Second Stage Deposit). This is necessary pre-commencement of development due to the potential harm to heritage assets from early phase works.

ECOLOGY**Condition 12**

Bird and bat boxes (or facilities of a similar nature) shall be installed in accordance with details to be submitted to and approved in writing by the Local Planning Authority. They shall be installed in full in accordance with the approved details prior to occupation of the respective buildings or prior to the end of the first planting season following completion of the development in the event of tree-mounted fittings.

Reason

To secure biodiversity mitigation and enhancement in accordance with Policies SD10 and INF 4 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017, Paragraphs 17, 109 and 118 of the NPPF and Policy B.8 of the 2002 City of Gloucester Second Deposit Local Plan.

Condition 13

No development shall commence until a site walkover survey has been undertaken by a qualified ecologist to investigate the presence of newts on the site and the results have been submitted to the Local Planning Authority. If their presence is confirmed no development shall commence until a mitigation strategy has been submitted to and approved in writing by the Local Planning Authority (including a timetable for its implementation) and the approved strategy shall thereafter be implemented in accordance with its terms.

Reason

To mitigation potential impact on biodiversity in accordance with Policies SD10 and INF 4 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017, Paragraphs 17, 109 and 118 of the NPPF and Policy B.8 of the 2002 City of Gloucester Second Deposit Local Plan.

DRAINAGE

Condition 14

No development shall commence on site until a detailed scheme for the disposal of surface water that employs a SuDS strategy has been submitted to and approved in writing by the Local Planning Authority. The submission must demonstrate the technical feasibility/viability of the drainage system through the use of SuDS to manage the flood risk to the site and elsewhere and the measures taken to manage the water quality for the life time of the development. The drainage scheme shall be carried out in accordance with the approved details and completed in full prior to occupation of the development.

The drainage scheme shall include the following;

- The peak surface water discharge rate from the site for all events up to the critical duration 1 in 100 year (+ 40% climate change) event shall not exceed 3.9 l/s.
- The above rate includes runoff captured from all permeable and impermeable areas within the red line boundary. If the drained area is reduced in size, then the permissible discharge rate shall be re-calculated.
- The SuDS design shall ensure that surface water runoff from the field across the whole of the north boundary is captured.
- The SuDS design shall accommodate as much of the required attenuation volume as possible in a swale. The swale shall not occupy a width of more than 7 metres and shall have side slopes as shallow as possible (not exceeding 1 in 5 on any side facing a playing pitch on the site).
- Any attenuation volume which cannot be accommodated within the swale shall be accommodated within a secondary attenuation feature at a location to be specified.

Reason

To ensure that the development is provided with a satisfactory means of drainage as well as to reduce the risk of creating or exacerbating a flooding problem and to minimise the risk of pollution, in accordance with Policies FRP.1a, FRP.6, FRP.11 of the City of Gloucester Second Deposit Local Plan 2002 Policy INF3 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017 and Paragraph 103 of the NPPF. Details are required pre-commencement given the potential impact on the possible drainage design of early phase works.

Condition 15

No building shall be occupied until a SuDS management and maintenance plan for any SuDS/attenuation features and associated pipework has been submitted to and approved in writing by the Local Planning Authority. The approved SuDS maintenance plan shall be implemented in full in accordance with the agreed terms and conditions and shall operate for the lifetime of the development.

Reason

To ensure that the development is provided with a satisfactory means of drainage as well as to reduce the risk of creating or exacerbating a flooding problem and to minimise the risk of pollution, in accordance with Policies FRP.1a, FRP.6, FRP.11 of the City of Gloucester Second Deposit Local Plan 2002 Policy INF3 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017 and Paragraph 103 of the NPPF.

Condition 16

No development shall commence until a comprehensive scheme for the provision of works for the disposal of foul sewage has been submitted to and approved in writing by the Local Planning Authority. The approved scheme shall thereafter be implemented to serve the development, and no buildings shall be occupied until satisfactory foul water drainage facilities for these buildings are in place and operational.

Reason

To ensure that the development is provided with a satisfactory means of drainage as well as to reduce the risk of creating or exacerbating a flooding problem and to minimise the risk of pollution, in accordance with Policies FRP.1a, FRP.6, FRP.11 of the City of Gloucester Second Deposit Local Plan 2002 Policy INF3 of the Joint Core Strategy Main Modifications 2017 and Paragraph 103 of the NPPF.

ENVIRONMENTAL HEALTH

Condition 17

Prior to commencement of the development hereby permitted, an Environmental Construction Management Plan shall be submitted to and approved in writing by the Local Planning Authority which specifies mitigation measures in respect of the following issues (including preparatory groundworks) in order to prevent nuisance. The development shall not be commenced until the approved plan has been made fully operational, and thereafter it shall be operated and maintained for the full duration of the construction phase. The scheme shall include details of how dust will be qualitatively monitored:

- 1 Dust from demolition
- 2 Dust from groundworks
- 3 Dust from haul roads
- 4 Dust from stockpiles and material handling/removal
- 5 Light from security compounds
- 6 Storage of waste
- 7 Keeping highways clear of mud
- 8 Parking for contractors

Reason

To safeguard the amenities of the area and the waterway in accordance with Policies FRP.9, FRP.10, FRP.11 and BE.21 of the 2002 City of Gloucester Second Deposit Local Plan, Policy SD15 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017 and Paragraphs 17, 109, 120 and 123 of the NPPF. This is necessary pre-commencement of development due to the harm that could otherwise be caused by early-phase works.

Condition 18

Construction work and the delivery of materials shall be limited to the hours of 0800 hours to 1800 hours Monday to Friday, 0800hours to 1300hours on Saturdays and for the avoidance of doubt no construction work or deliveries shall take place on Sundays or Bank Holidays.

Reason

To safeguard the amenities of the area in accordance with Policies FRP.9, FRP.10, FRP.11 and BE.21 of the 2002 City of Gloucester Second Deposit Local Plan, Policy SD15 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017 and Paragraphs 17, 109, 120 and 123 of the NPPF.

Condition 19

Prior to the occupation of any unit hereby permitted a noise fence or fences (as may be required) shall be installed in full at the site boundary with any rear garden of a residential property adjacent to the site where that garden would be situated next to the access road of the development, in accordance with a scheme to be submitted to and approved in writing by the Local Planning Authority, and shall be maintained as such thereafter.

Reason

To safeguard the amenities of the area in accordance with Policies FRP.10, FRP.11 and BE.21 of the 2002 City of Gloucester Second Deposit Local Plan, Policy SD15 of the Joint Core Strategy Main Modification Document 2017 and Paragraphs 17, 109, 120 and 123 of the NPPF.

HIGHWAYS

Condition 20

No building on the development shall be occupied until the carriageway(s) (including surface water drainage/disposal, vehicular turning head(s) and street lighting) providing access from the nearest public highway to that dwelling have been completed to at least binder course level and the footway(s) to surface course level.

Reason

To minimise hazards and inconvenience for users of the development by ensuring that there is a safe, suitable and secure means of access for all people that minimises the conflict between traffic and cyclists and pedestrians in accordance with the National Planning Policy Framework paragraph 35 and Policy INF1 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017.

Condition 21

No works shall commence on site (other than those required by this condition) on the development hereby permitted until the first 15 metres of the proposed access road, including the junction with the existing public road and associated visibility splays, has been completed to at least binder course level.

Reason

To minimise hazards and inconvenience for users of the development by ensuring that there is a safe, suitable and secure means of access for all people that minimises the conflict between traffic and cyclists and pedestrians in accordance with the National Planning Policy Framework paragraph 35 and Policy INF1 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017.

Condition 22

No development shall take place, including any works of demolition, until a Construction Method Statement (for highways impacts) has been submitted to, and approved in writing by, the local planning authority. The approved Statement shall be adhered to throughout the construction period. The Statement shall:

- I. specify the type and number of vehicles;
- II. provide for the parking of vehicles of site operatives and visitors;
- III. provide for the loading and unloading of plant and materials;
- IV. provide for the storage of plant and materials used in constructing the development;
- V. provide for wheel washing facilities;
- VI. specify the intended hours of construction operations;
- VII. measures to control the emission of dust and dirt during construction

Reason

To reduce the potential impact on the public highway and accommodate the efficient delivery of goods and supplies in accordance paragraph 35 of the National Planning Policy Framework and Policy INF1 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017. This is required pre-commencement of development due to the harm that could otherwise be caused by early-phase works.

Condition 23

No above-ground development shall commence on site until a scheme has been submitted to, and agreed in writing by the Council, for the provision of fire hydrants (served by mains water supply) and no dwelling shall be occupied until the hydrant serving that property has been provided to the satisfaction of the Council.

Reason

To ensure adequate water infrastructure provision is made on site for the local fire service to tackle any property fire.

Condition 24

No above-ground development shall commence until details of the proposed arrangements for future management and maintenance of the proposed streets within the development have been submitted to and approved in writing by the local planning authority. The streets shall thereafter be maintained in accordance with the approved management and maintenance details until such time as either a dedication agreement has been entered into or a private management and maintenance company has been established.

Reason

To ensure that safe, suitable and secure access is achieved and maintained for all people that minimises the conflict between traffic and cyclists and pedestrians in accordance with the NPPF and Policy INF1 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017.

Condition 25

The details to be submitted for the approval of reserved matters shall include vehicular parking and turning within the site, and the building(s) hereby permitted shall not be occupied until those facilities have been provided in accordance with the approved plans and shall be maintained available for those purposes for the duration of the development.

Reason

To ensure that a safe, suitable and secure means of access for all people that minimises the conflict between traffic and cyclists and pedestrians is provided in accordance with the National Planning Policy Framework paragraph 35 and Policy INF1 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017.

Condition 26

No works shall commence on site on the development hereby permitted until details of the relocated bus stop have been submitted to and approved in writing by the Local Planning Authority and the approved works have been completed and are open to the public.

Reason

To ensure that the development is designed to give priority to pedestrian movements and provide access to high quality public transport facilities in accordance with paragraph 35 of the National Planning Policy Framework and Policy INF1 of the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Main Modifications 2017. This is necessary pre-commencement of development due to the potential highway safety issues that could otherwise arise from early-phase works.

Note 1

Reserved matters applications shall include details of any proposed levels changes with scaled plans showing existing and proposed levels for the development (including any to address a local drainage system failure). The grant of outline planning permission does not guarantee that levels changes will be acceptable.

Note 2

The applicant is advised that to discharge highways conditions the Local Planning Authority requires a copy of a completed dedication agreement between the applicant and the Local Highway Authority or the constitution and details of a Private Management and Maintenance Company confirming funding, management and maintenance regimes.

Note 3

The proposed development will involve works to be carried out on the public highway including relocation of the existing adjacent bus stop on the west side of Paygrove Lane, potentially the adjacent speed hump, gully inspection cover and school speed limit advisory sign along with access construction and the applicant/developer is required to enter into a legally binding Highway Works Agreement (including an appropriate bond) with the County Council before commencing those works.

Note 4

The developer will be expected to meet the full costs of supplying and installing the fire hydrants and associated infrastructure.

Note 5

Bats are protected under the Wildlife and Countryside Act 1981 (as amended) and also the Conservation of Habitats and Species Regulations 2010 (as amended). To avoid possible prosecution under this legislation if a bat or evidence of bats using a feature on site is discovered during operations all work which might affect the species should cease and a licensed bat consultant or Natural England contacted and the situation assessed before work can proceed. This advice note should be passed on to any person or /contractors carrying out the development.

This informative is given as a reminder to help you comply with the Wildlife & Countryside Act 1981 (as amended) and avoid possible prosecution. The Act makes it an offence to kill, injure or take any wild bird, and to intentionally remove, damage or destroy the nest of any wild bird while that nest is in use or being built. It is also an offence to take or destroy any wild bird eggs. In addition the Act states that it is an offence to intentionally or recklessly disturb any wild bird listed in Schedule 1 while it is nest building, or at (or near) a nest containing eggs or young, or disturb the dependent young of such a bird. If at any time nesting birds are observed on or close to the site then works which might affect them should cease and advice sought from a suitably qualified or experienced person. You are additionally advised that tree or shrub or hedgerow removal works should not take place between 1st March and 31st August inclusive unless a survey by a suitably qualified or experienced person to assess nesting bird activity during this period is undertaken. If it is decided on the basis of such a survey to carry out tree or shrub removal works then it should be ensured that it is done without harming nesting birds or their eggs and that this may require a suitably

qualified or experienced person being in attendance. This informative should be passed on to any persons or contractors carrying out the development.

Note 6

It is recommended that any vegetation clearance or management be carried out outside the bird nesting season of March to August. Where this is not possible, buildings and vegetation should be surveyed for nesting birds by a suitably qualified person prior to works commencing. If found, the habitat must remain intact until the young have fledged.

Note 7

In accordance with the requirements of the National Planning Policy Framework the Local Planning Authority has sought to determine the application in a positive and proactive manner by offering pre-application advice, publishing guidance to assist the applicant, and publishing to the Council's website relevant information received during the consideration of the application thus enabling the applicant to be kept informed as to how the case was proceeding.

Note 8

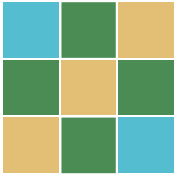
This permission is associated with a legal agreement dated 24th August 2018 and a unilateral undertaking dated 24th August 2018.

Date: 24th August 2018



City Growth & Delivery Manager

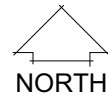
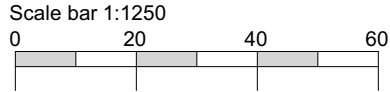
PLEASE SEE NOTES SET OUT IN THE ENCLOSED LEAFLET



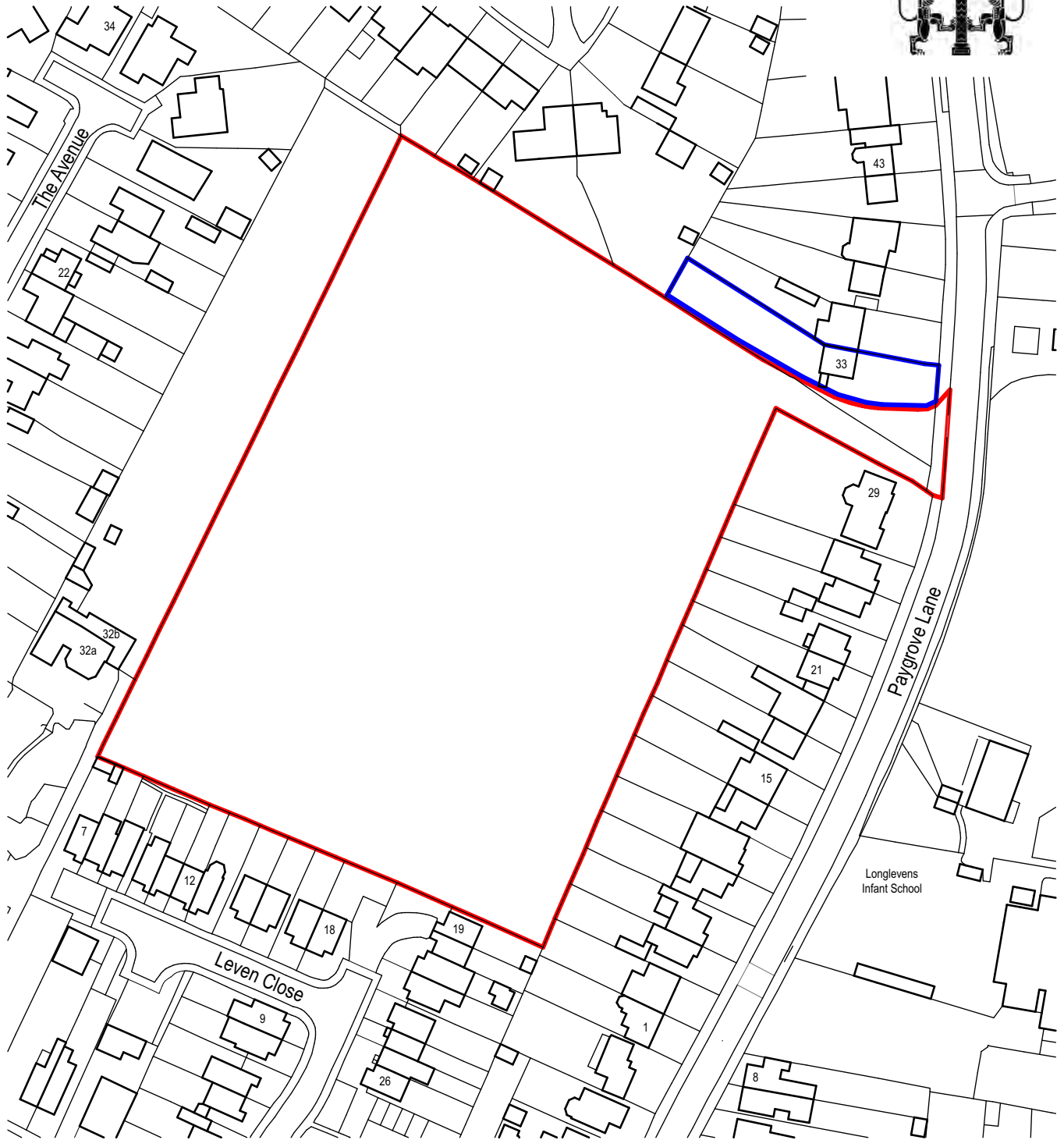
COTSWOLD
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Appendix B

Site Location Plan



RIBA
Chartered Practice



coombes : everitt architects limited
105-107 Bath Road
Cheltenham
Gloucestershire
GL53 7LE



www.ce-architects.co.uk

Drawing title: Site Location Plan

Client: Cotswold Oak Ltd

Drawn by: AH Checked: JE

Project No: 21.20.020

Project: Land at Paygrove Lane,
Longlevens

Scale: 1:1250 @ A4

Date: November 2021

Project / Drawing No: 21.20.020 SK1000A

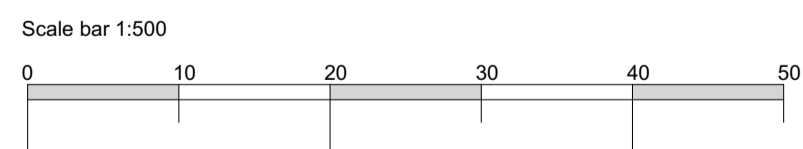


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PLANNING

Appendix C

Proposed Site Layout

Accommodation schedule					
Unit Mix					
Ref	Bedrooms	Bedspaces	Number	Off	GIFA sq/ft Total sq/ft
Lawence	2 + study	3	1		935 935
Latchford	3	6	2		1389 2778
Langley	4	7	3		1389 4167
Ranscombe	4 + study	7	2		1615 3230
Ruscombe	5	8	2		1615 3230
					14340



Preliminary

coombes : everitt architects limited
 105-107 Bath Road
 Cheltenham
 Gloucestershire
 GL53 7LE
 www.ce-architects.co.uk

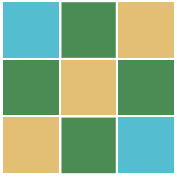
- Preliminary
- Feasibility
- Planning
- Building Regulations
- Tender
- Construction issue
- As Built

1. This drawing and content is copyright © of coombes : everitt architects limited and should not be copied without their prior written consent.
2. Do not scale drawing. all dimensions to be checked on site prior to construction and any discrepancies reported to contract administrator.
3. Do not use this drawing for setting out unless drawing specifically indicates setting out points.
4. Engineering information is indicative only and should be taken from structural engineers design.



Drawing title: Proposed Site Layout
 Client: Cotswold Oak Ltd
 Drawn by: AH Checked: JE
 Project No: 21.20.020

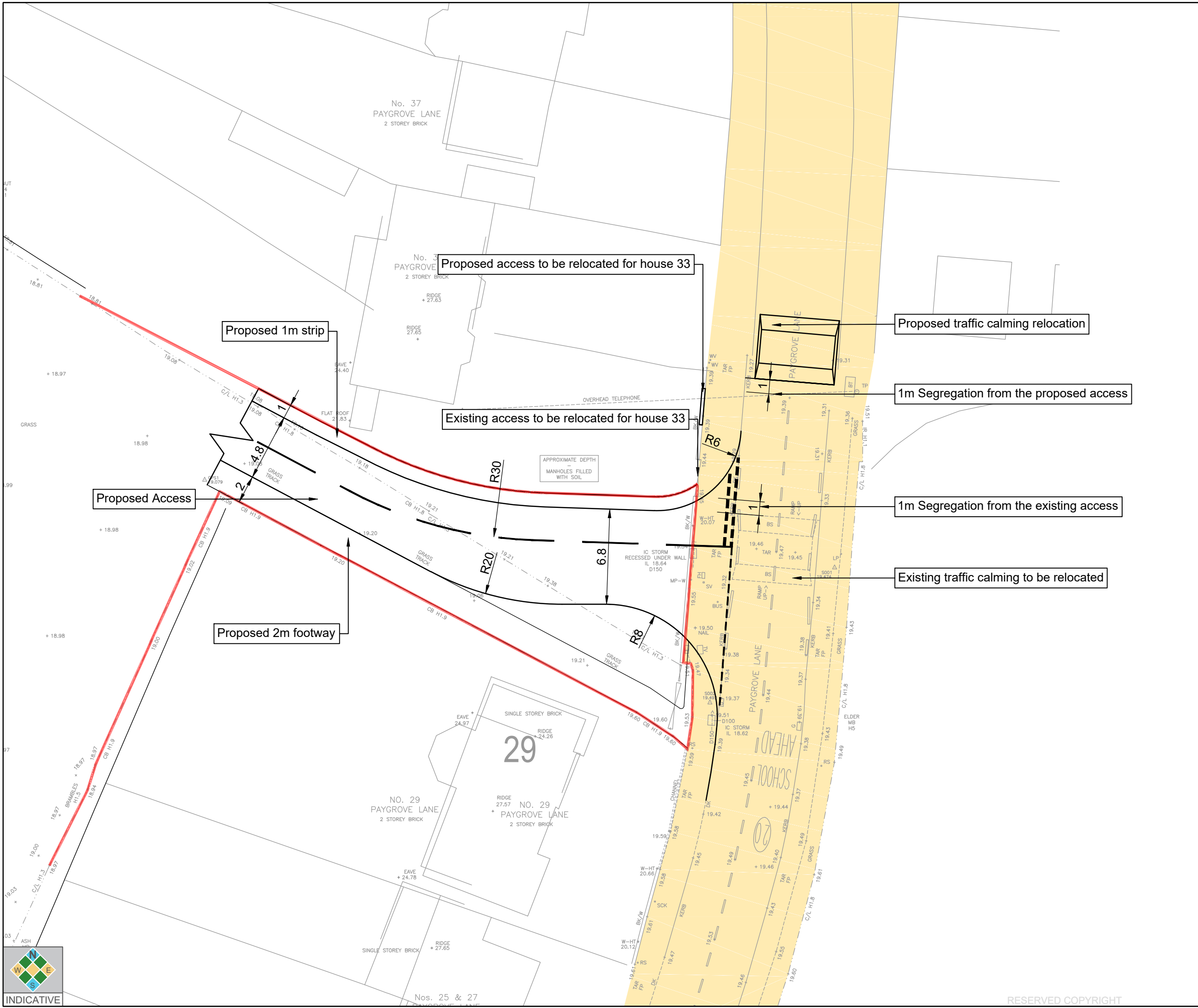
Project: Land at Paygrove Lane, Longlevens
 Scale: 1:500 @ A1
 Date: January 2022
 Project / Drawing No: 21.20.020 PL005



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Appendix D

Proposed Site Access
Arrangement



- Notes:
1. This drawing is based upon drawing number 4900-07NOV16-01 by A D Horner Limited.
 2. This drawing is based on the Architects layout (21.20.020_SK1001B) received from Coombes Everitt Architects on 04/01/2022.
 3. This drawing is based upon drawing number 21.20.020 SK003 by Cotswold Oak Ltd.
 4. Ordnance Survey, (c) Crown Copyright 2020. All rights reserved. Licence number 100022432.
 5. Highway boundary information has been provided by Gloucestershire County Council (GCC) and has been overlaid by Cotswold Transport Planning onto the topographical survey on a best fit basis.

KEY:

- Site Boundary
- Highway Boundary (Transcribed Highway Boundary based on GCC)

Rev	Date	Details	Drawn by	Checked by
A	10.01.22	Highway Boundary & Site Boundary	FA	JM



CLIENT:
Cotswold Oak Ltd

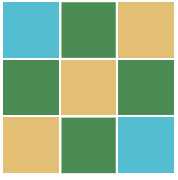
PROJECT:
Paygrove Lane, Longlevens

TITLE:
Proposed Access

STATUS:
INFORMATION

SCALE @ A3:	DATE:	DRAWN:	CHECKED:	APPROVED:
1: 250	29.11.2021	FA	JM	BQ
JOB NO:	DRAWING NO:	REVISION:		
21-0760	SK01	A		





COTSWOLD
TRANSPORT
PLANNING

Appendix E

Traffic Survey

Gloucester ATC

Direction: Northbound

Hour Beginning	Wed Nov 17	Thu Nov 18	Fri Nov 19	Sat Nov 20	Sun Nov 21	Mon Nov 22	Tue Nov 23	Day Ave.	Day Ave.
0000	1	5	5	2	10	2	2	3	4
0100	1	2	1	1	5	1	1	1	2
0200	1	1	1	0	1	0	0	1	1
0300	0	0	0	0	2	0	1	0	0
0400	0	0	1	2	1	0	0	1	1
0500	0	1	3	0	5	4	2	2	2
0600	14	14	17	6	4	19	23	17	14
0700	55	53	45	11	9	59	64	55	42
0800	99	92	77	35	36	116	81	93	74
0900	76	61	72	74	36	58	55	64	62
1000	52	46	54	76	46	54	54	56	56
1100	57	64	80	73	71	65	64	62	62
1200	61	65	87	88	86	74	62	70	75
1300	47	59	74	59	53	67	51	60	59
1400	52	74	74	53	60	74	72	69	66
1500	99	119	105	73	76	67	111	104	96
1600	103	110	104	59	66	112	108	111	92
1700	136	126	108	61	67	94	119	117	102
1800	94	77	77	63	44	75	85	82	74
1900	54	64	69	51	47	55	39	56	54
2000	37	22	33	31	24	41	29	32	31
2100	32	37	35	34	17	16	18	25	23
2200	12	9	13	23	4	13	13	12	13
2300	10	11	5	16	3	6	1	7	7
Total									
1207-121	931	946	967	725	630	935	948	943	862
1604-221	1068	1078	1101	837	722	1066	1057	1074	990
1804-241	1090	1098	1119	876	729	1085	1071	1093	1029
2404-261	1093	1107	1128	884	788	1093	1079	1100	1023
AM Peak	08:00	08:00	11:00	10:00	11:00	08:00	08:00	08:00	08:00
PM Peak	17:00	17:00	17:00	12:00	12:00	16:00	16:00	17:00	17:00
360 TSL Ltd	136	126	108	61	67	94	119	117	102

Direction: Southbound

Hour Beginning	Wed Nov 17	Thu Nov 18	Fri Nov 19	Sat Nov 20	Sun Nov 21	Mon Nov 22	Tue Nov 23	Day Ave.	Day Ave.
0000	0	1	2	1	4	2	0	1	1
0100	1	1	0	1	5	2	0	1	1
0200	1	0	0	0	2	0	0	0	0
0300	3	1	2	1	0	0	1	1	1
0400	1	0	0	0	1	1	0	0	0
0500	10	10	14	3	2	8	13	11	9
0600	31	31	25	8	6	34	40	32	25
0700	117	89	103	31	16	87	99	99	77
0800	128	147	139	61	21	155	132	140	112
0900	86	78	84	94	67	76	66	78	79
1000	79	69	64	106	88	56	81	70	78
1100	66	69	69	88	73	58	66	64	69
1200	76	66	76	104	81	57	64	68	75
1300	41	89	82	76	74	71	71	74	74
1400	56	71	87	58	76	76	73	73	71
1500	71	73	83	51	47	73	72	74	67
1600	106	91	114	56	61	99	108	104	93
1700	87	101	81	57	52	73	95	87	78
1800	72	60	76	59	41	55	66	66	62
1900	49	53	45	36	35	49	47	49	45
2000	30	29	31	18	27	27	20	27	26
2100	21	12	23	27	17	12	7	15	17
2200	8	10	11	14	4	12	7	10	9
2300	2	6	3	15	0	2	1	3	4
Total									
1207-121	1005	988	1060	843	697	936	993	996	932
1604-221	1136	1113	1184	932	782	1058	1107	1120	1045
1804-241	1146	1129	1198	961	786	1072	1115	1132	1058
2404-261	1162	1142	1216	967	800	1085	1128	1147	1071
AM Peak	08:00	08:00	08:00	10:00	10:00	08:00	08:00	08:00	08:00
PM Peak	16:00	17:00	16:00	12:00	12:00	16:00	16:00	16:00	16:00
360 TSL Ltd	106	101	114	104	81	99	108	104	91

Direction: Total Flow

Hour Beginning	Wed Nov 17	Thu Nov 18	Fri Nov 19	Sat Nov 20	Sun Nov 21	Mon Nov 22	Tue Nov 23	5 Day Ave.	7 Day Ave.
0000	1	6	7	3	14	4	2	4	5
0100	2	3	1	2	10	3	1	2	3
0200	2	1	1	0	3	0	0	1	1
0300	3	1	2	1	2	0	1	1	1
0400	1	0	1	2	2	1	0	1	1
0500	10	11	15	6	2	13	17	13	11
0600	45	45	42	14	10	53	63	50	39
0700	172	142	148	42	25	146	163	154	120
0800	227	239	216	96	37	271	213	233	186
0900	162	139	156	168	103	134	121	142	140
1000	131	115	118	182	134	110	145	124	134
1100	123	124	149	161	144	123	122	128	135
1200	137	131	163	192	167	131	126	138	150
1300	108	142	156	127	127	158	122	133	133
1400	108	145	161	111	136	150	145	142	137
1500	170	192	188	124	123	160	183	179	163
1600	209	201	218	115	127	211	206	215	188
1700	233	227	189	118	119	167	214	204	180
1800	166	127	155	122	85	130	151	148	135
1900	103	117	114	87	82	104	86	95	99
2000	67	51	64	49	51	68	49	60	57
2100	53	44	46	51	34	38	25	40	40
2200	20	19	24	37	8	25	20	22	22
2300	12	17	8	31	3	8	2	9	12
Total									
1207-121	1936	1934	2017	1568	1327	1871	1941	1940	1799
1604-221	2204	2191	2285	1769	1504	2124	2164	2194	2034
1804-241	2236	2227	2317	1837	1515	2157	2186	2225	2068
2404-261	2255	2249	2344	1851	1548	2178	2207	2247	2090
AM Peak	08:00	08:00	10:00	10:00	11:00	08:00	08:00	08:00	08:00
PM Peak	17:00	17:00	16:00	12:00	12:00	16:00	16:00	16:00	16:00
360 TSL Ltd	223	227	218	192	167	211	236	215	188



Gloucester ATC

Direction: Northbound

	Total Volume	LIGHT	OGV1	OGV2	BUS
Wed 17 Nov	1093	826	251	1	15
Thu 18 Nov	1107	828	266	0	13
Fri 19 Nov	1128	838	276	2	12
Sat 20 Nov	884	652	228	0	4
Sun 21 Nov	748	583	162	0	3
Mon 22 Nov	1093	857	225	0	11
Tue 23 Nov	1079	815	256	0	8
5 Day Ave.	1100	833	255	1	12
7 Day Ave.	1019	771	238	0	9

Direction: Southbound

	Total Volume	LIGHT	OGV1	OGV2	BUS
Wed 17 Nov	1162	1016	139	0	7
Thu 18 Nov	1142	1026	113	0	3
Fri 19 Nov	1216	1039	171	2	4
Sat 20 Nov	967	869	98	0	0
Sun 21 Nov	800	738	62	0	0
Mon 22 Nov	1085	990	90	1	4
Tue 23 Nov	1128	1009	115	2	2
5 Day Ave.	1147	1016	126	1	4
7 Day Ave.	1071	955	113	1	3

Direction: Total Flow

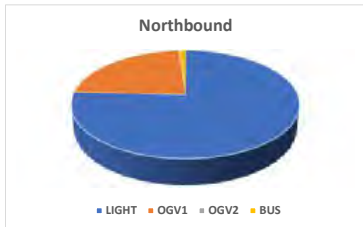
	Total Volume	LIGHT	OGV1	OGV2	BUS
Wed 17 Nov	2255	1842	390	1	22
Thu 18 Nov	2249	1854	379	0	16
Fri 19 Nov	2344	1877	447	4	16
Sat 20 Nov	1851	1521	326	0	4
Sun 21 Nov	1548	1321	224	0	3
Mon 22 Nov	2178	1847	315	1	15
Tue 23 Nov	2207	1824	371	2	10
5 Day Ave.	2247	1849	380	2	16
7 Day Ave.	2090	1727	350	1	12

	Total Volume	LIGHT	OGV1	OGV2	BUS
Wed 17 Nov	100.0%	75.6%	23.0%	0.1%	1.4%
Thu 18 Nov	100.0%	74.8%	24.0%	0.0%	1.2%
Fri 19 Nov	100.0%	74.3%	24.5%	0.2%	1.1%
Sat 20 Nov	100.0%	73.8%	25.8%	0.0%	0.5%
Sun 21 Nov	100.0%	77.9%	21.7%	0.0%	0.4%
Mon 22 Nov	100.0%	78.4%	20.6%	0.0%	1.0%
Tue 23 Nov	100.0%	75.5%	23.7%	0.0%	0.7%
5 Day Ave.	100.0%	75.7%	23.2%	0.1%	1.1%
7 Day Ave.	100.0%	75.7%	23.3%	0.0%	0.9%

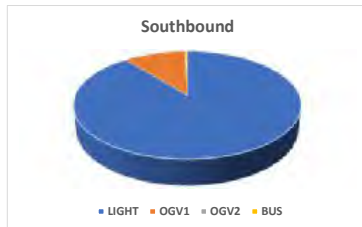
	Total Volume	LIGHT	OGV1	OGV2	BUS
Wed 17 Nov	100.0%	87.4%	12.0%	0.0%	0.6%
Thu 18 Nov	100.0%	89.8%	9.9%	0.0%	0.3%
Fri 19 Nov	100.0%	85.4%	14.1%	0.2%	0.3%
Sat 20 Nov	100.0%	89.9%	10.1%	0.0%	0.0%
Sun 21 Nov	100.0%	92.3%	7.8%	0.0%	0.0%
Mon 22 Nov	100.0%	91.2%	8.3%	0.1%	0.4%
Tue 23 Nov	100.0%	89.5%	10.2%	0.2%	0.2%
5 Day Ave.	100.0%	88.6%	11.0%	0.1%	0.3%
7 Day Ave.	100.0%	89.2%	10.5%	0.1%	0.3%

	Total Volume	LIGHT	OGV1	OGV2	BUS
Wed 17 Nov	100.0%	81.7%	17.3%	0.0%	1.0%
Thu 18 Nov	100.0%	82.4%	16.9%	0.0%	0.7%
Fri 19 Nov	100.0%	80.1%	19.1%	0.2%	0.7%
Sat 20 Nov	100.0%	82.2%	17.6%	0.0%	0.2%
Sun 21 Nov	100.0%	85.3%	14.5%	0.0%	0.2%
Mon 22 Nov	100.0%	84.8%	14.5%	0.0%	0.7%
Tue 23 Nov	100.0%	82.6%	16.8%	0.1%	0.5%
5 Day Ave.	100.0%	82.3%	16.9%	0.1%	0.7%
7 Day Ave.	100.0%	82.6%	16.8%	0.1%	0.6%

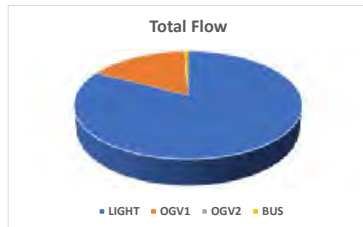
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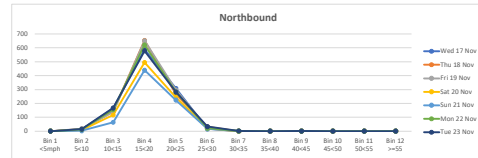


Gloucester ATC

Direction: Northbound

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <5mph	Bin 2 5<10	Bin 3 10<15	Bin 4 15<20	Bin 5 20<25	Bin 6 25<30	Bin 7 30<35	Bin 8 35<40	Bin 9 40<45	Bin 10 45<50	Bin 11 50<55	Bin 12 >=55
Wed 17 Nov	1053	22.2	18.2	3.8	0	13	164	589	309	17	0	0	0	0	0	1
Thu 18 Nov	1107	21.9	18.2	3.6	0	14	143	653	266	31	0	0	0	0	0	0
Fri 19 Nov	1128	22.0	18.3	3.6	0	18	138	651	296	23	2	0	0	0	0	0
Sat 20 Nov	894	22.0	18.4	3.6	0	8	117	495	244	20	0	0	0	0	0	0
Sun 21 Nov	748	22.2	18.8	3.3	0	3	64	439	204	17	1	0	0	0	0	0
Mon 22 Nov	1093	21.9	18.2	3.6	0	13	155	621	282	21	1	0	0	0	0	0
Tue 23 Nov	1079	22.3	18.3	3.9	0	15	167	579	282	33	2	0	1	0	0	0
5 Day Ave.	1100	22.1	18.2	3.7	0	15	153	619	287	25	1	0	0	0	0	0
7 Day Ave.	1019	22.1	18.3	3.6	0	12	132	575	272	23	1	0	0	0	0	0

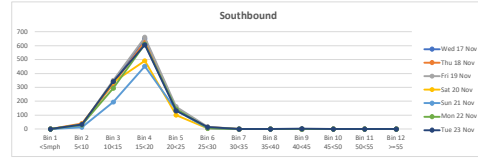
360 TSL Ltd



Direction: Southbound

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <5mph	Bin 2 5<10	Bin 3 10<15	Bin 4 15<20	Bin 5 20<25	Bin 6 25<30	Bin 7 30<35	Bin 8 35<40	Bin 9 40<45	Bin 10 45<50	Bin 11 50<55	Bin 12 >=55
Wed 17 Nov	1162	20.1	16.5	3.5	0	23	340	649	143	7	0	0	0	0	0	0
Thu 18 Nov	1142	20.3	16.5	3.7	0	40	322	629	137	14	0	0	0	0	0	0
Fri 19 Nov	1216	20.4	16.6	3.7	0	30	350	660	160	16	0	0	0	0	0	0
Sat 20 Nov	967	19.7	16.0	3.6	0	34	338	491	100	4	0	0	0	0	0	0
Sun 21 Nov	800	20.7	17.0	3.5	0	13	194	452	135	6	0	0	0	0	0	0
Mon 22 Nov	1085	20.4	16.6	3.6	0	30	293	631	143	7	0	1	0	0	0	0
Tue 23 Nov	1139	20.4	16.4	3.8	0	33	342	606	131	14	0	0	2	0	0	0
5 Day Ave.	1147	20.3	16.5	3.7	0	31	329	631	143	12	0	0	0	0	0	0
7 Day Ave.	1071	20.3	16.5	3.6	0	29	311	585	136	10	0	0	0	0	0	0

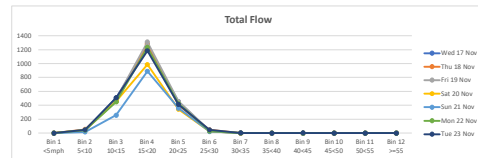
360 TSL Ltd

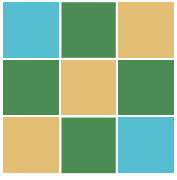


Direction: Total Flow

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <5mph	Bin 2 5<10	Bin 3 10<15	Bin 4 15<20	Bin 5 20<25	Bin 6 25<30	Bin 7 30<35	Bin 8 35<40	Bin 9 40<45	Bin 10 45<50	Bin 11 50<55	Bin 12 >=55
Wed 17 Nov	2255	21.2	17.4	3.7	0	36	504	1238	452	24	0	0	0	0	0	1
Thu 18 Nov	2249	21.2	17.3	3.7	0	54	465	1282	403	45	0	0	0	0	0	0
Fri 19 Nov	2344	21.3	17.4	3.7	0	48	488	1311	456	39	2	0	0	0	0	0
Sat 20 Nov	1851	21.0	17.1	3.8	0	42	455	986	344	24	0	0	0	0	0	0
Sun 21 Nov	1548	21.5	17.9	3.5	0	16	258	891	359	23	1	0	0	0	0	0
Mon 22 Nov	2178	21.2	17.4	3.7	0	43	448	1232	425	28	1	1	0	0	0	0
Tue 23 Nov	2207	21.4	17.3	4.0	0	48	509	1185	413	47	2	0	3	0	0	0
5 Day Ave.	2247	21.3	17.4	3.8	0	46	483	1250	430	37	1	0	1	0	0	0
7 Day Ave.	2090	21.3	17.4	3.7	0	41	447	1161	407	33	1	0	0	0	0	0

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Appendix F

Site Access Visibility Splay
Arrangement

Proposed Access Visibility Splays

Visibility Splays 2.4m x 24.8m

Visibility Splays 2.4m x 28.08m
(0.5m offset from the kerb)

Proposed Access Visibility Splays for House 33

Visibility Splays 2.4m x 24.8m

Visibility Splays 2.4m x 28.08m

- Notes:
- This drawing is based upon drawing number 4900-07NOV16-01 by A D Horner Limited.
 - This drawing is based on the Architects layout (21.20.020_SK1001B) received from Coombes Everitt Architects on 04/01/2022.
 - This drawing is based upon drawing number 21.20.020 SK003 by Cotswold Oak Ltd.
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 - Highway boundary information has been provided by Gloucestershire County Council (GCC) and has been overlaid by Cotswold Transport Planning onto the topographical survey on a best fit basis.

- KEY:
- Site Boundary
 - Highway Boundary (Transcribed Highway Boundary based on GCC)
 - Visibility Splay 2.4m x 24.8m Based on a Recorded 85th Percentile Speed of 20.3mph
 - Visibility Splay 2.4m x 28.08m (0.5m offset from the kerb) Based on a Recorded 85th Percentile Speed of 22.1 mph

Rev	Date	Details	Drawn by	Checked by
A	10.01.22	Highway Boundary & Site Boundary	FA	JM



CLIENT:
Cotswold Oak Ltd

PROJECT:
Paygrove Lane, Longlevens

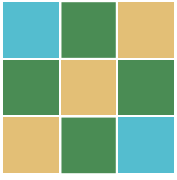
TITLE:
Proposed Access Visibility Assessment

STATUS:
INFORMATION

SCALE @ A3:	DATE:	DRAWN:	CHECKED:	APPROVED:
1: 250	29.11.2021	FA	JM	BQ
JOB NO:	DRAWING NO:	REVISION:		
21-0760	SK02	A		



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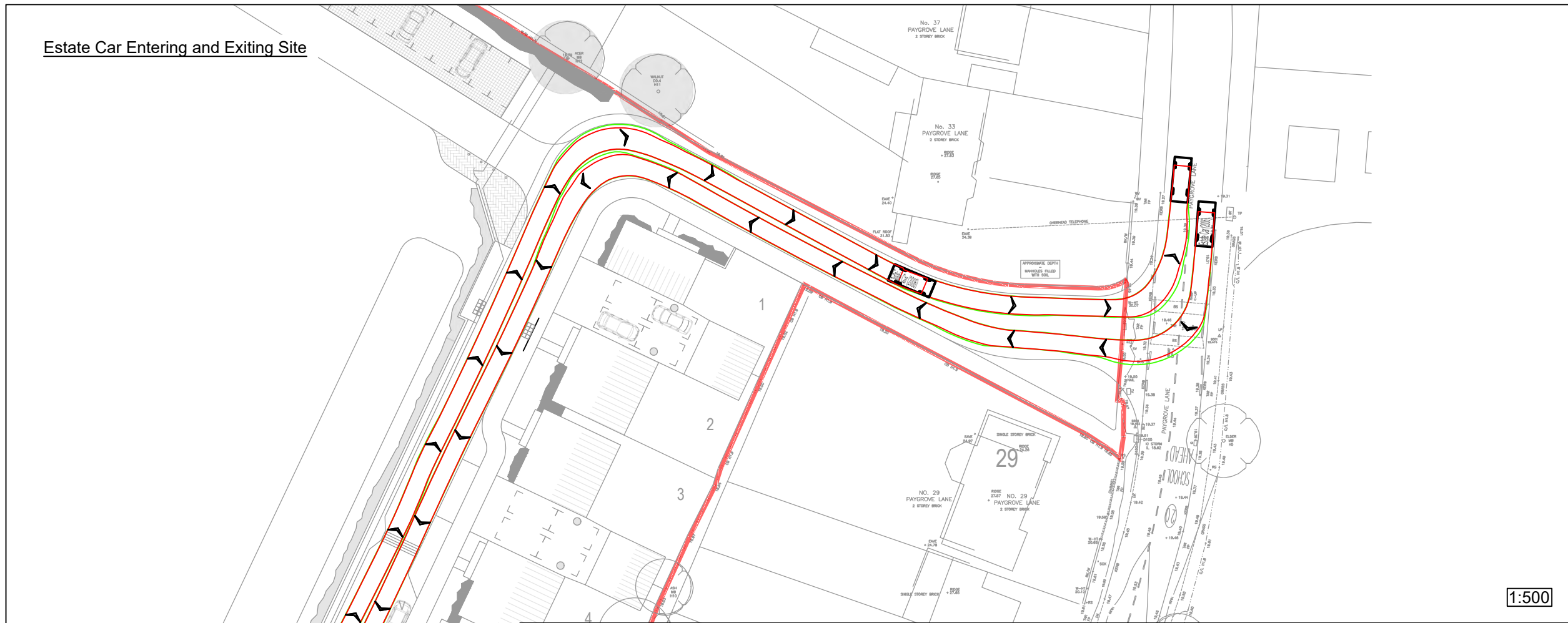


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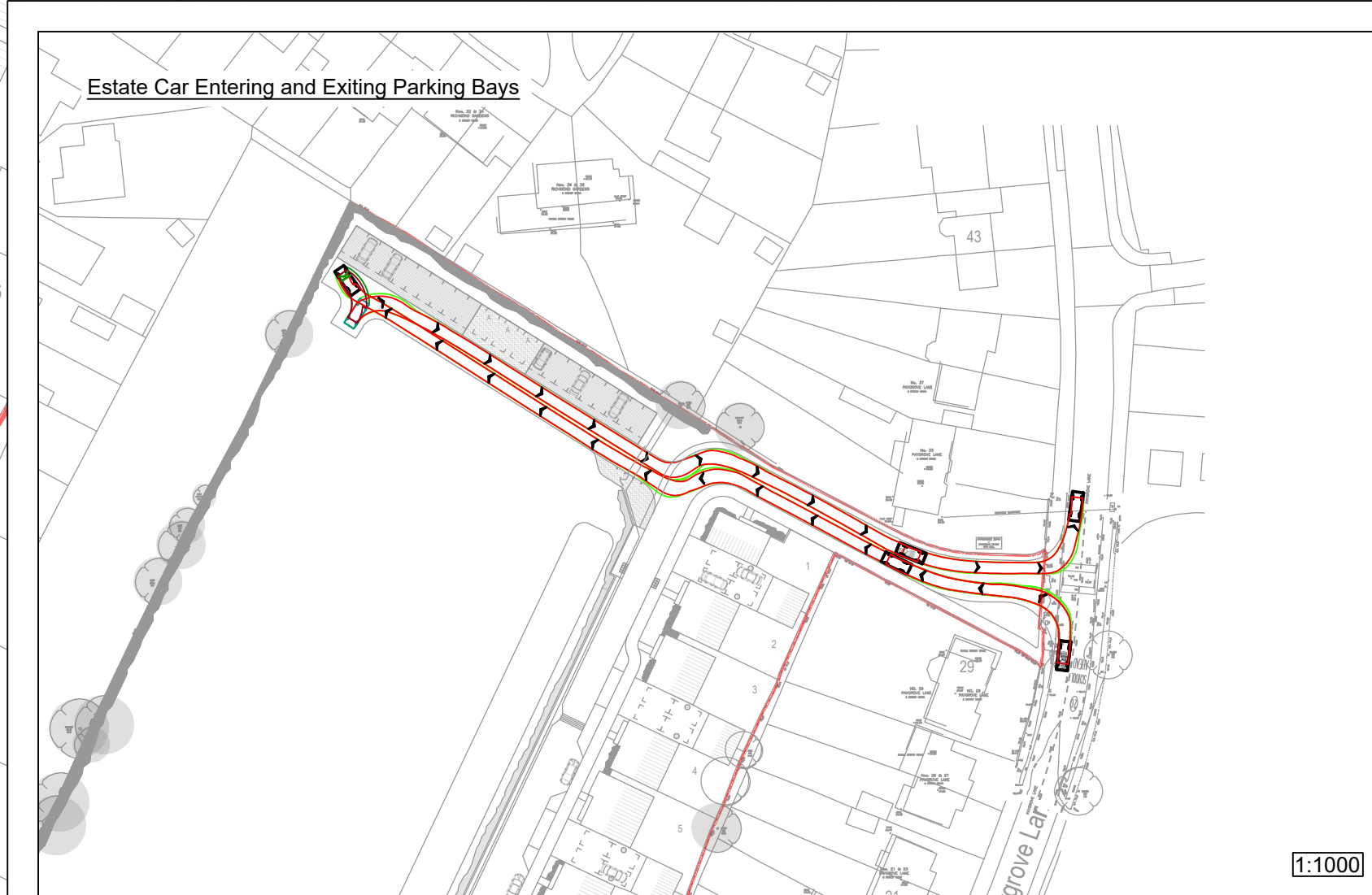
Appendix G

Vehicle Swept Paths

Estate Car Entering and Exiting Site



Estate Car Entering and Exiting Parking Bays



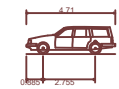
Notes:

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KEY:

Site Boundary

Vehicle Profile



Estate Car (2006)	4.710m
Overall Length	1.804m
Overall Width	1.442m
Min Body Ground Clearance	0.207m
Max Track Width	1.756m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	5.950m

Rev	Date	Details	Drawn by	Checked by
A	10.01.22	Updated Layout & SPA	FA	JM



**COTSWOLD
TRANSPORT
PLANNING**

CLIENT:

Cotswold Oak Ltd

PROJECT:

**Paygrove Lane,
Longlevens**

TITLE:

**OnSite Swept Path Analysis -
Estate Car**

STATUS:

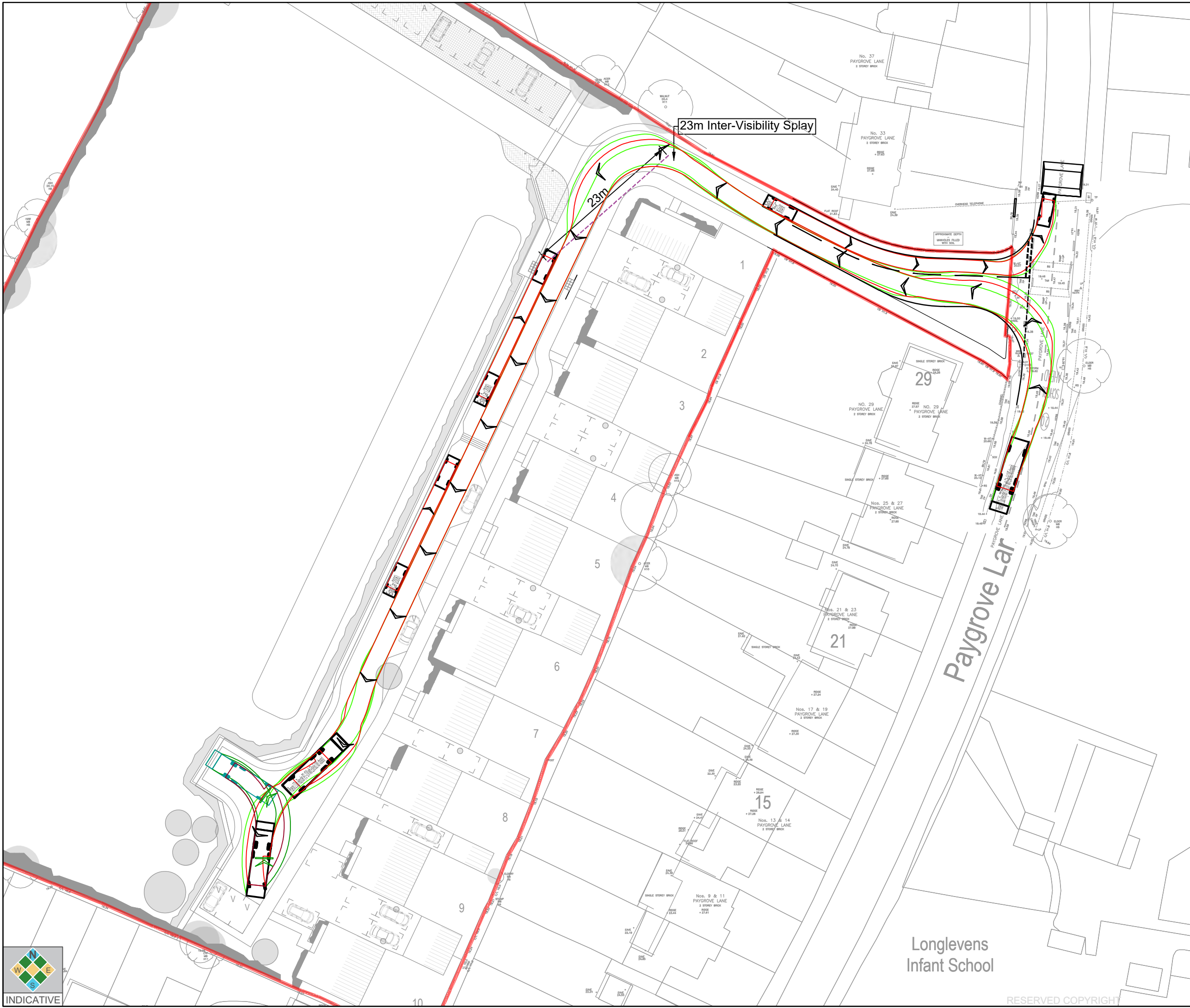
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1: 500	26.01.2021	FA	JM	BQ
JOB NO:	DRAWING NO:	REVISION:		
21-0760	SP03	A		



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 4. Highway boundary information has been provided by Gloucestershire County Council (GCC) and has been overlaid by Cotswold Transport Planning onto the topographical survey on a best fit basis.

KEY:

- Site Boundary
- Inter-Visibility Splay

Vehicle Profile

Phoenix 2 Duo Recycler (P2-12W with Elite 6x2 MS chassis)	
Overall Length	10.755m
Overall Width	2.530m
Overall Body Height	3.750m
Min Body Ground Clearance	0.393m
Track Width	2.530m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	11.450m

Estate Car (2006)	
Overall Length	4.710m
Overall Width	1.804m
Overall Body Height	1.442m
Min Body Ground Clearance	0.207m
Max Track Width	1.756m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	5.950m

Rev	Date	Details	Drawn by	Checked by
A	10.01.22	Updated Layout & SPA	FA	JM



CLIENT:
Cotswold Oak Ltd

PROJECT:
**Paygrove Lane,
Longlevens**

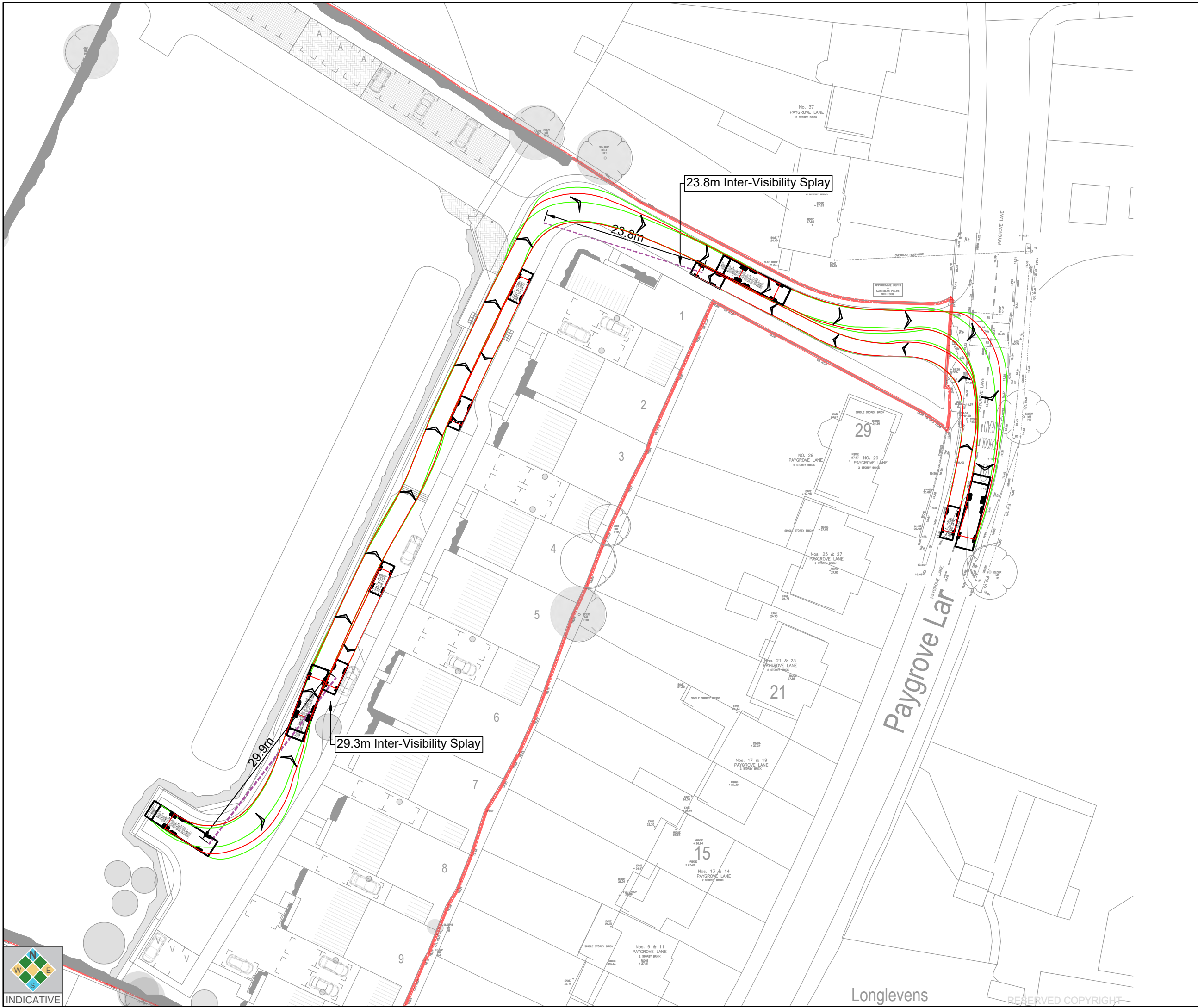
TITLE:
**Onsite Swept Path Analysis -
Refuse Vehicle Entering Site**

STATUS:
INFORMATION

SCALE @ A3:	DATE:	DRAWN:	CHECKED:	APPROVED:
1: 250	26.01.2021	FA	JM	BQ
JOB NO:	DRAWING NO:	REVISION:		
21-0760	SP04	A		



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 4. Highway boundary information has been provided by Gloucestershire County Council (GCC) and has been overlaid by Cotswold Transport Planning onto the topographical survey on a best fit basis.

KEY:

- Site Boundary
- Inter-Visibility Splay

Vehicle Profile

Phoenix 2 Duo Recycler (P2-12W with Elite 6x2 MS chassis)	
Overall Length	10.755m
Overall Width	2.530m
Overall Body Height	3.750m
Min Body Ground Clearance	0.300m
Track Width	2.530m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	11.450m

Estate Car (2006)	
Overall Length	4.710m
Overall Width	1.804m
Overall Body Height	1.442m
Min Body Ground Clearance	0.207m
Max Track Width	1.756m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	5.950m

Rev	Date	Details	Drawn by	Checked by
A	10.01.22	Updated Layout & SPA	FA	JM



CLIENT:
Cotswold Oak Ltd

PROJECT:
**Paygrove Lane,
Longlevens**

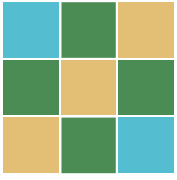
TITLE:
**Onsite Swept Path Analysis -
Refuse Vehicle Exiting Site**

STATUS:
INFORMATION

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1: 250	26.01.2021	FA	JM	BQ
JOB NO:	DRAWING NO:	REVISION:		
21-0760	SP05	A		



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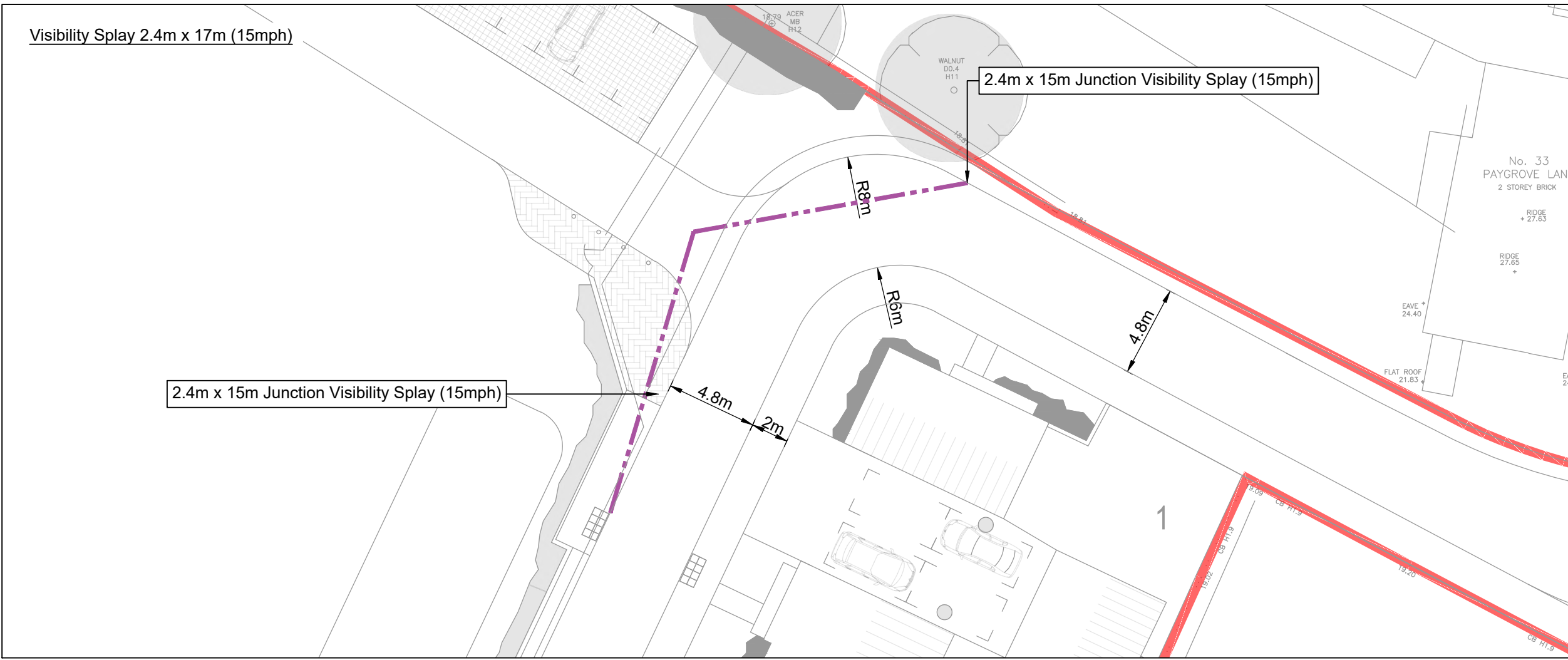
Appendix H

Car Park Access and Pedestrian
Crossing Point Visibility Splay
Arrangement

Visibility Splay 2.4m x 17m (15mph)

2.4m x 15m Junction Visibility Splay (15mph)

2.4m x 15m Junction Visibility Splay (15mph)



Proposed Road Crossing and Pedestrian Visibility Splay 1.5m x 17m (15mph)

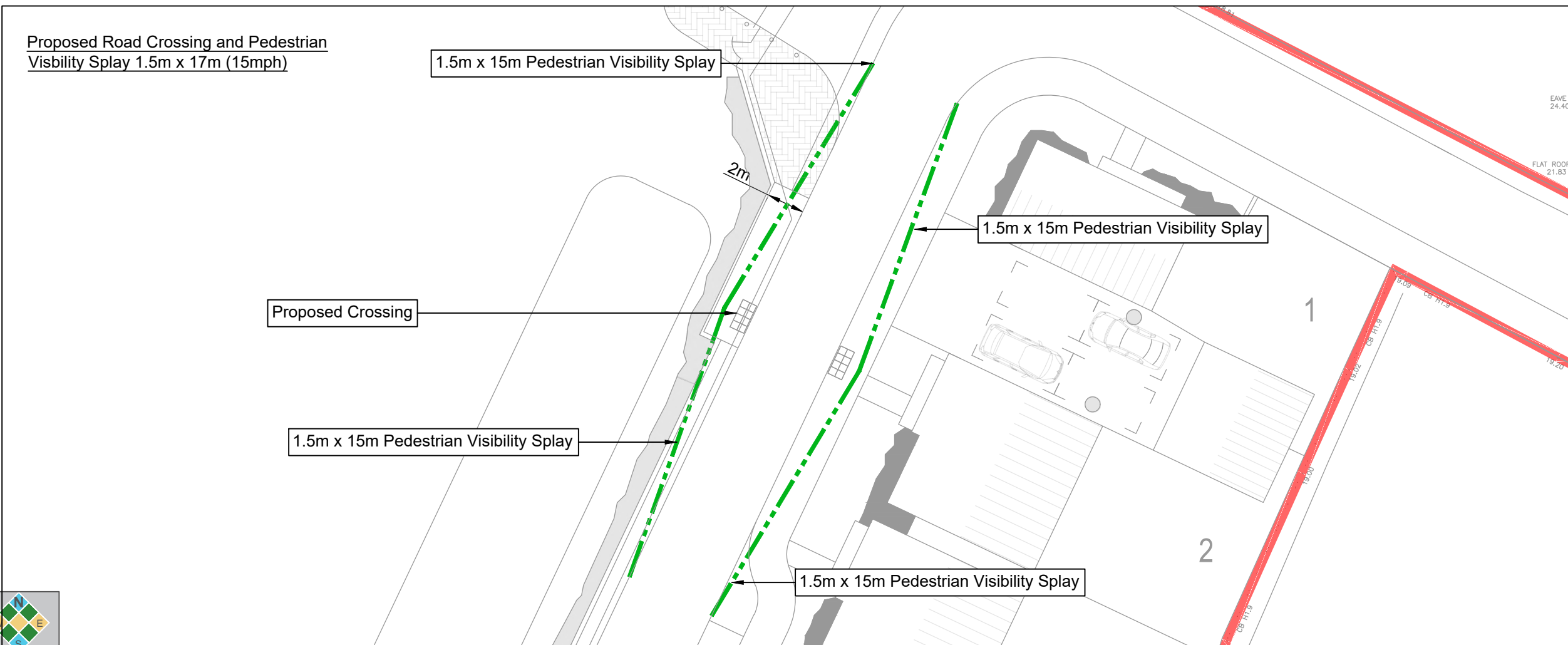
1.5m x 15m Pedestrian Visibility Splay

1.5m x 15m Pedestrian Visibility Splay

Proposed Crossing

1.5m x 15m Pedestrian Visibility Splay

1.5m x 15m Pedestrian Visibility Splay



Notes:

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4. Highway boundary information has been provided by Gloucestershire County Council (GCC) and has been overlaid by Cotswold Transport Planning onto the topographical survey on a best fit basis.

KEY:

- Site Boundary
- - - Junction Visibility Splay 2.4m x 15m
- - - Pedestrian Visibility Splay 1.5m x 15m

Rev	Date	Details	Drawn by	Checked by
A	10.01.22	Updated Layout & Visibility Splays	RC	JM



CLIENT:
Cotswold Oak Ltd

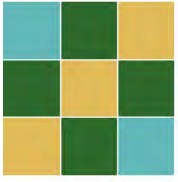
PROJECT:
**Paygrove Lane,
Longlevens**

TITLE:
Internal Visibility Assessment

STATUS:
INFORMATION

SCALE @ A3:	DATE:	DRAWN:	CHECKED:	APPROVED:
1: 250	10/02/22	RC	FA	JM
JOB NO:	DRAWING NO:	REVISION:		
21-0760	SK03	A		





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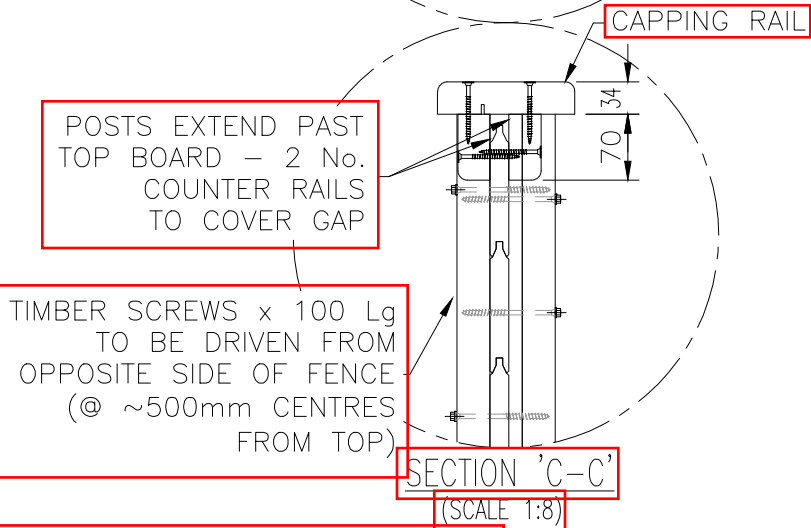
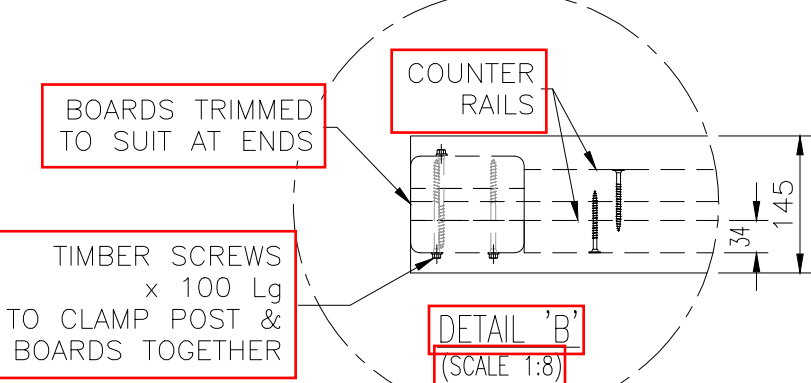
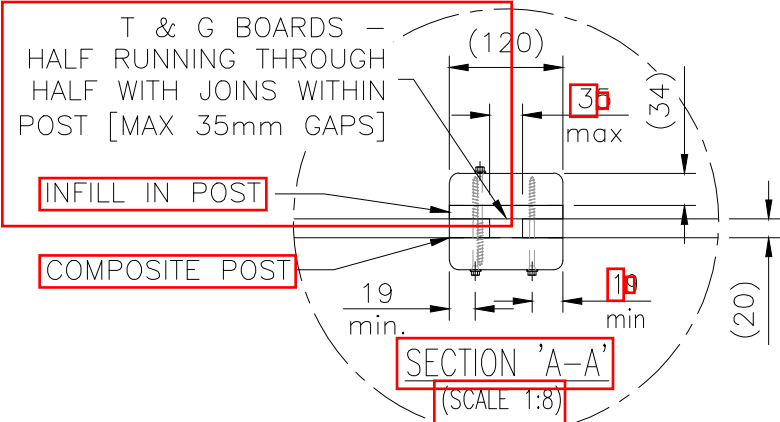
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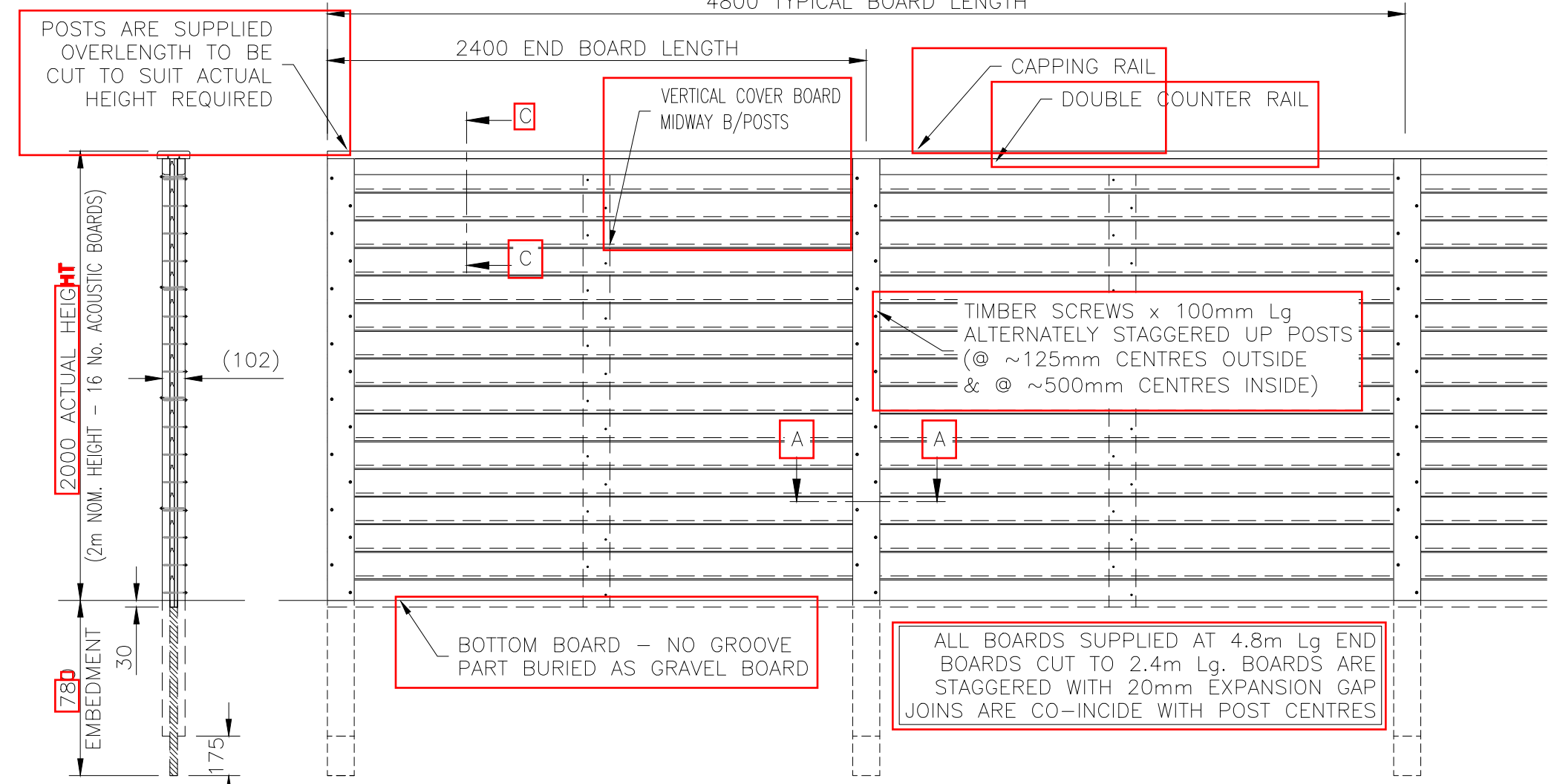
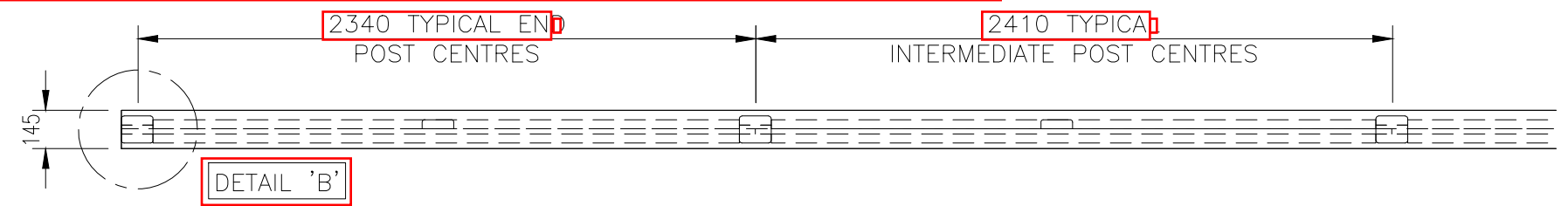
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GL50 3QQ Registered in England and Wales No. 9228763.



NOTE
 COUNTER RAIL FIXINGS
 65mm DECK SCREWS @ 600mm MAX CENTRES (5 PER COUNTER RAIL)
 CAPPING RAIL FIXINGS
 65mm DECK SCREWS 2 ROWS @ 600mm MAX CENTRES (20 PER CAPPING RAIL)

FENCING TO BE RAKED
 (NOT STEPPED) TO SUIT
 GROUND LEVELS AS
 STANDARD



12K ENVIROFENCE FENCE - 2m HIGH

NOTES.
 ALL DIMENSIONS ARE IN mm (UNO)
 GAPS UNDER FENCING ARE
 NOMINAL DUE TO GROUND LEVELS.

MATERIALS.
 ACOUSTIC BOTTOM BOARD: 139 x 20 thk (123 Nom. FACE)
 ACOUSTIC T & G BOARD: 139 x 20 thk (123 Nom. FACE)
 CAPPING RAIL: 145 x 34 thk PAR
 POST COVER BOARD: 120 x 35 thk
 COUNTER RAIL: 70 x 34 thk PAR
 POST INFILL: 120 x 16 thk
 OPTIONAL STEEL SPUR POSTS, ASSESSED TO SUIT SITE LOCATION.
 ALL FIXINGS ARE GALVANISED OR STAINLESS STEEL.

FINISH.
 TIMBER: JAKCURED TREATED.
 STEEL: GALVANISED TO BS EN ISO 1461
 STEEL: POWDER COATED: BLACK RAL 9005

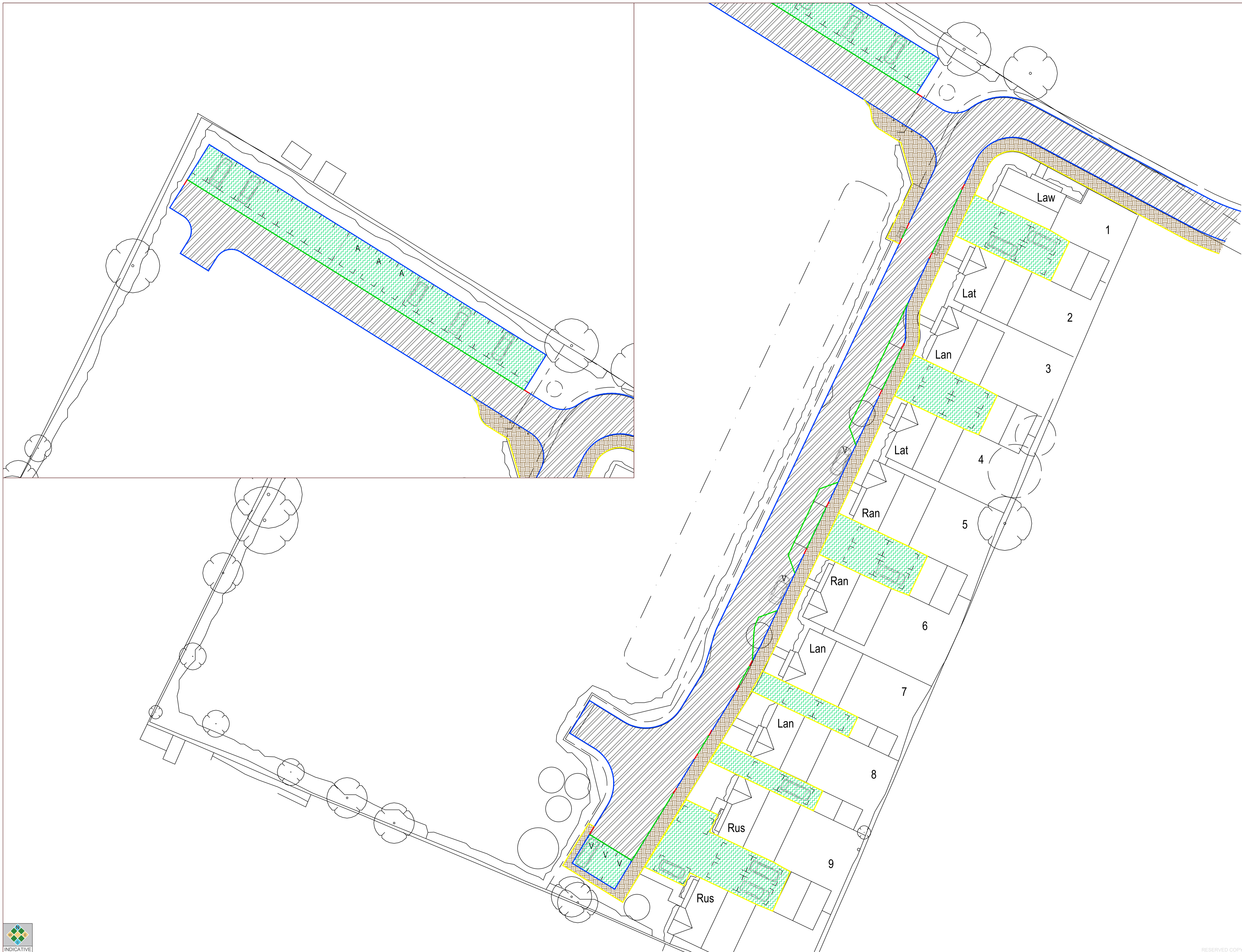
Jacksons Fencing
 Stowting Common, Near Ashford,
 Kent. TN25 6BN
 www.jacksons-fencing.co.uk

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DO NOT SCALE - IF IN DOUBT ASK

5	28/03/2020	NEW BORDER + NOTES
4	02/05/19	UPDATE
3	19/03/18	REDRAWN
2	27/11/13	Update
1	09/11/13	POST CENTRES 2410



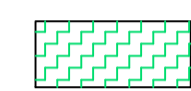




Drawn	JR	TITLE	SALES DRAWING
Date	21/06/2011	12K ENVIROFENCE FENCE - 2m HIGH	
Checked	AT	CUSTOMER	Drawing No.
Size	A3	Scale	1:25 U.O.S
ACK No.		J7/01166	
		Sheet 1	



Notes:

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Key

-  MACADAM CARRIAGEWAY CONSTRUCTION
-  FOOTWAY CONSTRUCTION
-  PRIVATE DRIVE CONSTRUCTION
-  HALF BATTERED 'H/B2' KERB WITH 100mm UPSTAND
-  BN2 BULL NOSED KERB (3mm UPSTAND AT PEDESTRIAN CROSSINGS, 25mm ELSEWHERE)
-  TRANSITION/DROPPER KERB
-  EF EDGING KERB (0mm UPSTAND)

A	17/02/22	DRIVE MATERIAL AMENDED	PG	KT
Rev	Date	Details	Drawn By	Checked By



CLIENT:
Cotswold Oak Ltd

PROJECT:
Paygrove Lane, Longlevens

TITLE:
Surfaces Plan

STATUS:
INFORMATION

SCALE @ A1:	DATE:	DRAWN:	CHECKED:	APPROVED:
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JOB NO:	DRAWING NO:	REVISION:		
CTP-0760	C005	A		

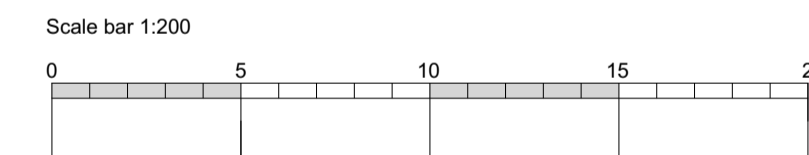
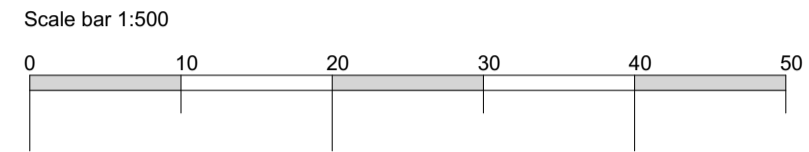


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Accommodation schedule

Unit Mix

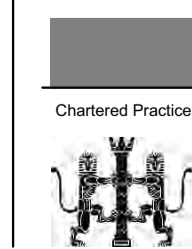
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Lawence	2 + study	3	1	935	935
Latchford	3	6	2	1389	2778
Langley	4	7	3	1389	4167
Ranscombe	4 + study	7	2	1615	3230
Ruscombe	5	8	2	1615	3230
					14340



coombes : everitt architects limited
 105-107 Bath Road
 Cheltenham
 Gloucestershire
 GL53 7LE
 www.ce-architects.co.uk

- Preliminary
- Feasibility
- Planning
- Building Regulations
- Tender
- Construction issue
- As Built

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3. Do not use this drawing for setting out unless drawing specifically indicates setting out points.
4. Engineering information is indicative only and should be taken from structural engineers design.



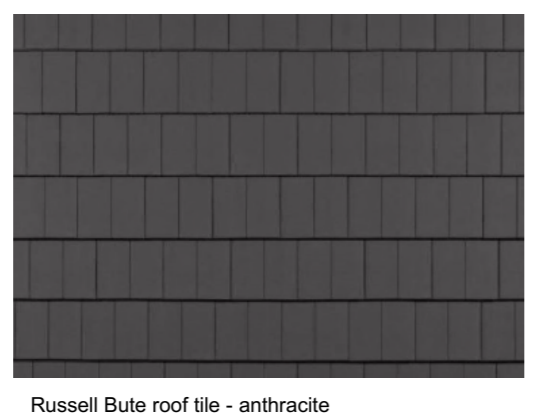
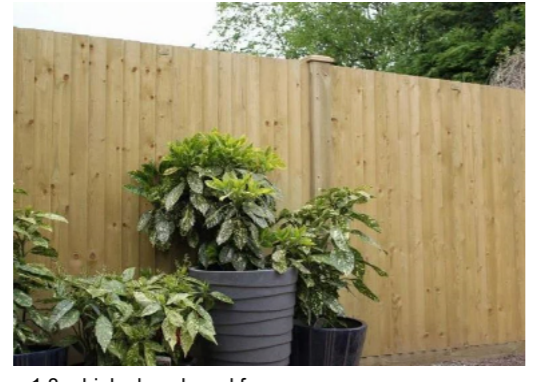
Revisions
 A 03/2022 AH Proposed layout to accord with access indicated on Outline approval

Drawing title: Proposed Site Layout and Street Scene
 Client: Cotswold Oak Ltd
 Drawn by: AH Checked: JE
 Project No: 21.20.020

Project: Land at Paygrove Lane, Longlevens
 Scale: 1:500, 1:200 @ A1
 Date: January 2022
 Project / Drawing No: 21.20.020 PL005 A

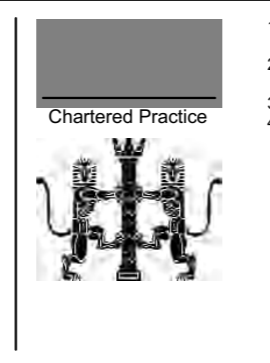


- ### Landscape and Finishes Legend
- FFL 19.350 Proposed floor level
 - T Tarmac finishes to highway and drives
 - P PCC block paviors, charcoal grey to GCH approval
 - G Grasscrete block paving
 - Paths and patios formed out of 600x600x40mm pcc buff riven paving slabs by Tobemore laid over 100mm concrete oversite and drained to adjacent soft landscaped areas.
 - Russell Bute roof tile Anthracite
 - Brick - Istock Forterra Chelsea Smoked Red
 - Brick - Istock Forterra Atherstone Red Multi
 - Turf Areas prepared and laid to turf
 - Areas prepared and seeded to form playing field
 - pg Pea gravel lain over weed suppressing membrane
 - Prepared and planted borders with individual specimen shrub planting
 - Existing boundary planting retained and reinforced as necessary
 - New native species hedgerow planting
 - Existing trees to be retained
 - New tree planting
 - Trees to be removed
 - 16 Amp power supply to facilitate electric vehicle charge point.
 - 1.8m high close board timber fence with solid timber gates fitted with bolts top and bottom and lock operable from both sides
 - Indicates 130x100mm hole formed at ground level to provide access for hedgehogs between plots and through boundary
 - Black painted, five bar estate railings to demark residential development + pedestrian pass gate as indicated
 - 2.0m high acoustic fence - 12x Envirofence Jacksons Fencing
 - Paved hardstanding for on plot bin storage. Collection from kerbside to LA regime
- ### Trees
- SU Sorbus Aucuparia (Rowan)
 - SA Sorbu Aria (Whitebeam)
 - FS Fagus Sylvatica (Beech)
- All trees and shrubs will conform to the specification for nursery stock as set out in British Standard 3096 Parts 1 (1992) and 4 (1984). Advanced Nursery stock trees shall conform to BS 5236.
- Trees to be 'feathered' 2m high with 5-8cm girth and staked to a height of 750mm and planted in 1.0x1.0m prepared tree pits incorporating 80 litres of TP/MC and slow release fertiliser. Roots to be dipped in mycorrhizal inoculant immediately prior to planting.
- ### Native Species Hedgerow
- Hedges to be planted in double staggered rows 400mm apart with a minimum of 7 plants per linear metre. Hedging plants to be 0.6-0.8m high, 1+1 bare root, healthy and vigorous transplants
- | | |
|--|-----|
| Hawthorn | 45% |
| Blackthorn | 20% |
| Hazel | 15% |
| Field Maple | 15% |
| Holly, Dog-rose, Spindle, Wild Privet and Wych Elm | 5% |
- ### Planting Notes
- Ground preparation and planting works to include:
 Excavate planting areas to a minimum depth of 600mm and remove all unsuitable material from site
 Ensure / supply and spread 400mm depth of approved topsoil in areas to be planted. Light harrow to provide a fine tilth.
 Collect and remove from areas to be planted or turfed all stones greater than 50mm in any dimension.
 Supply and plant shrubs incorporating 20g / plant of slow release fertilizer into the backfill.
 Provide and spread evenly over planting areas 75mm depth of coarse grade bark mulch.
- ### Planted Borders
- To be planted in groups of 3, 5, 7 per box in a random mix at a rate of 5 plants per sq/m
- | | |
|----------------------------------|----|
| Type (i) | % |
| Cotoneaster Dameri | 20 |
| Berberis Candidula | 25 |
| Hedera Colchica Denata Variegata | 15 |
| Machonia Aquifolium | 20 |
| Spiraea Japonica Bullata | 20 |
| Type (ii) | % |
| Cornus Canadensis | 25 |
| Euonymus Fortunei Radians | 25 |
| Pachysandra Terminalis Variegata | 20 |
| Vincia Major Variegata | 20 |
| Hedera Hibernica | 10 |
- ### Specimen Shrub Planting
- Individual container grown specimen shrubs (minimum 3 litre) shown thus
- | | |
|----|---------------------------------|
| BD | Berberis Darwinii |
| CT | Chosya Temata |
| FO | Forsythia Ovala |
| IQ | Ilex Aquifolium Golden Queen |
| IK | Ilex Alabasterensis Golden King |
| PV | Philadelphus Virginal |
| VA | Viburnum Aurora |



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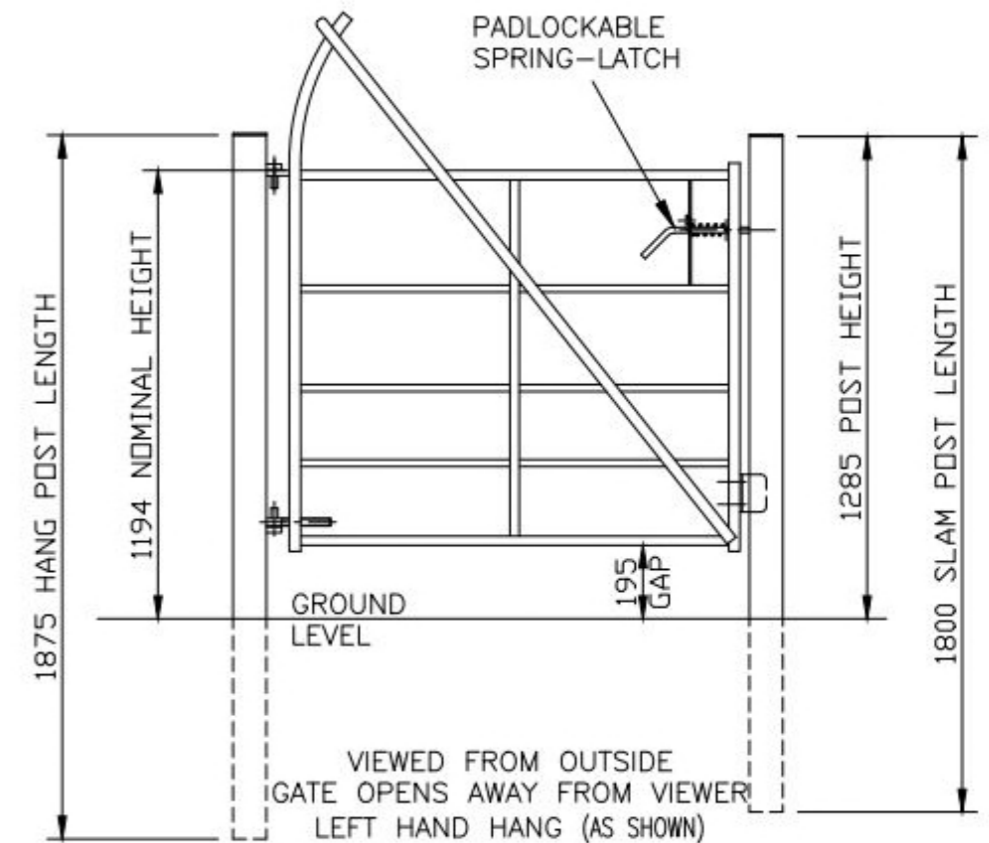
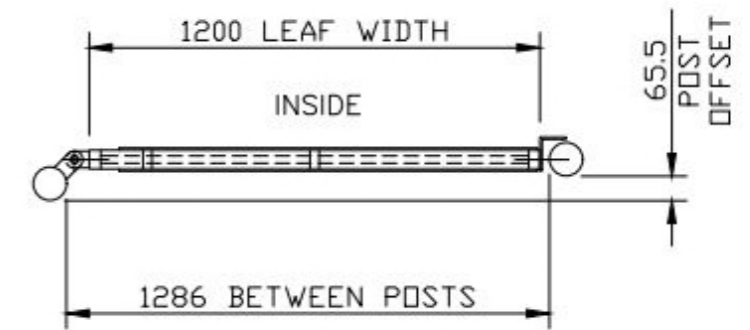
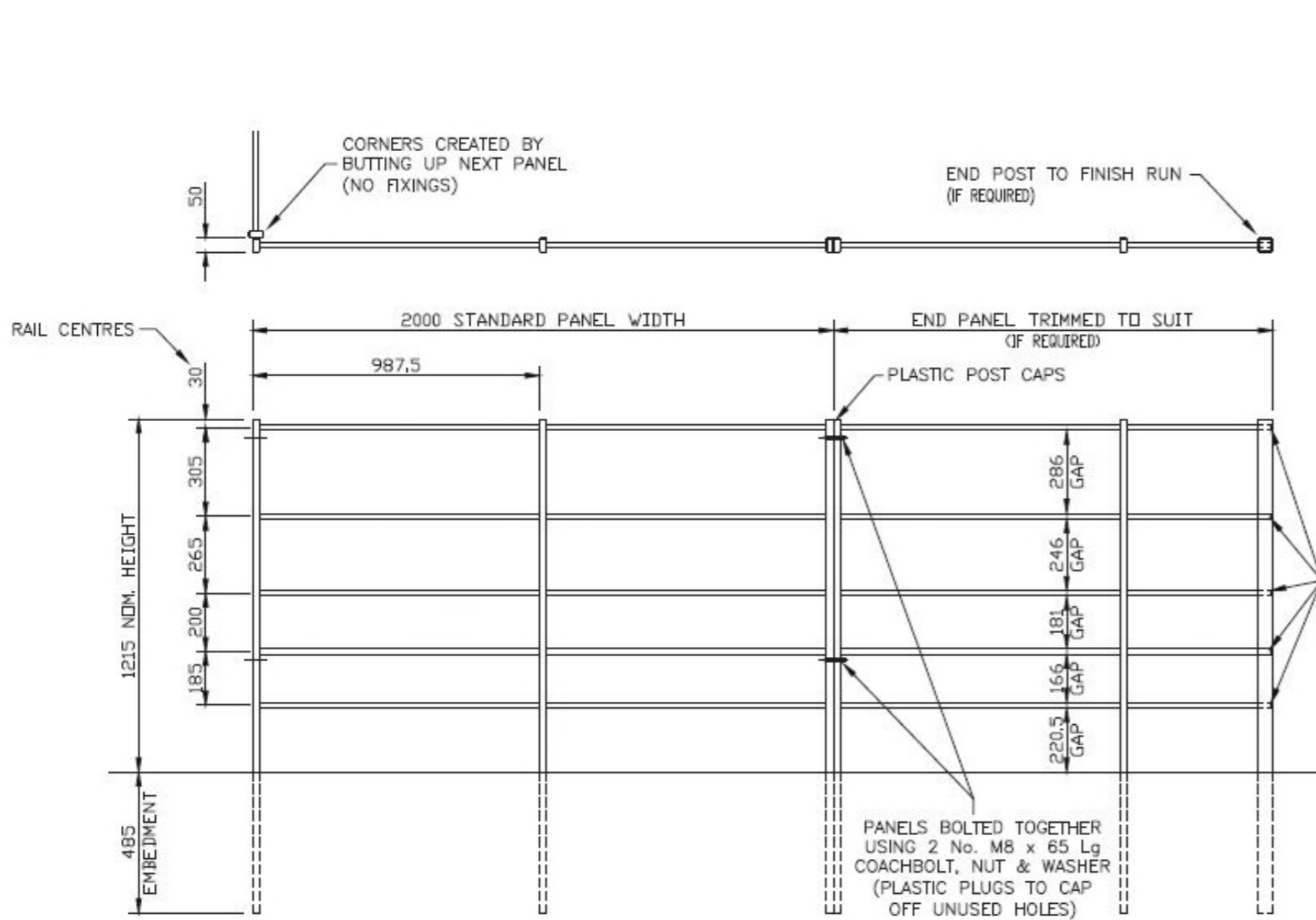


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- ### Revision
- | | | | |
|---|---------|----|--|
| A | 03/2022 | AH | Hedgerow mix amended |
| B | 03/2022 | AH | Proposed layout plan to accord with access indicated on Outline approval |
| C | 03/2022 | AH | Access for hedgehogs indicated to new boundary fences |

Drawing title: **Materials Distribution and Landscaping**
 Client: Cotswold Oak Ltd
 Drawn by: AH Checked: JE
 Project No: 21.20.020

Project: **Land at Paygrove Lane, Longlevens**
 Scale: 1:250 @ A1
 Date: January 2022
 Project / Drawing No: 21.20.020 PL006 C



ESTATE GATE
1.2m WIDE

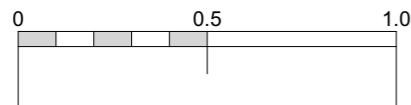
NOTES.

ALL DIMENSIONS ARE IN mm (UNO)
GAPS UNDER GATES & FENCING
ARE NOMINAL DUE TO GROUND LEVELS.

MATERIALS.

GATE POSTS: \varnothing 88.9 CHS
T & B RAILS: 50 x 25 RHS
MID RAILS: \varnothing 19 CHS
STILES: 50 x 30 RHS
BRACES: 30 x 6 MS FLAT

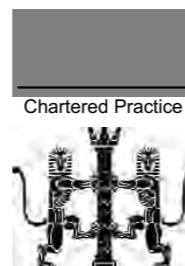
Scale bar 1:20



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Drawing title: Estate Railing and Gate Detail

Client: Cotswold Oak Ltd

Drawn by: AH Checked: JE

Project No: 21.20.020

Project: Land at Paygrove Lane, Longlevens

Scale: 1:20 @ A3

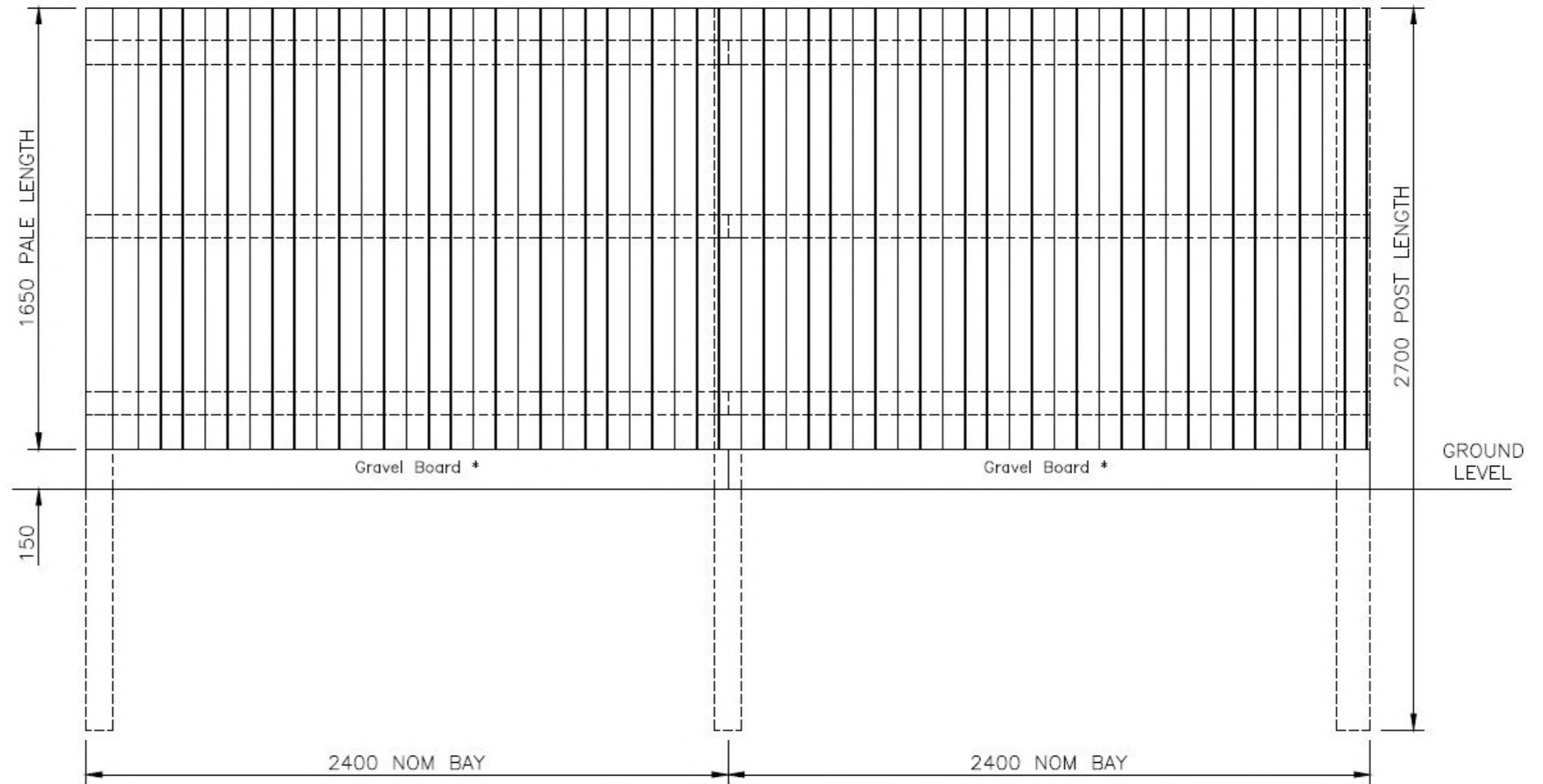
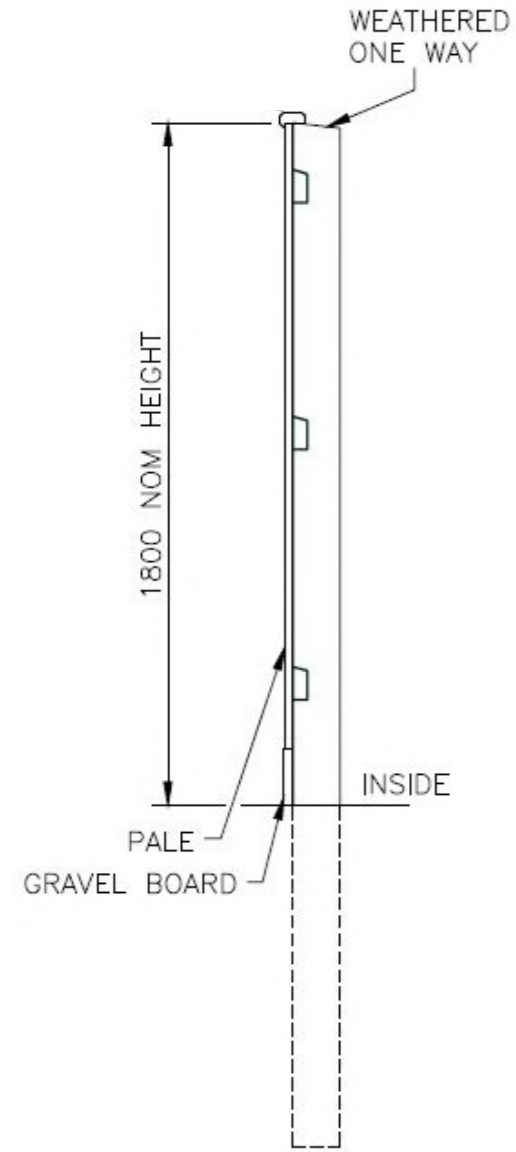
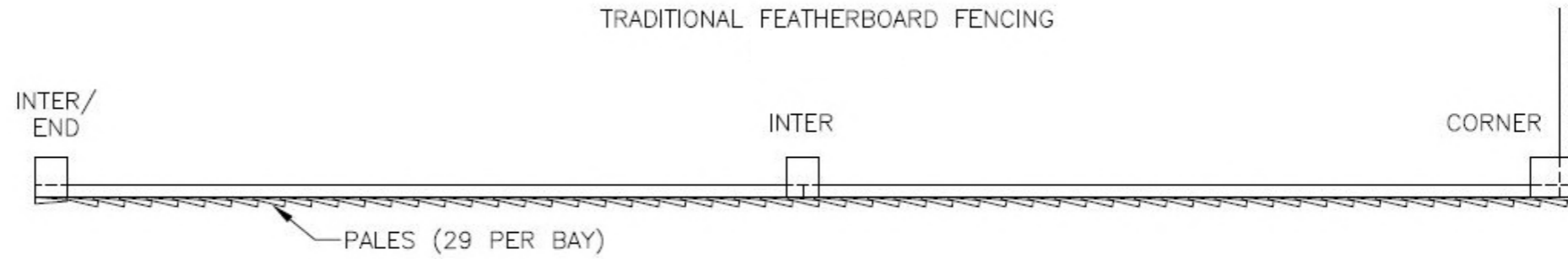
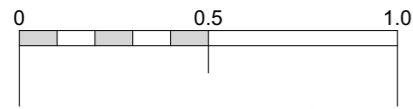
Date: February 2022

Project / Drawing No: 21.20.020 PL007

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TRADITIONAL FEATHERBOARD FENCING

Scale bar 1:20



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Drawing title: Close Board Timber Fence Detail

Client: Cotswold Oak Ltd

Drawn by: AH Checked: JE

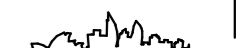
Project No: 21.20.020

Project: Land at Paygrove Lane, Longlevens

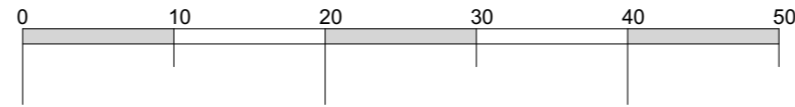
Scale: 1:20 @ A3

Date: February 2022

Project / Drawing No: 21.20.020 PL008


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Scale bar 1:500



Turning head allows turning of service and emergency vehicles

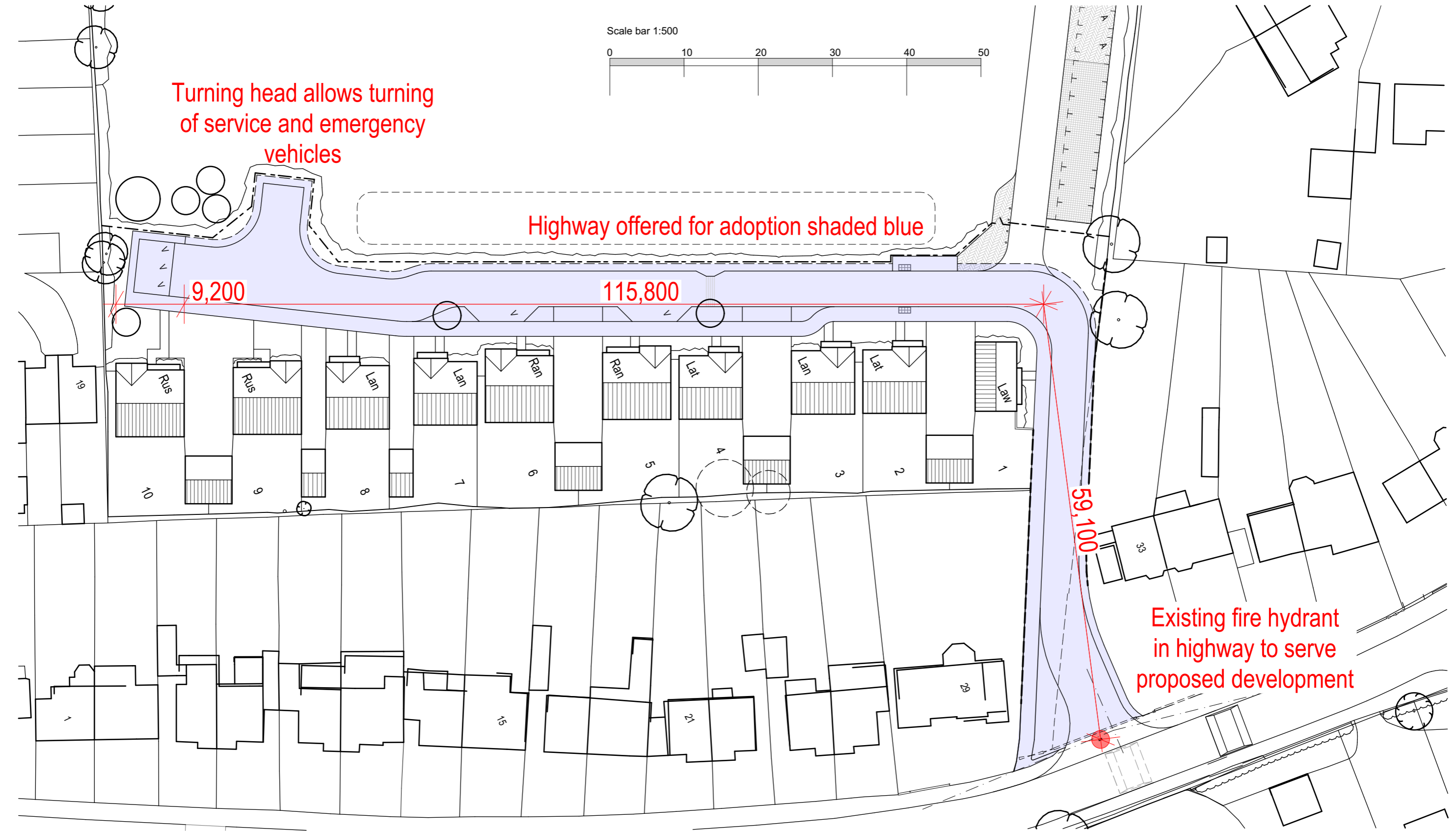
Highway offered for adoption shaded blue

9,200

115,800

59,100

Existing fire hydrant in highway to serve proposed development



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Drawing title: Fire Hydrant Strategy Plan

Client: Cotswold Oak Ltd

Drawn by: AH Checked: JE

Project No: 21.20.020

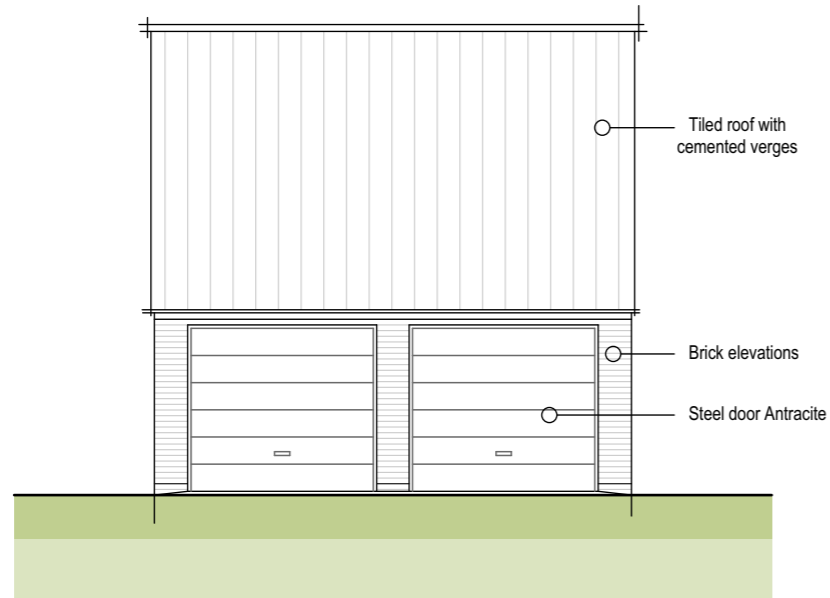
Project: Land at Paygrove Lane, Longlevens

Scale: 1:500 @ A3

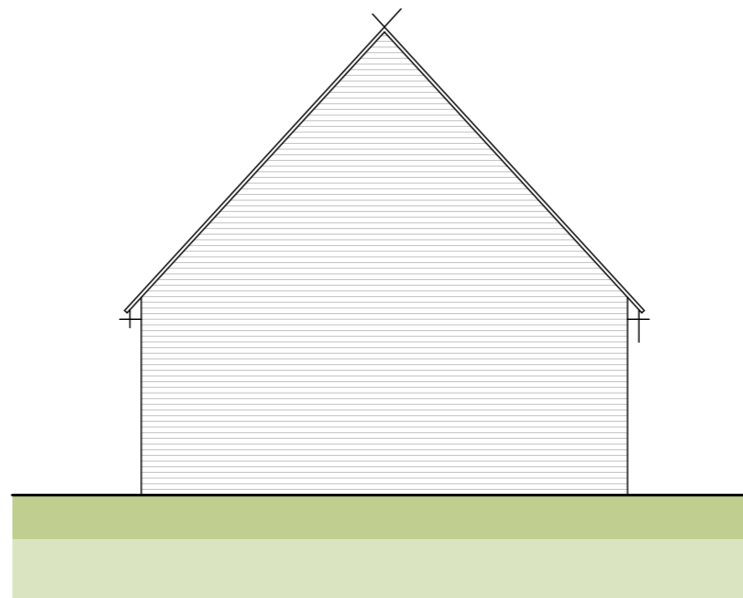
Date: February 2022

Project / Drawing No: 21.20.020 PL009

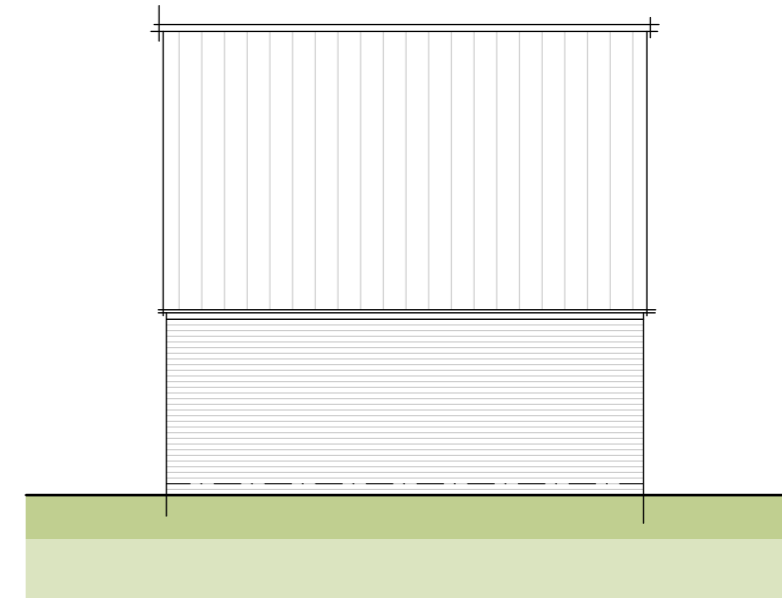
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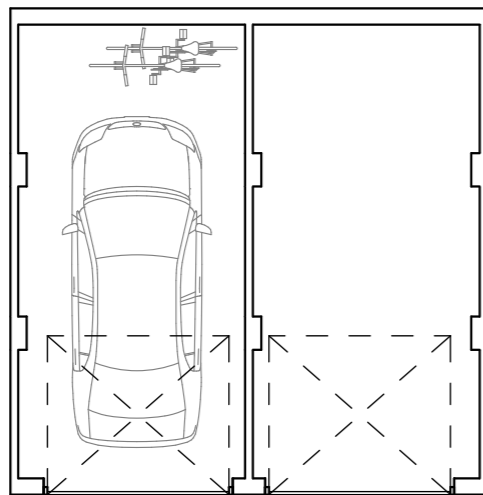
Front Elevation



Side Elevation

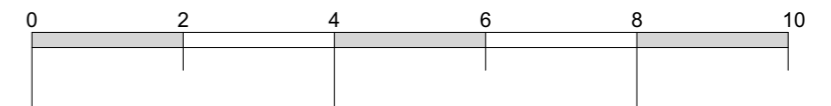


Rear Elevation



Pair Garages

Scale bar 1:100



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Drawing title: Proposed Pair Garages

Client: Cotswold Oak Ltd

Drawn by: AH Checked: JE

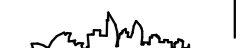
Project No: 21.20.020

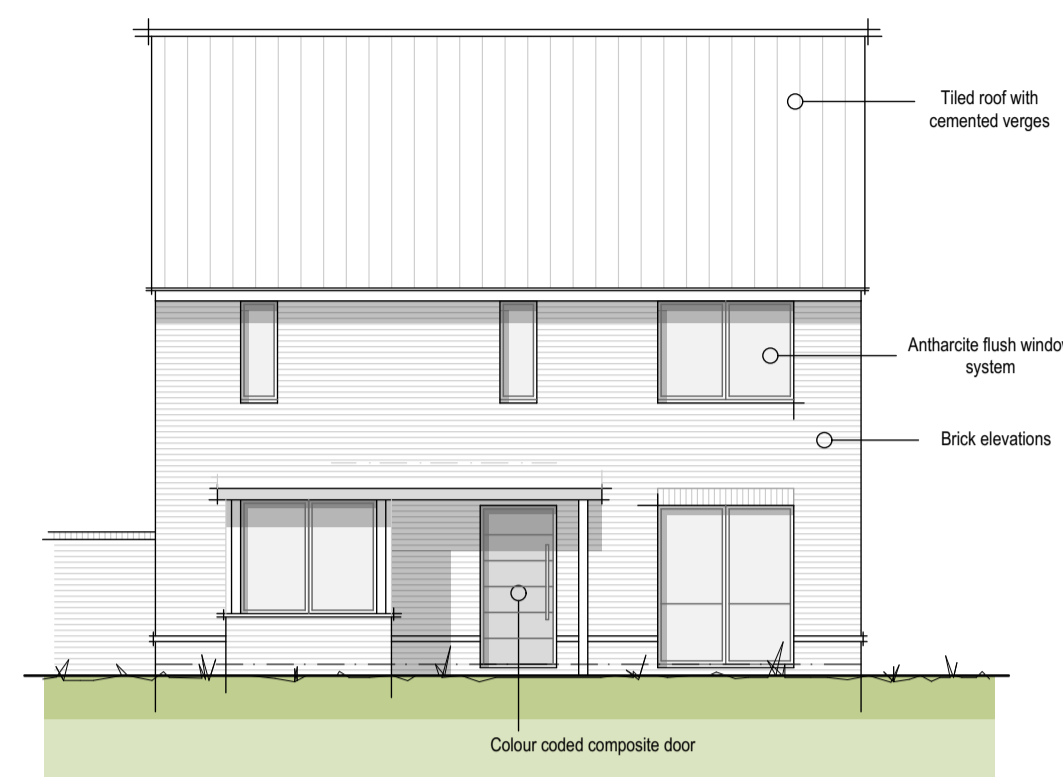
Project: Land at Paygrove Lane, Longlevens

Scale: 1:100 @ A3

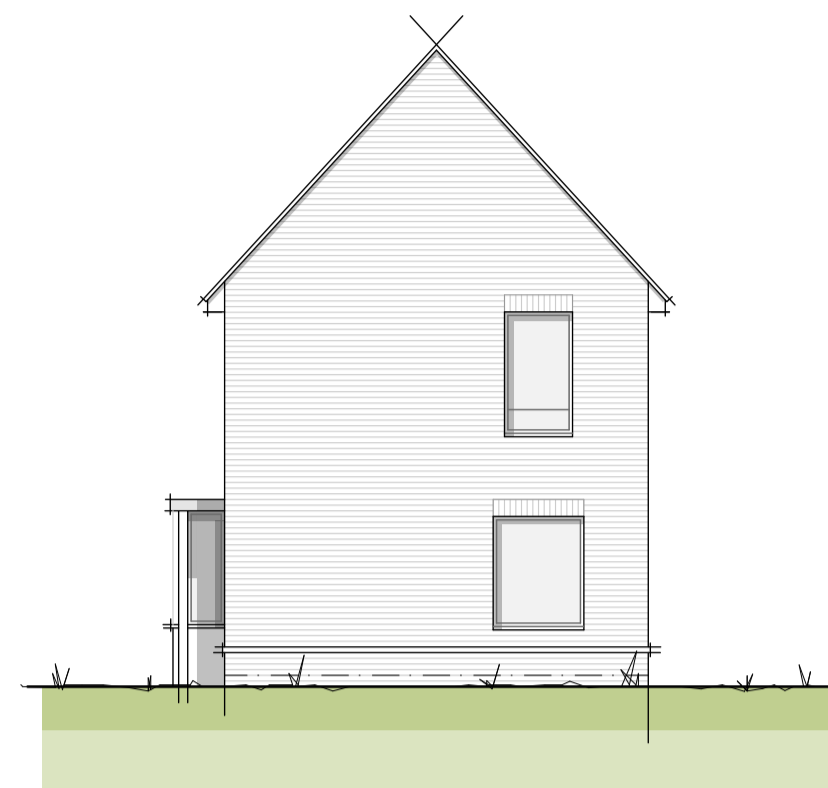
Date: February 2022

Project / Drawing No: 21.20.020 PLG01

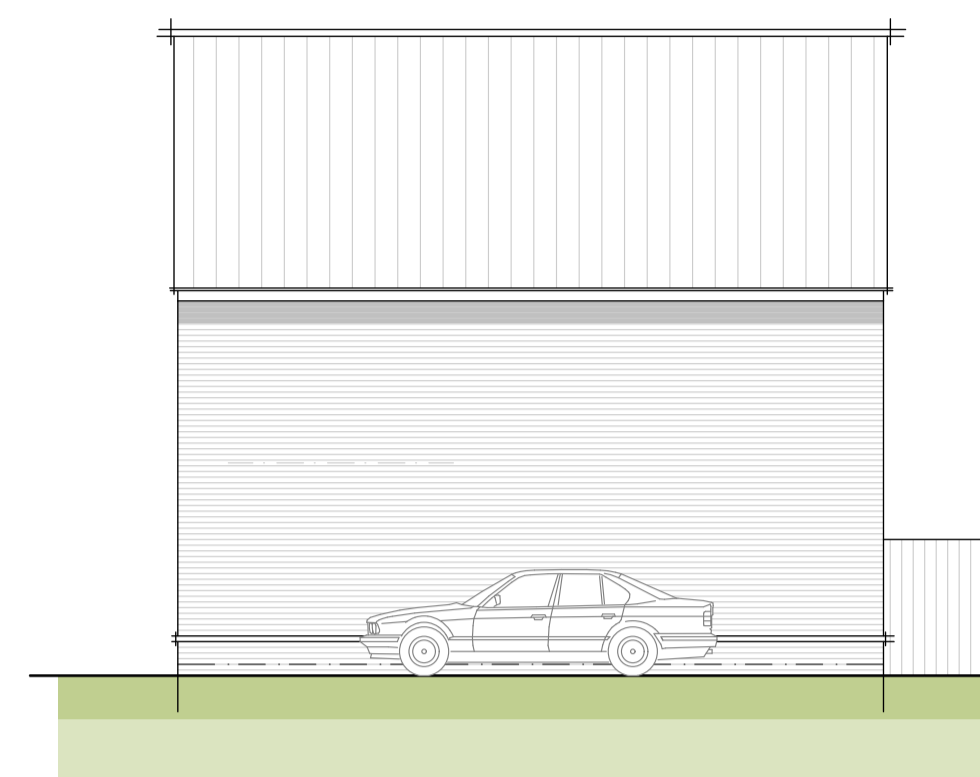

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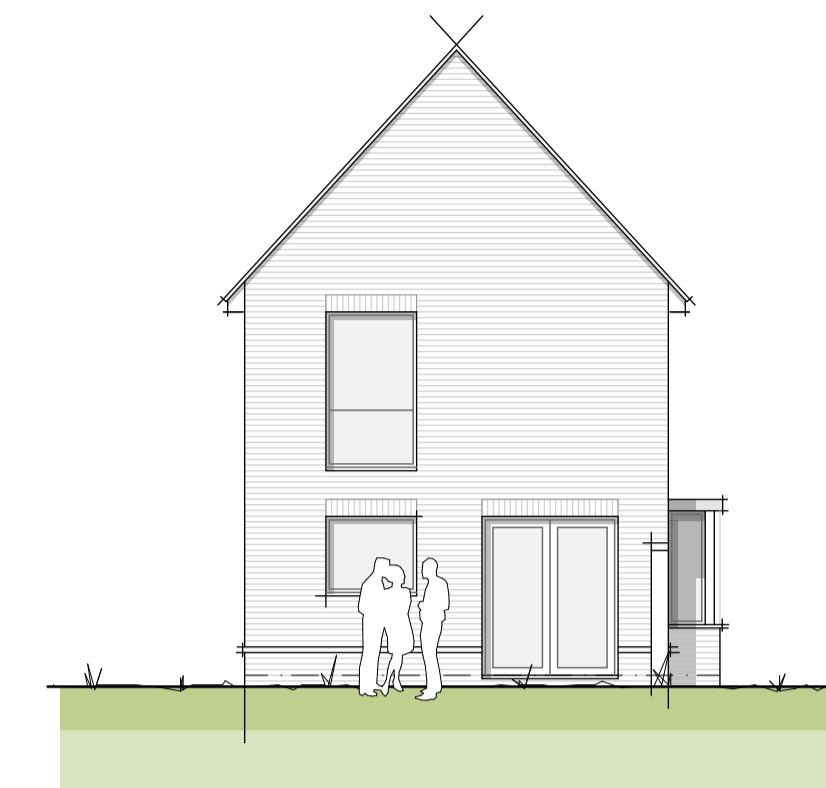
Front Elevation



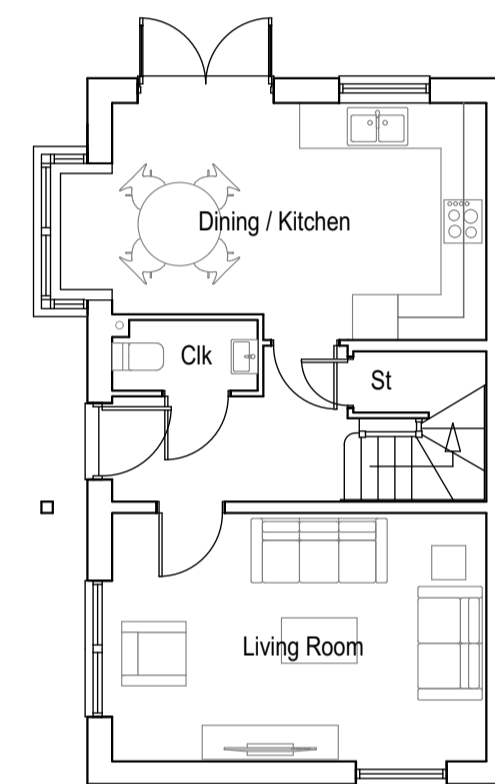
Side Elevation



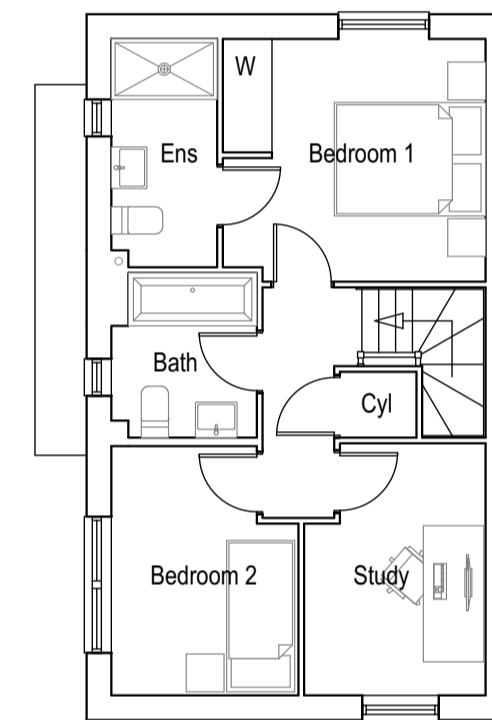
Rear Elevation



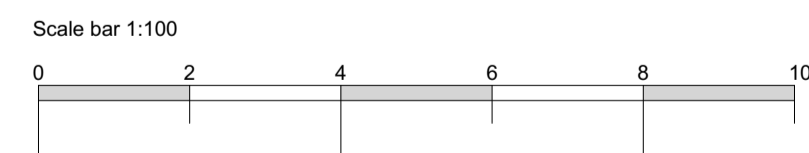
Side Elevation



Ground Floor Plan
gfa 86.9sq/m (935sq/ft)
Plot 1



First Floor Plan



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Drawing title: Lawrence House Type,
2 Bedroom

Client: Cotswold Oak Ltd

Drawn by: AH Checked: JE

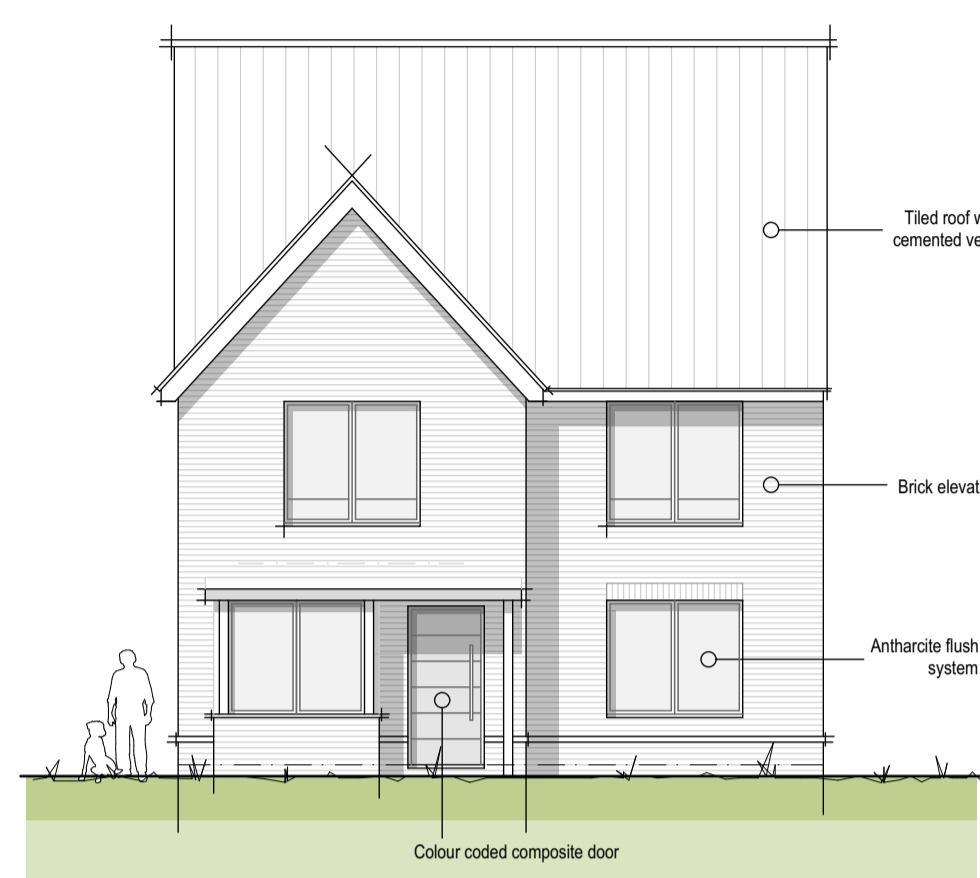
Project No: 21.20.020

Project: Land at Paygrove Lane,
Longlevens

Scale: 1:100 @ A1

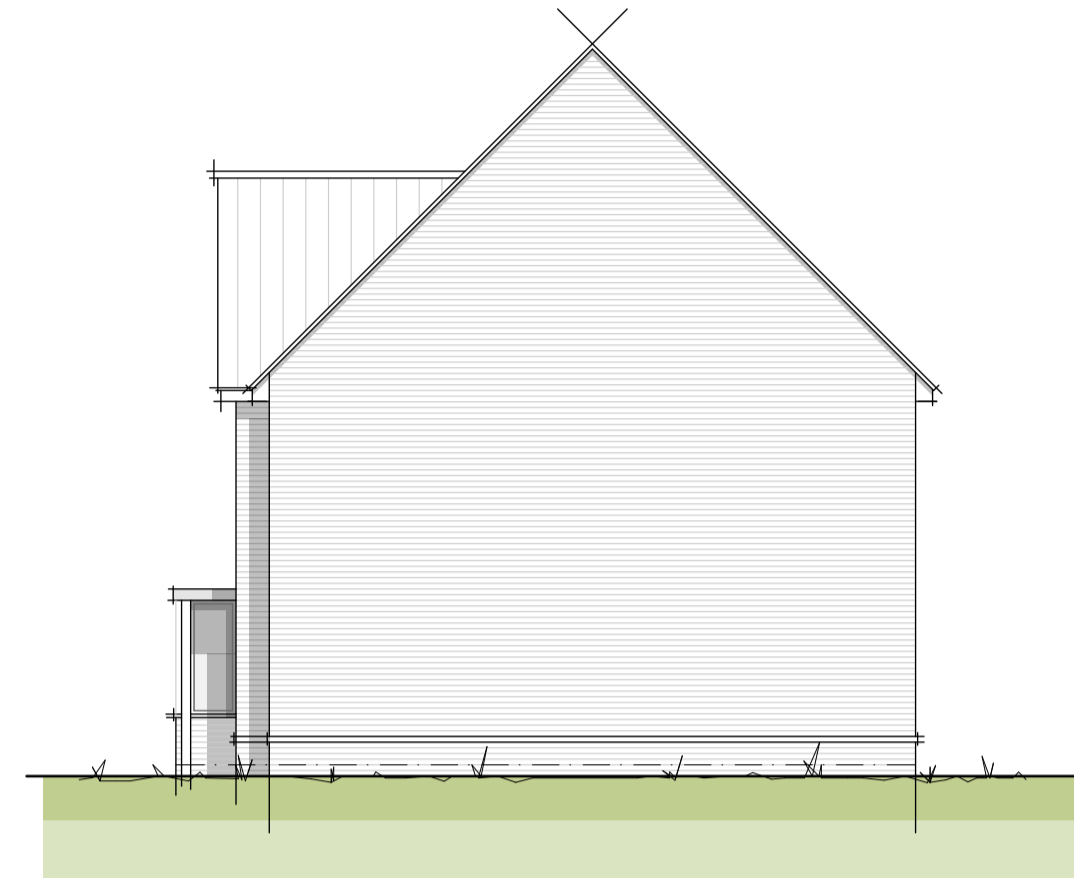
Date: November 2021

Project / Drawing No: 21.20.020 PLH01

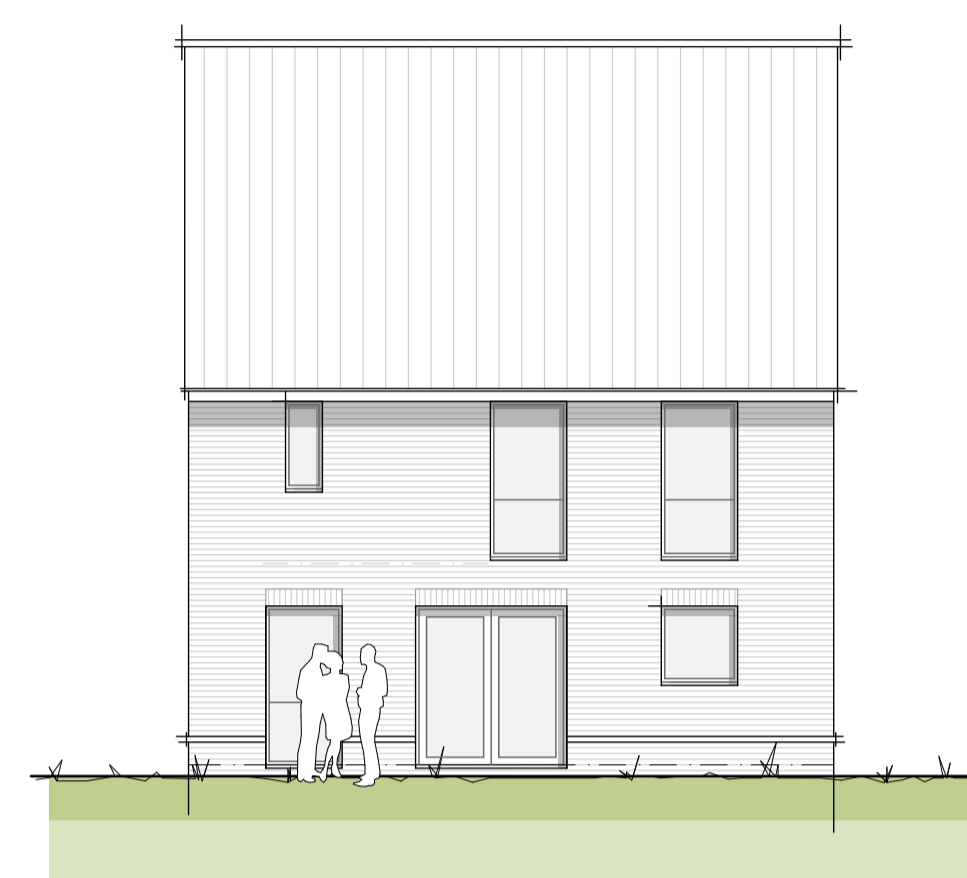


Front Elevation

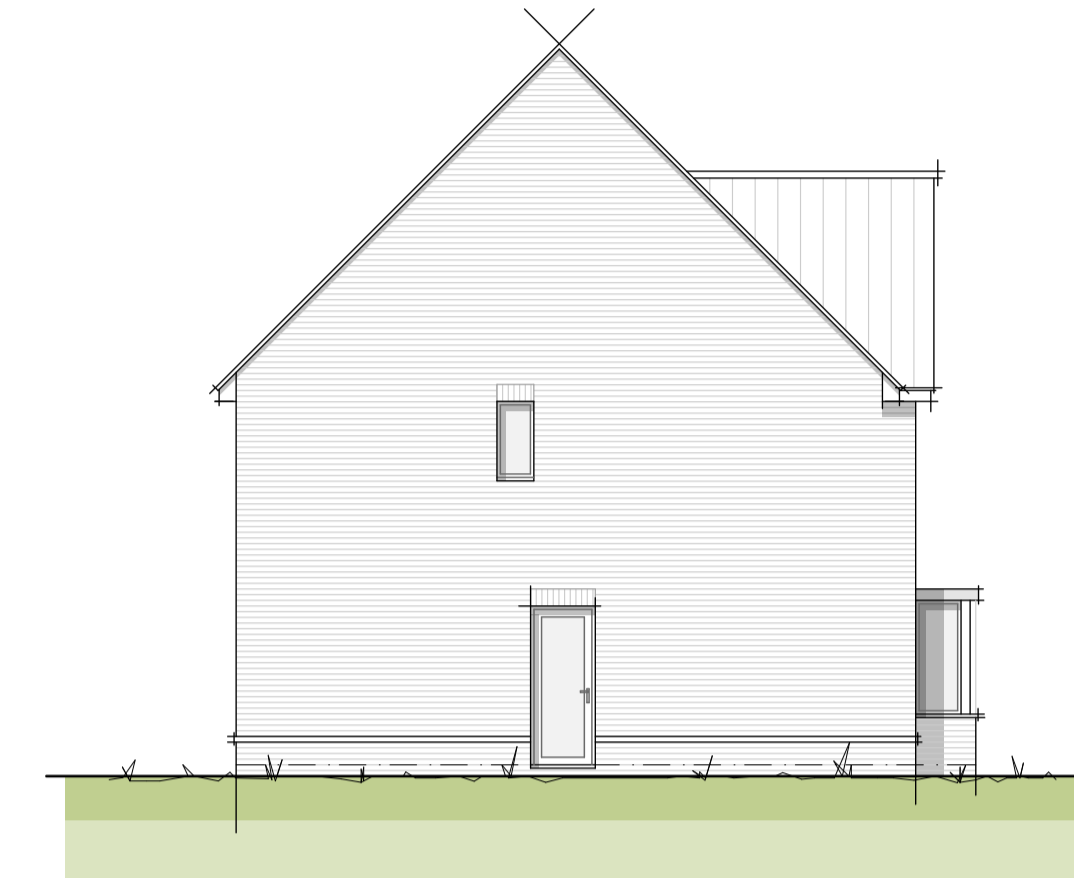
Tiled roof with omented verges
Brick elevations
Anthracite flush window system
Colour coded composite door



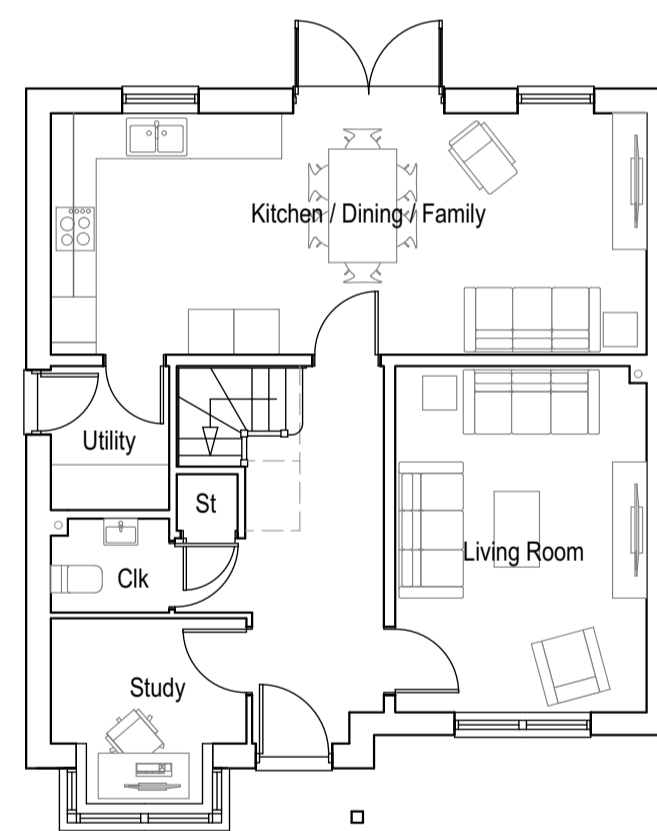
Side Elevation



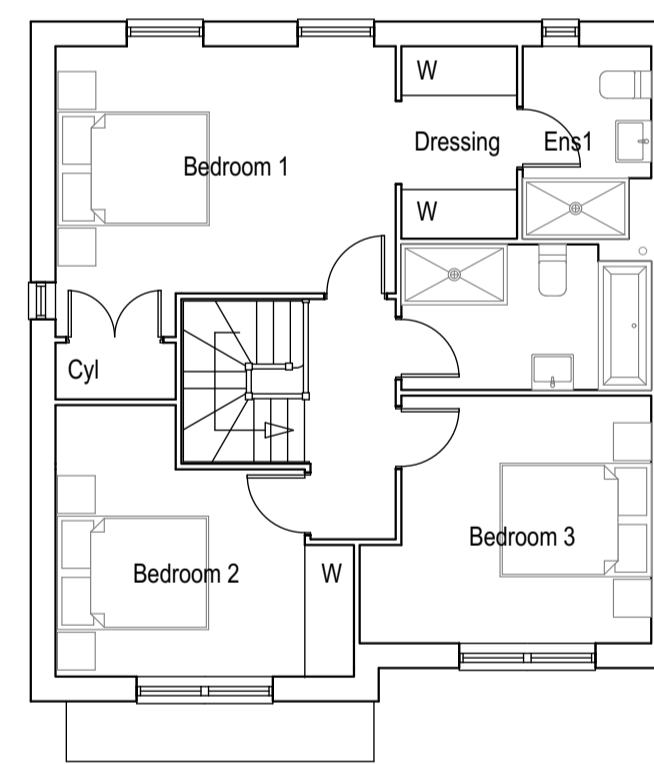
Rear Elevation



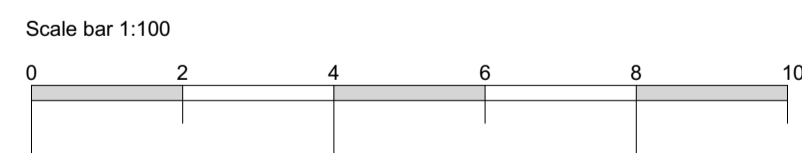
Side Elevation



Ground Floor Plan
gfa 129.1sq/m (1389sq/ft)
Plots 2 & 4



First Floor Plan



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Drawing title: Latchford House Type,
3 Bedroom

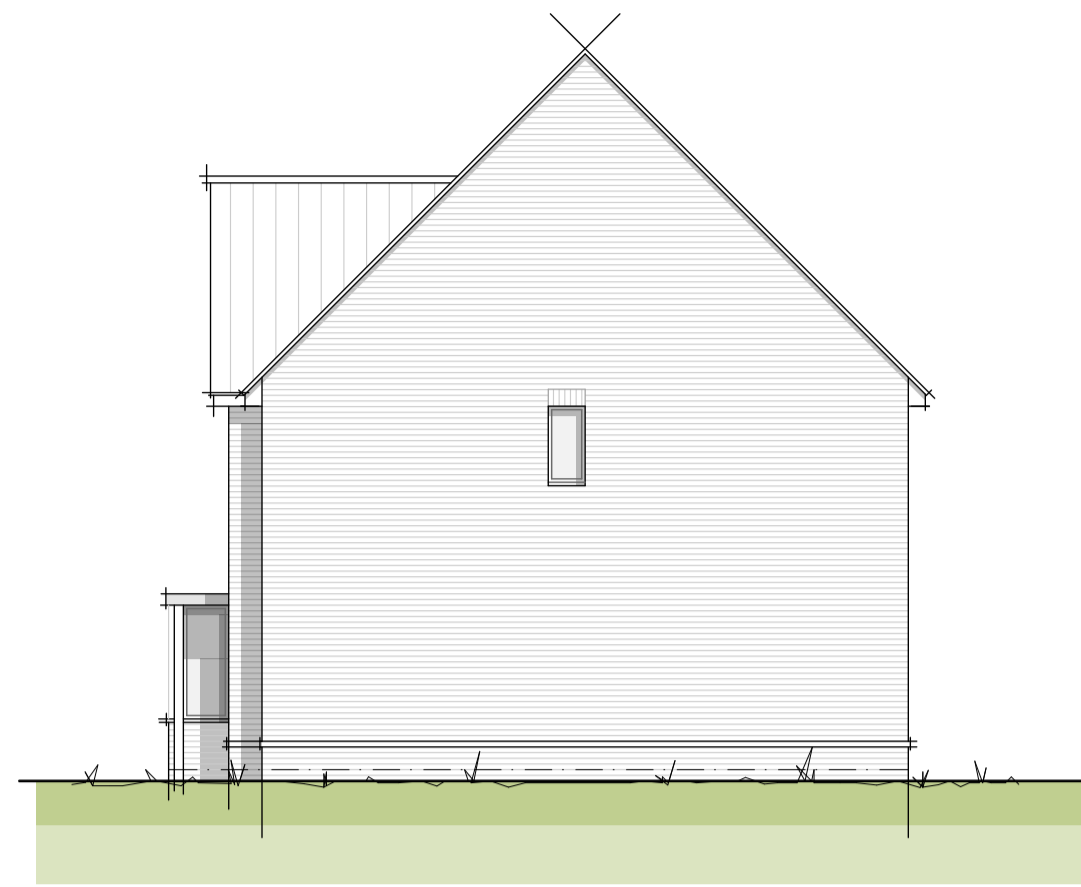
Client: Cotswold Oak Ltd
Drawn by: AH Checked: JE
Project No: 21.20.020

Project: Land at Paygrove Lane,
Longlevens

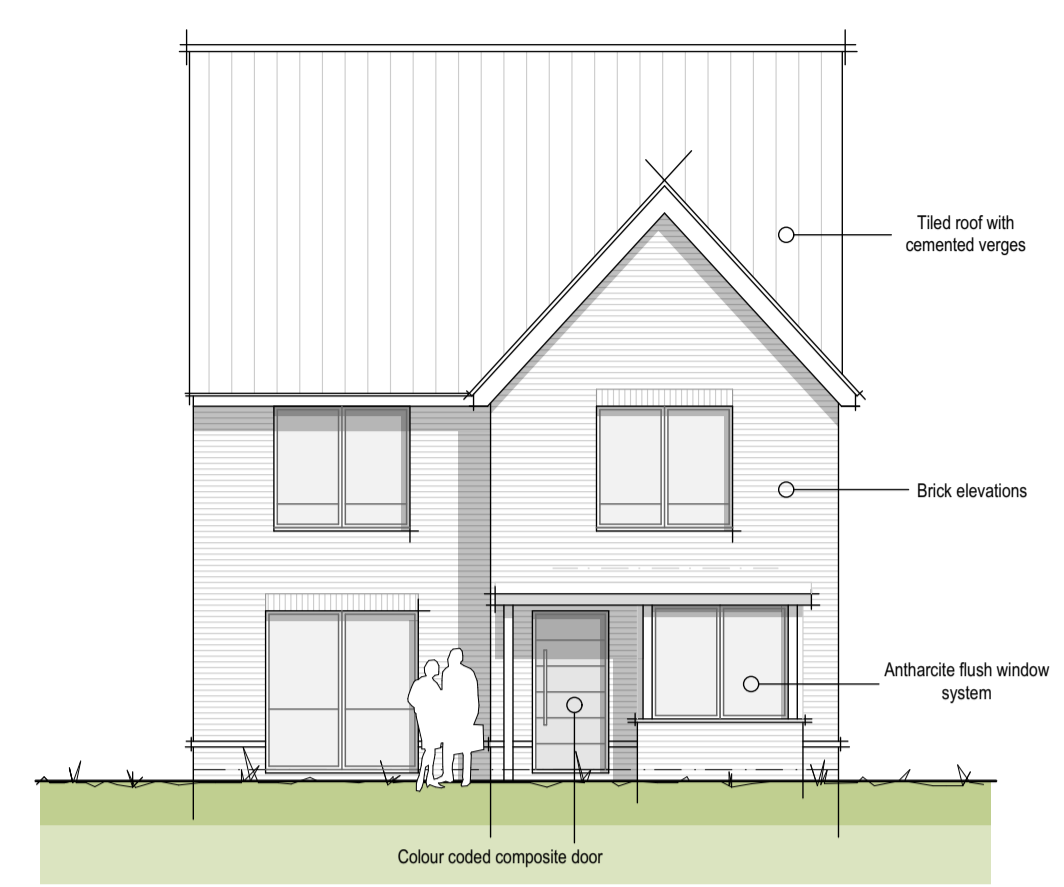
Scale: 1:100 @ A1
Date: November 2021
Project / Drawing No: 21.20.020 PLH02



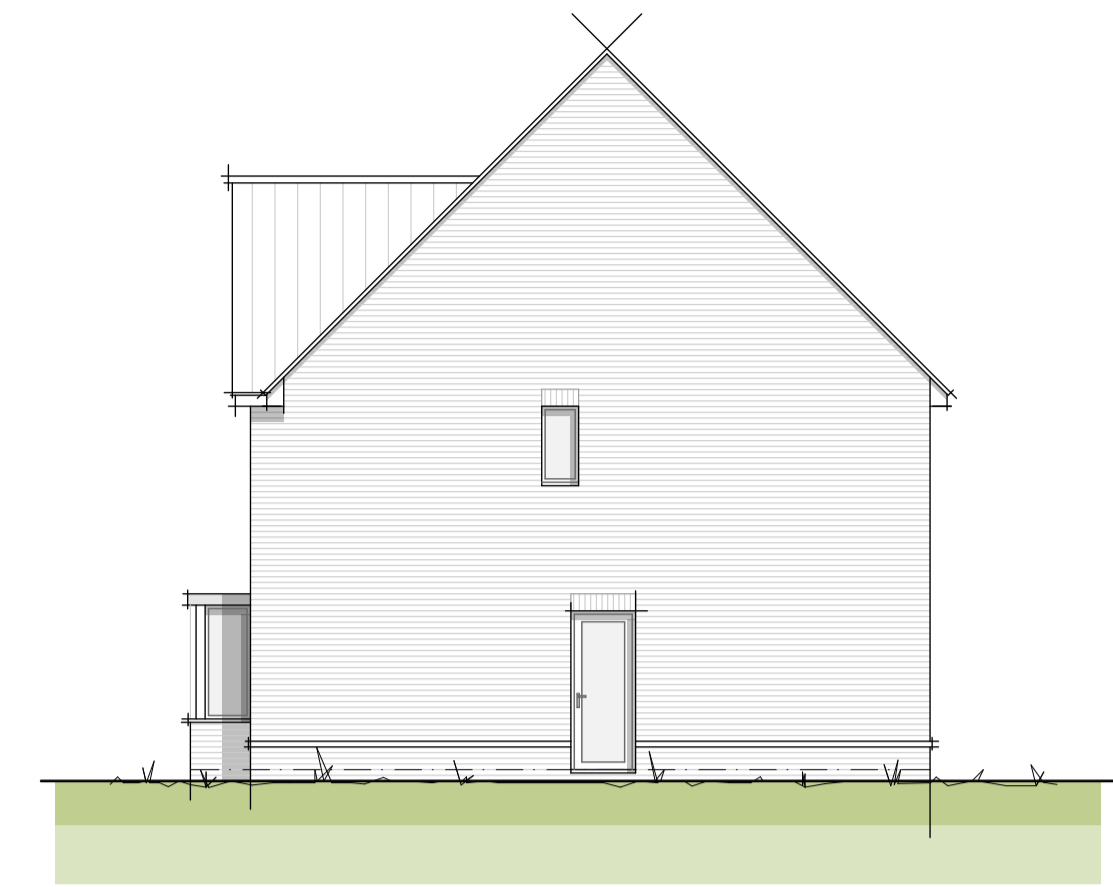
Front Elevation



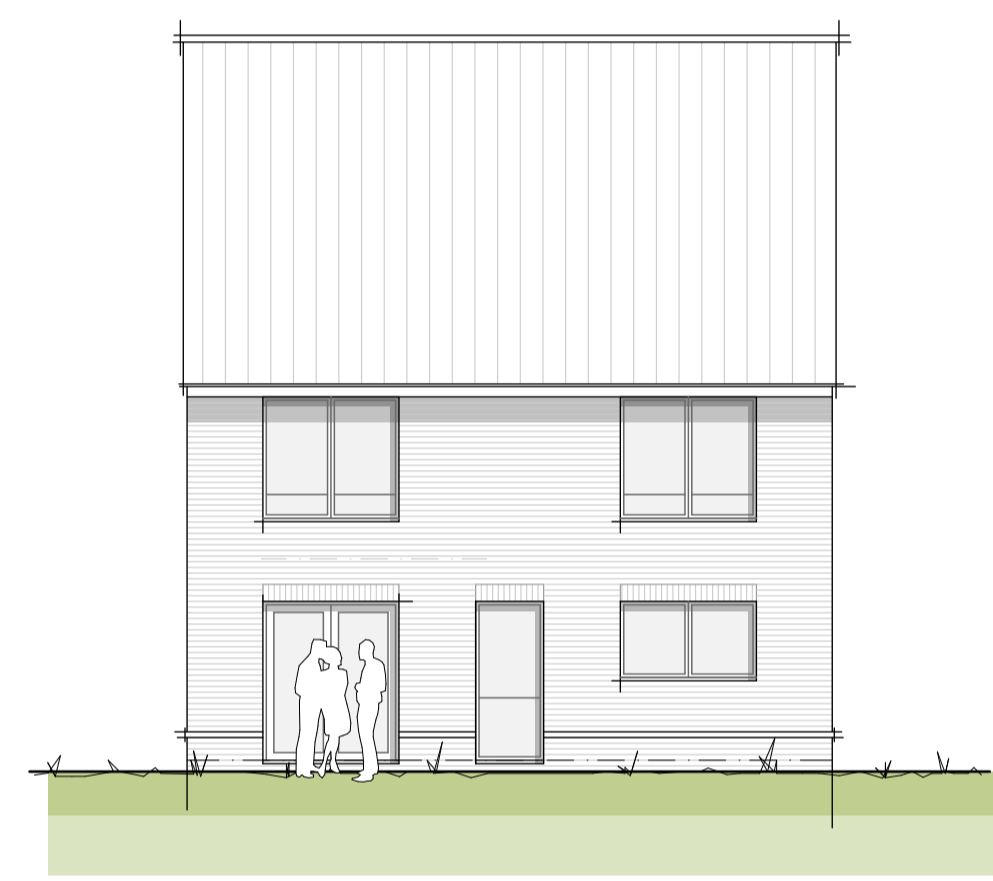
Side Elevation



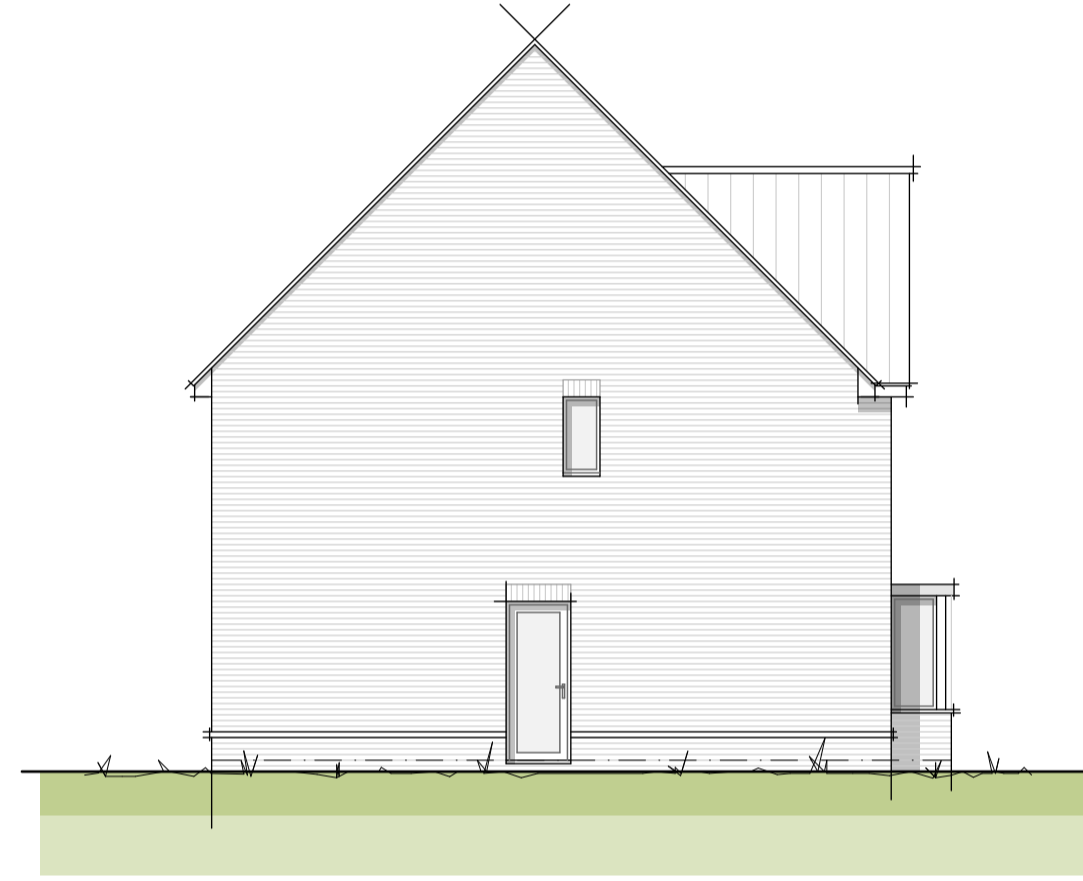
Front Elevation



Side Elevation



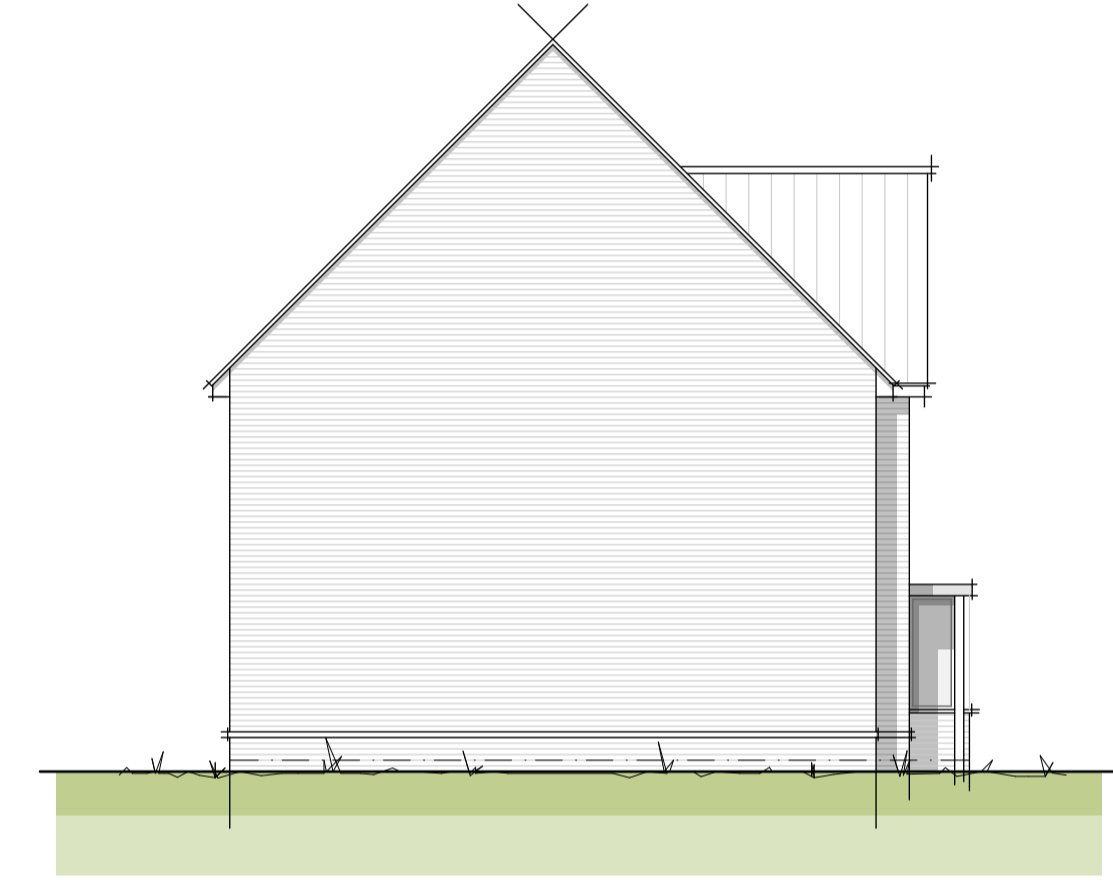
Rear Elevation



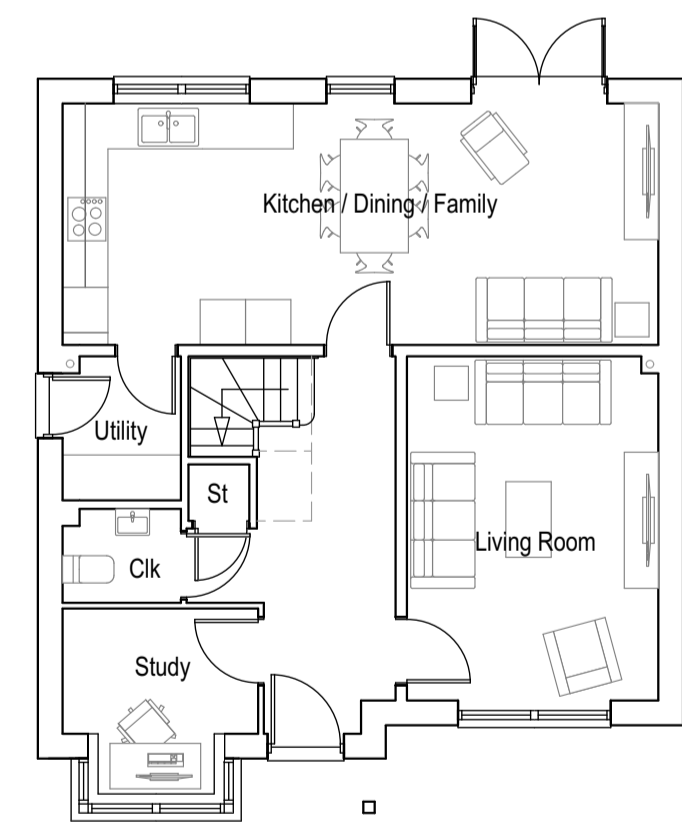
Side Elevation



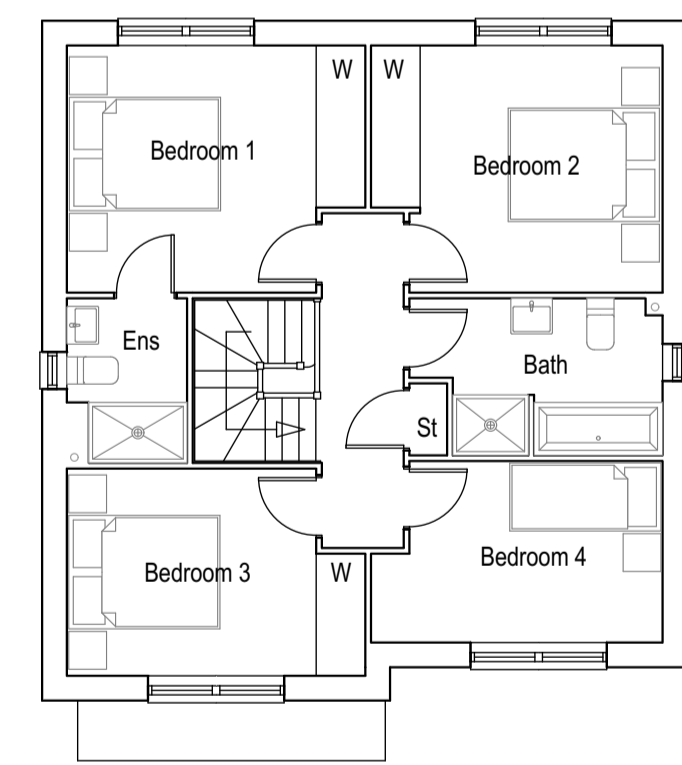
Rear Elevation



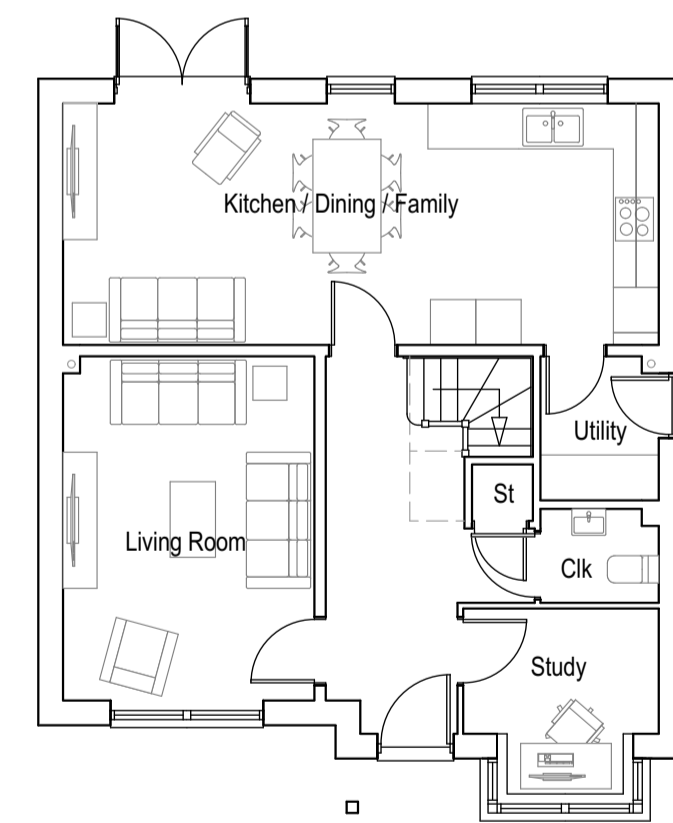
Side Elevation



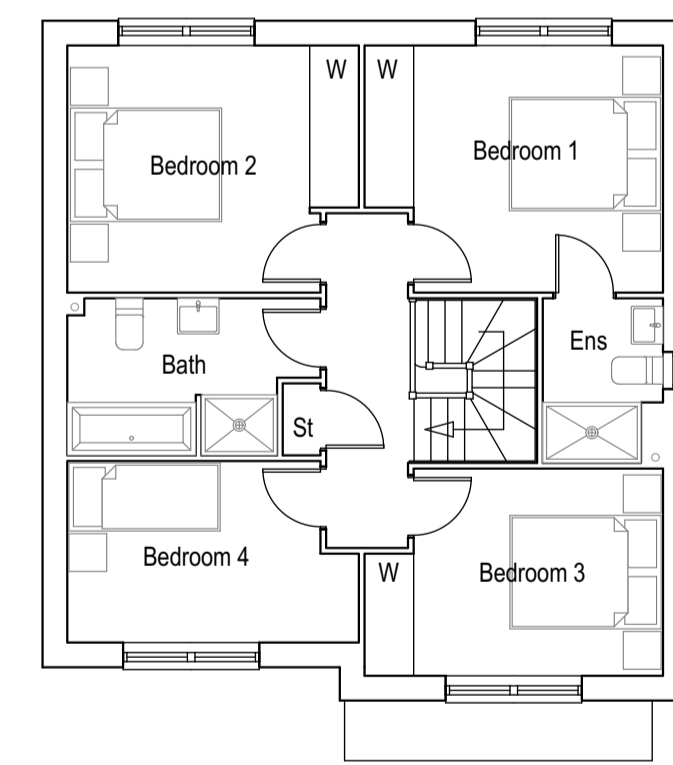
Ground Floor Plan
g/f/a 129.1sq/m (1389sq/ft)
Plot 3



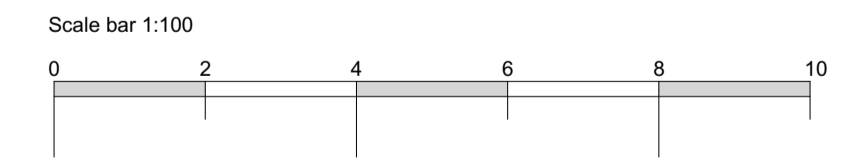
First Floor Plan



Ground Floor Plan
g/f/a 129.1sq/m (1389sq/ft)
Plots 7 & 8



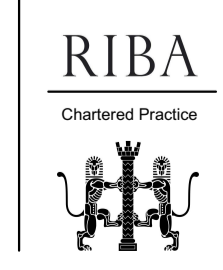
First Floor Plan



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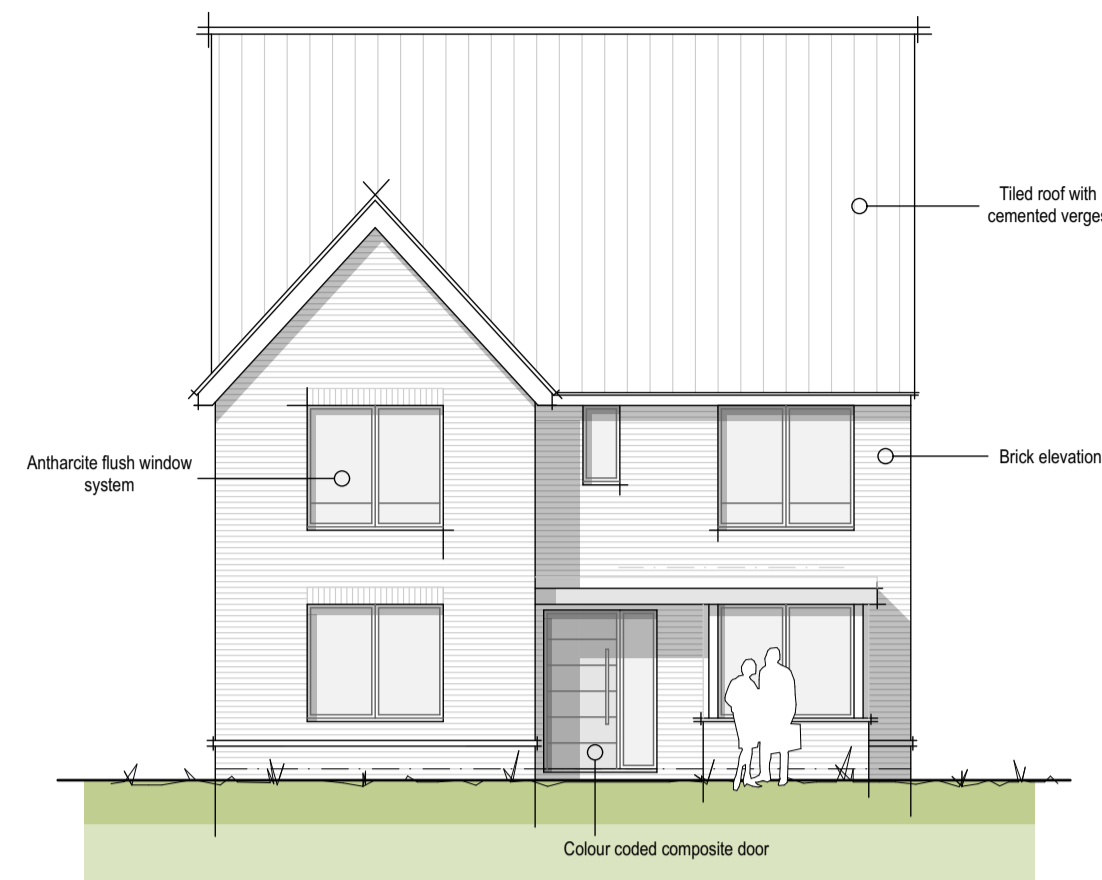
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Drawing title: Langley House Type, 4 Bedroom
Client: Cotswold Oak Ltd
Drawn by: AH Checked: JE
Project No: 21.20.020

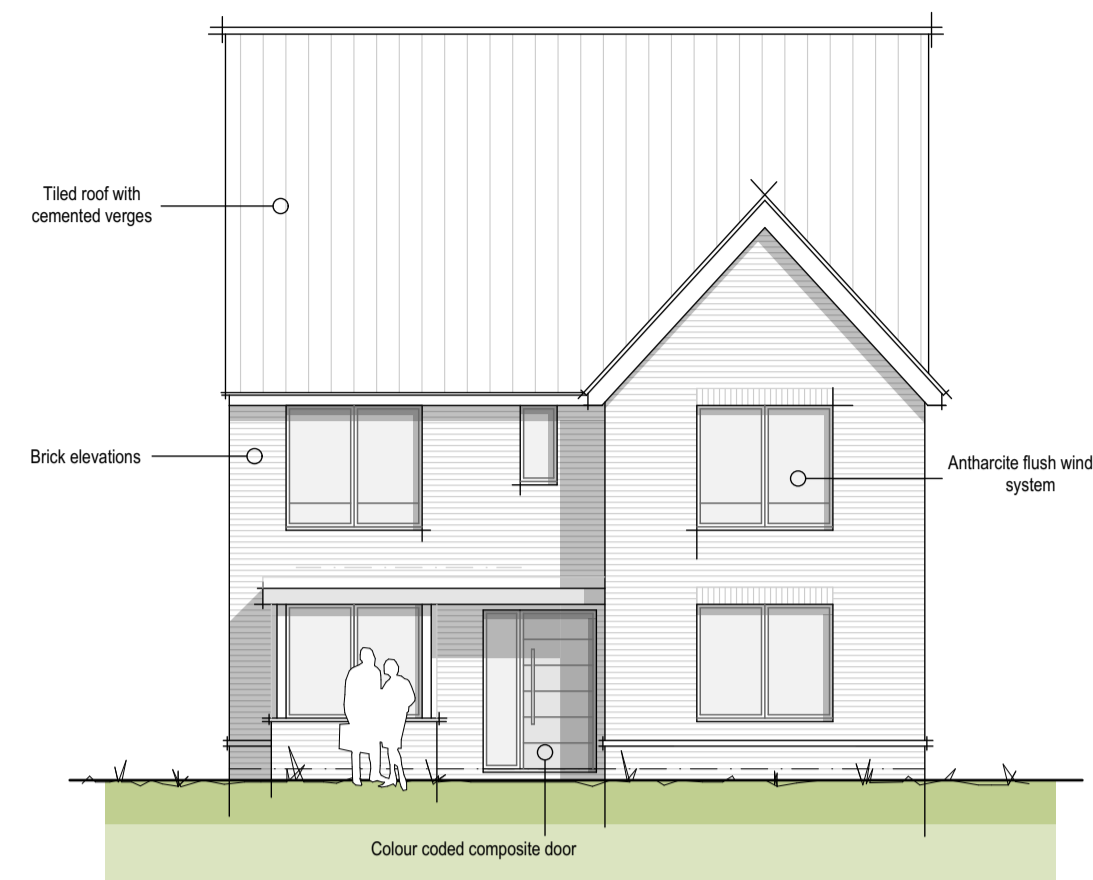
Project: Land at Paygrove Lane, Longlevens
Scale: 1:100 @ A1
Date: November 2021
Project / Drawing No: 21.20.020 PLH03



Front Elevation



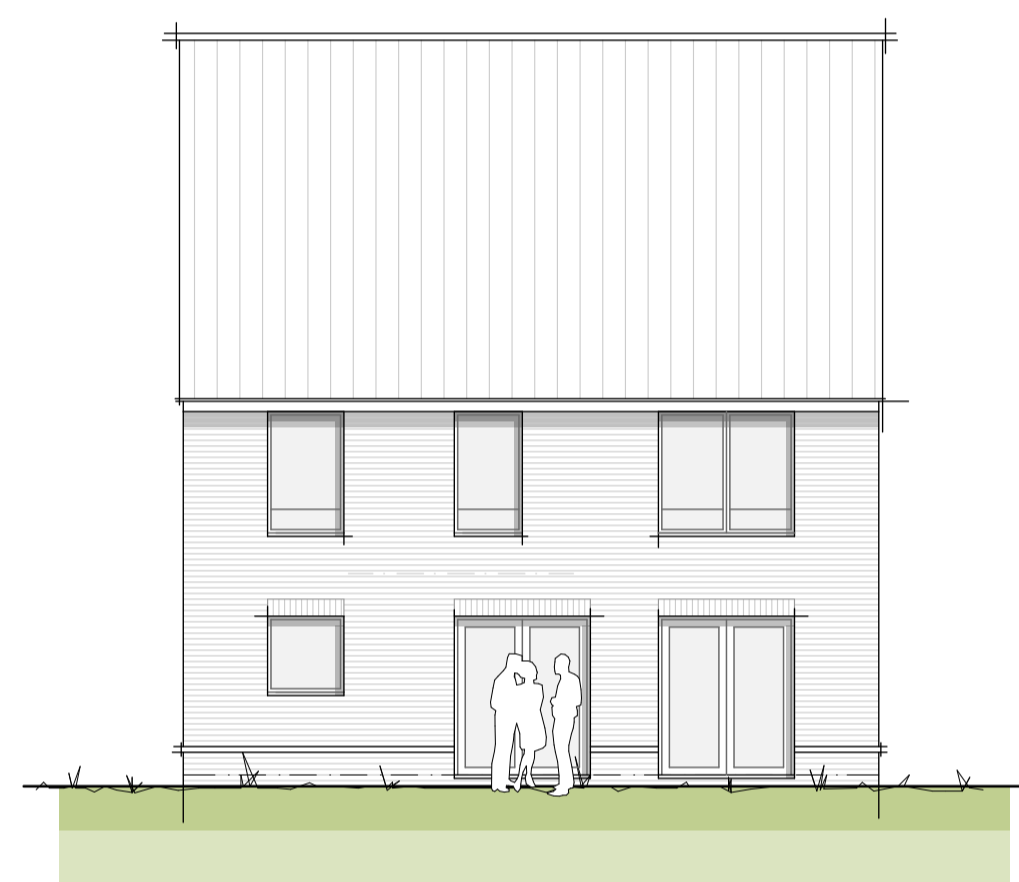
Side Elevation



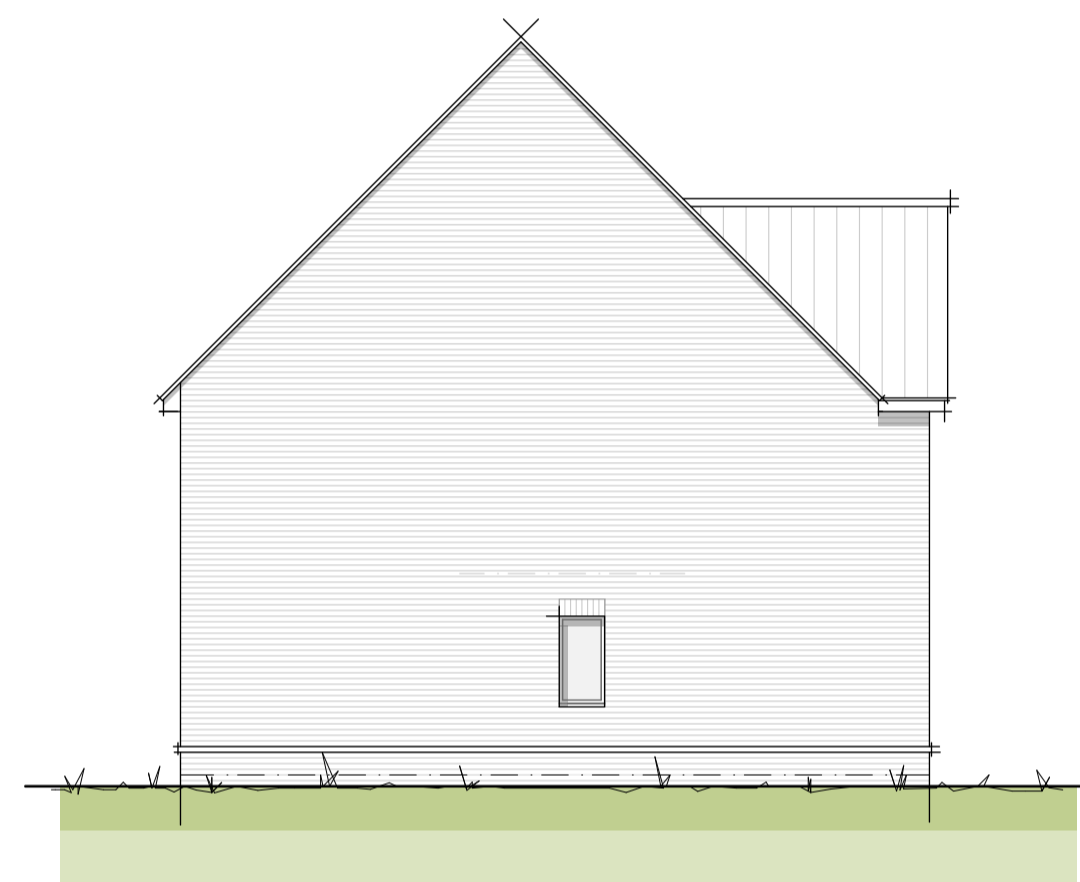
Front Elevation



Side Elevation



Rear Elevation



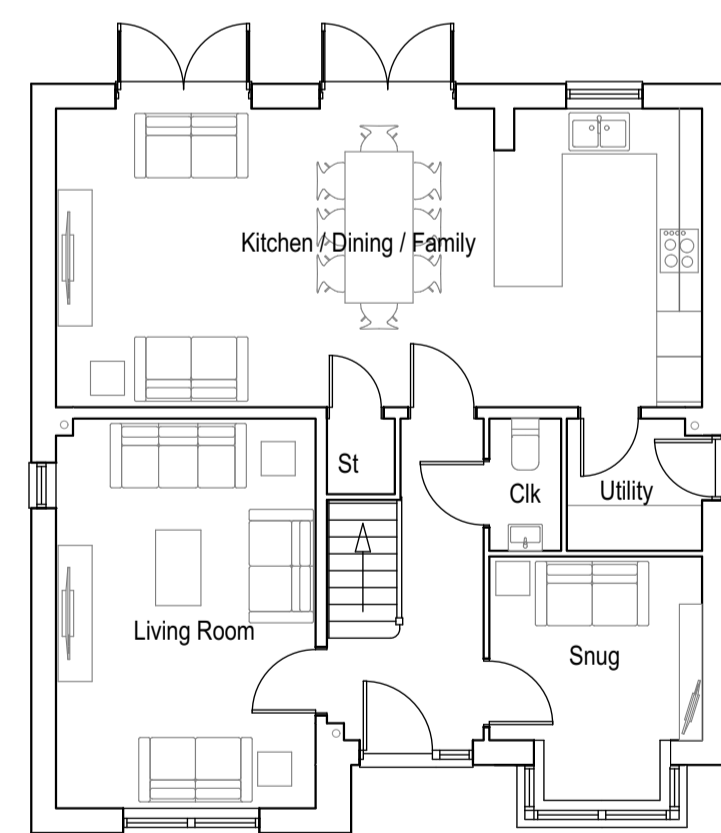
Side Elevation



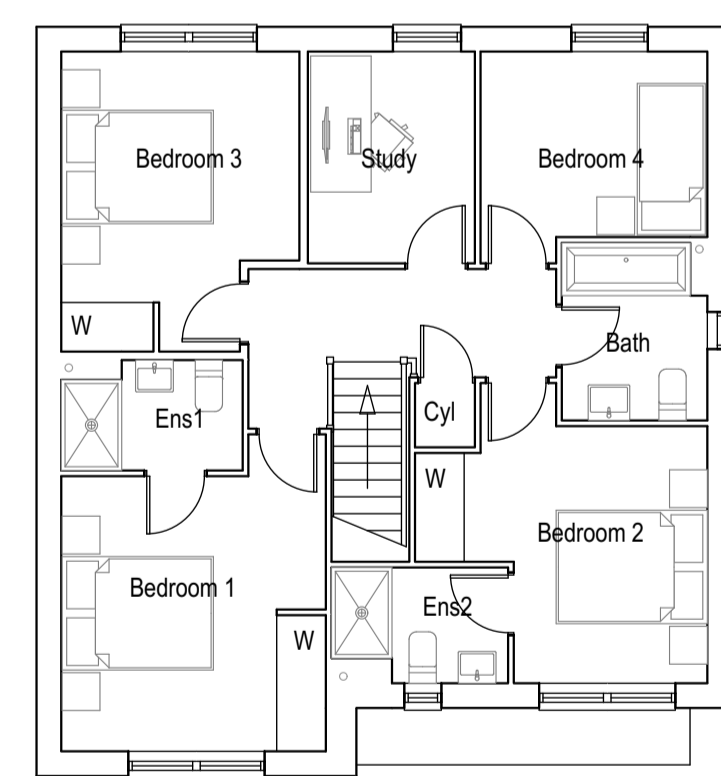
Rear Elevation



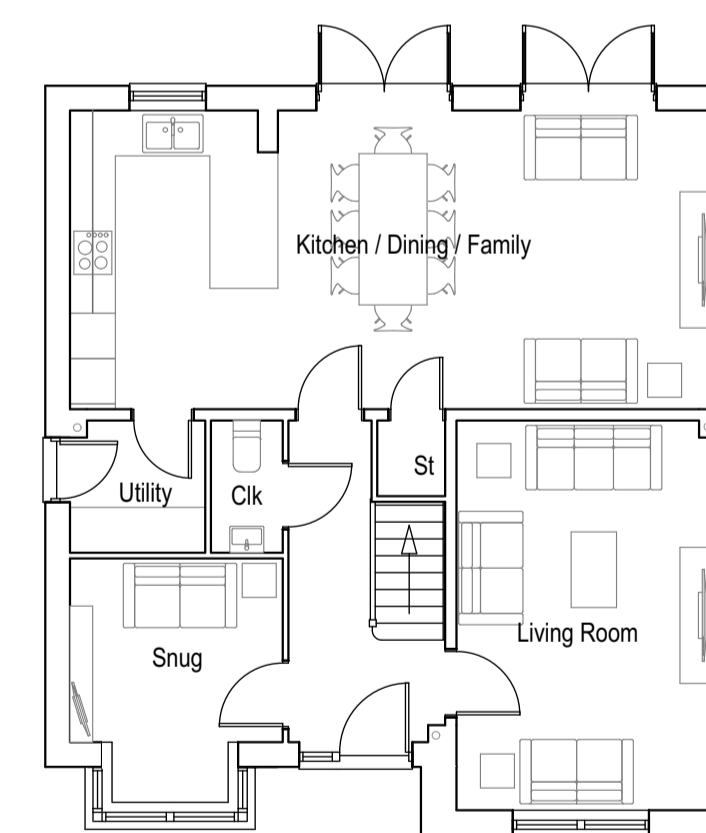
Side Elevation



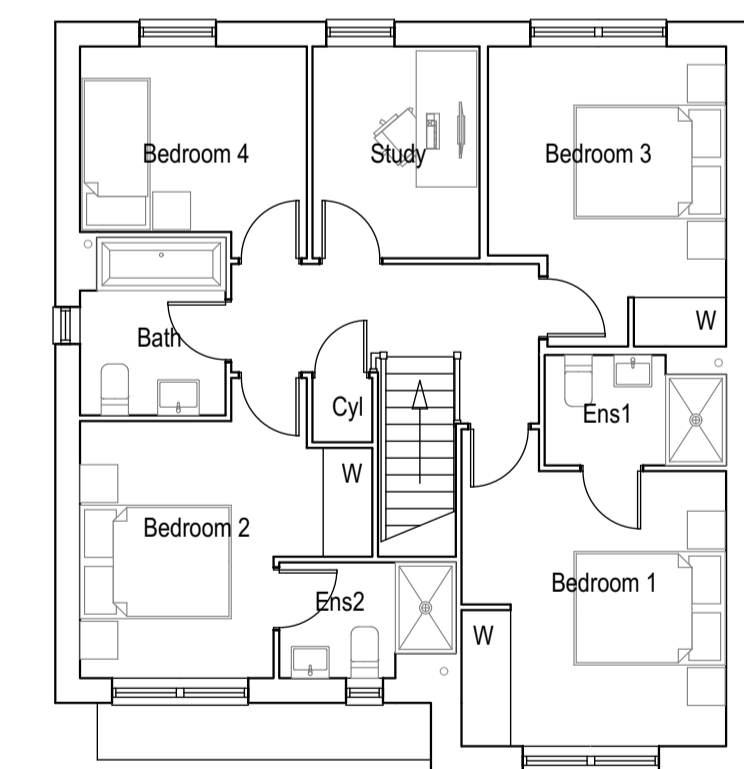
Ground Floor Plan
gfa 150.1sq/m (1615sq/ft)
Plot 5



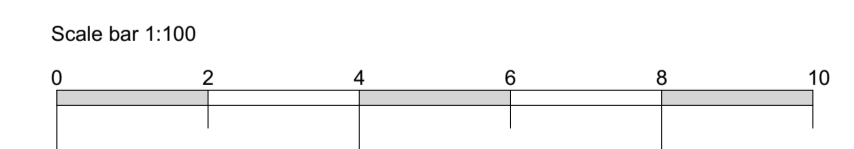
First Floor Plan



Ground Floor Plan
gfa 150.1sq/m (1615sq/ft)
Plot 6



First Floor Plan



coombes : everitt architects limited
105-107 Bath Road
Cheltenham
Gloucestershire
GL53 7LE

- Preliminary
- Feasibility
- Planning
- Building Regulations
- Tender
- Construction issue
- As Built

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2. Do not scale drawing. all dimensions to be checked on site prior to construction and any discrepancies reported to contract administrator.
3. Do not use this drawing for setting out unless drawing specifically indicates setting out points.
4. Engineering information is indicative only and should be taken from structural engineers design.

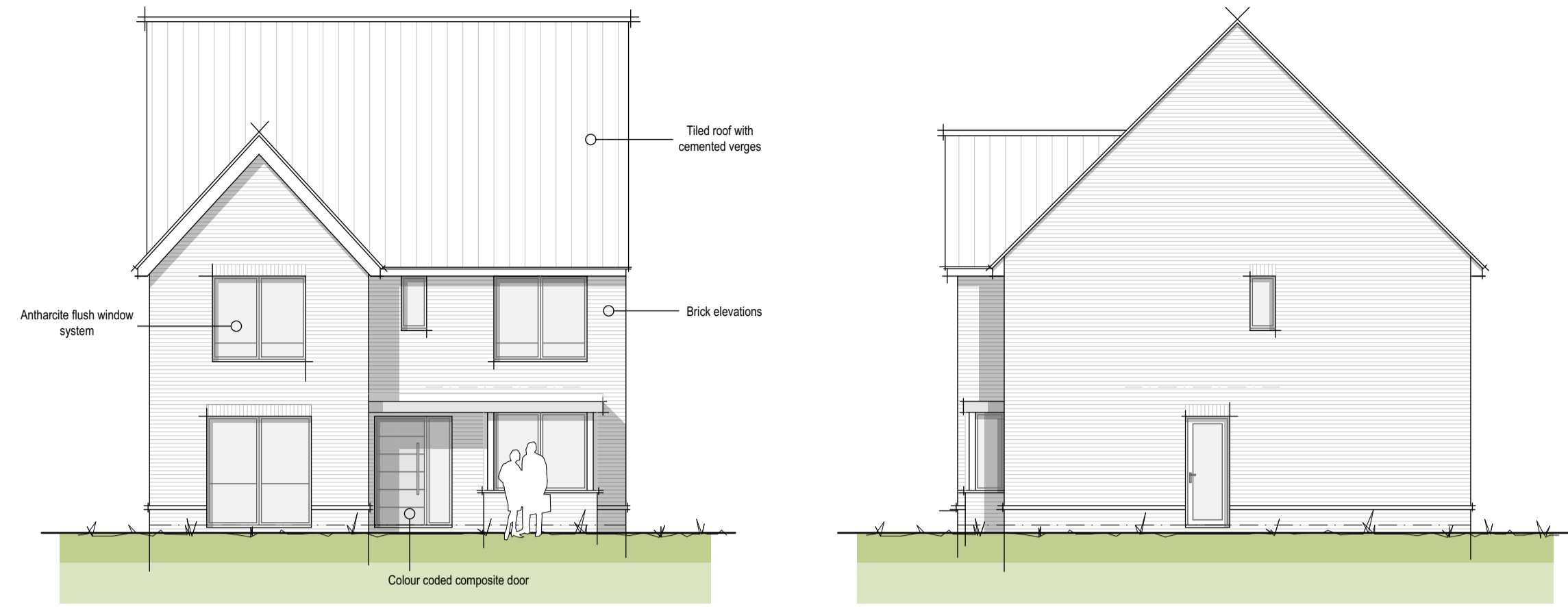


www.ce-architects.co.uk

Drawing title: Ranscombe House Type, 4 Bedroom
Client: Cotswold Oak Ltd
Drawn by: AH Checked: JE
Project No: 21.20.020

Project: Land at Paygrove Lane, Longlevens
Scale: 1:100 @ A1
Date: November 2021
Project / Drawing No: 21.20.020 PLH04

coombes : everitt architects



Front Elevation

Side Elevation



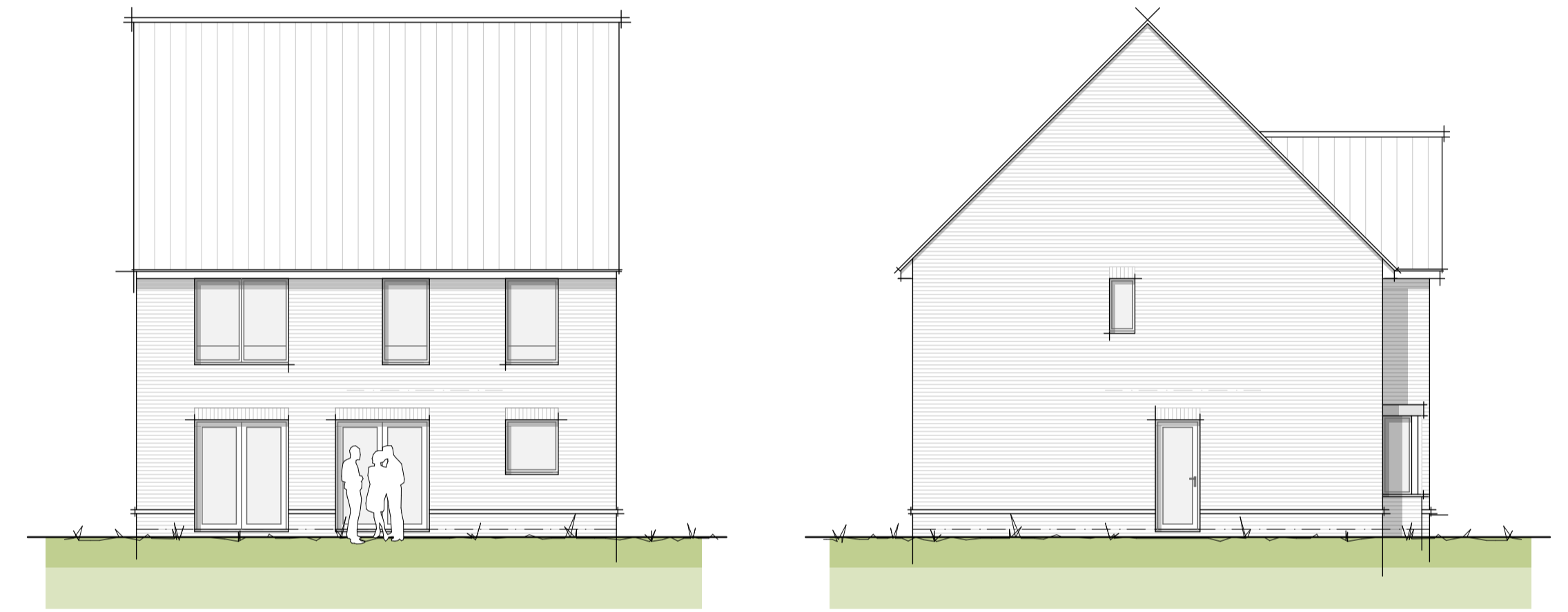
Front Elevation

Side Elevation



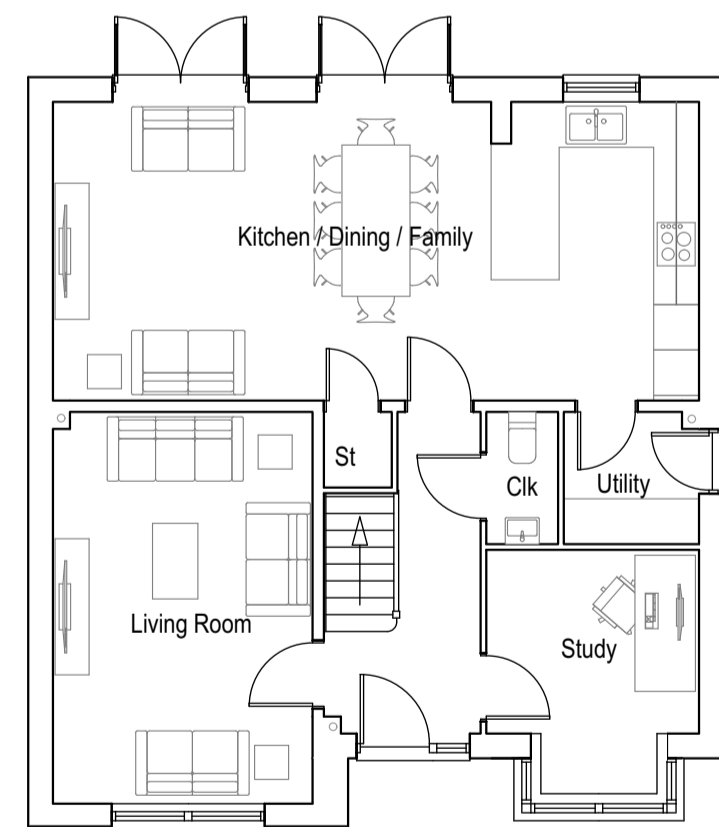
Rear Elevation

Side Elevation

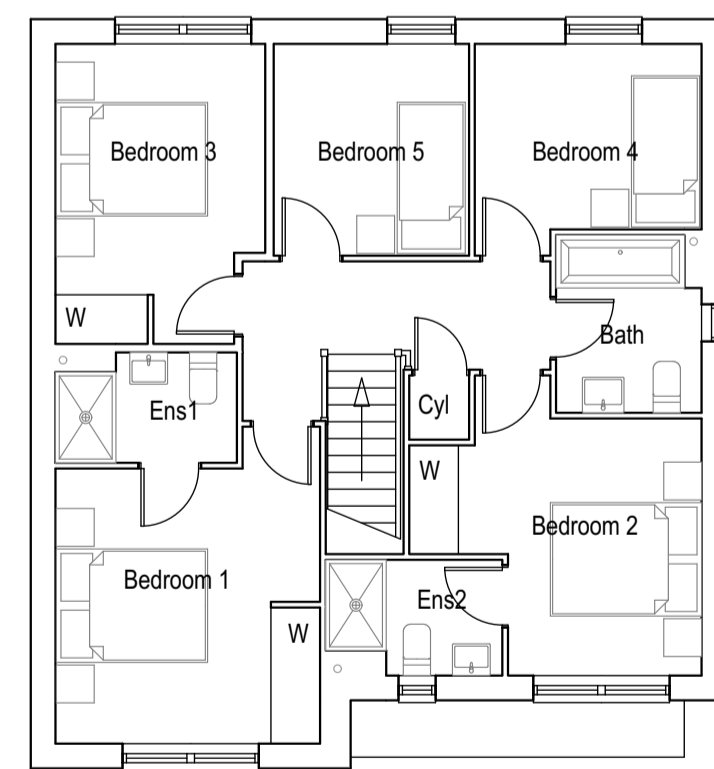


Rear Elevation

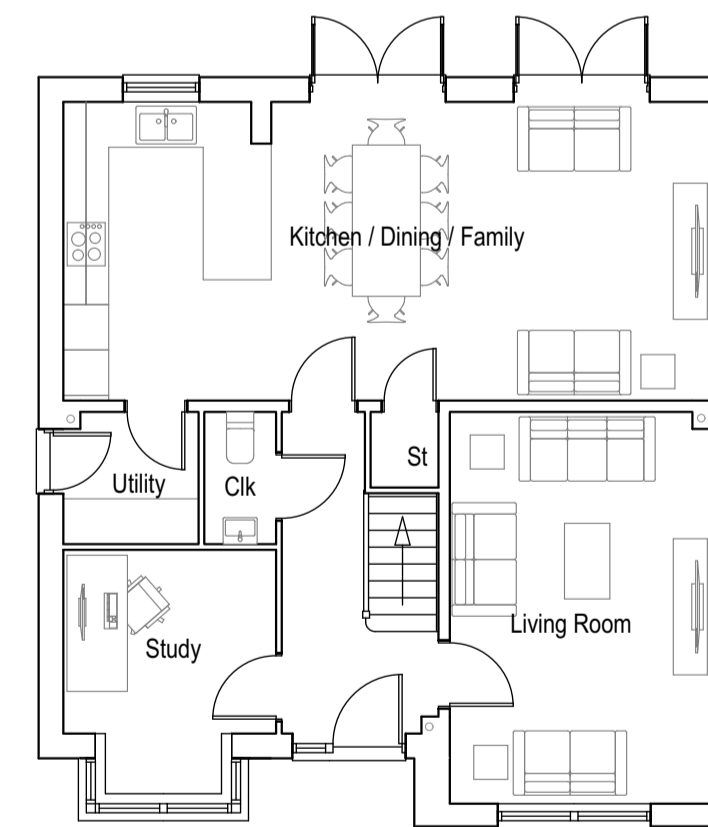
Side Elevation



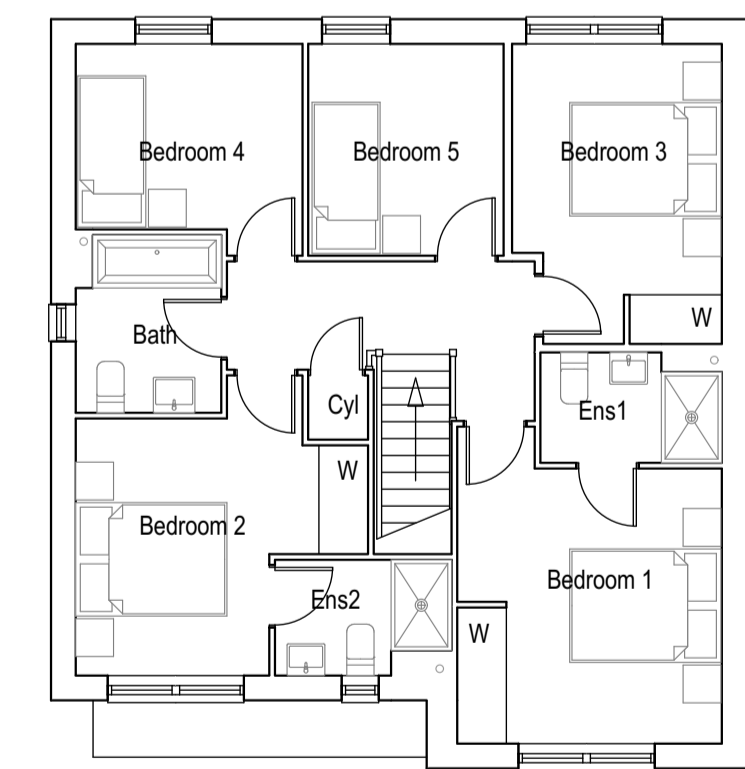
Ground Floor Plan
gfa 150.1sq/m (1615sq/ft)
Plot 9



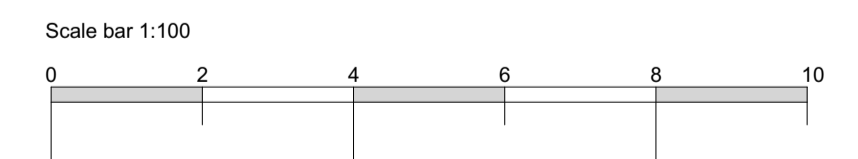
First Floor Plan



Ground Floor Plan
gfa 150.1sq/m (1615sq/ft)
Plot 10



First Floor Plan



coombes : everitt architects limited
105-107 Bath Road
Cheltenham
Gloucestershire
GL53 7LE

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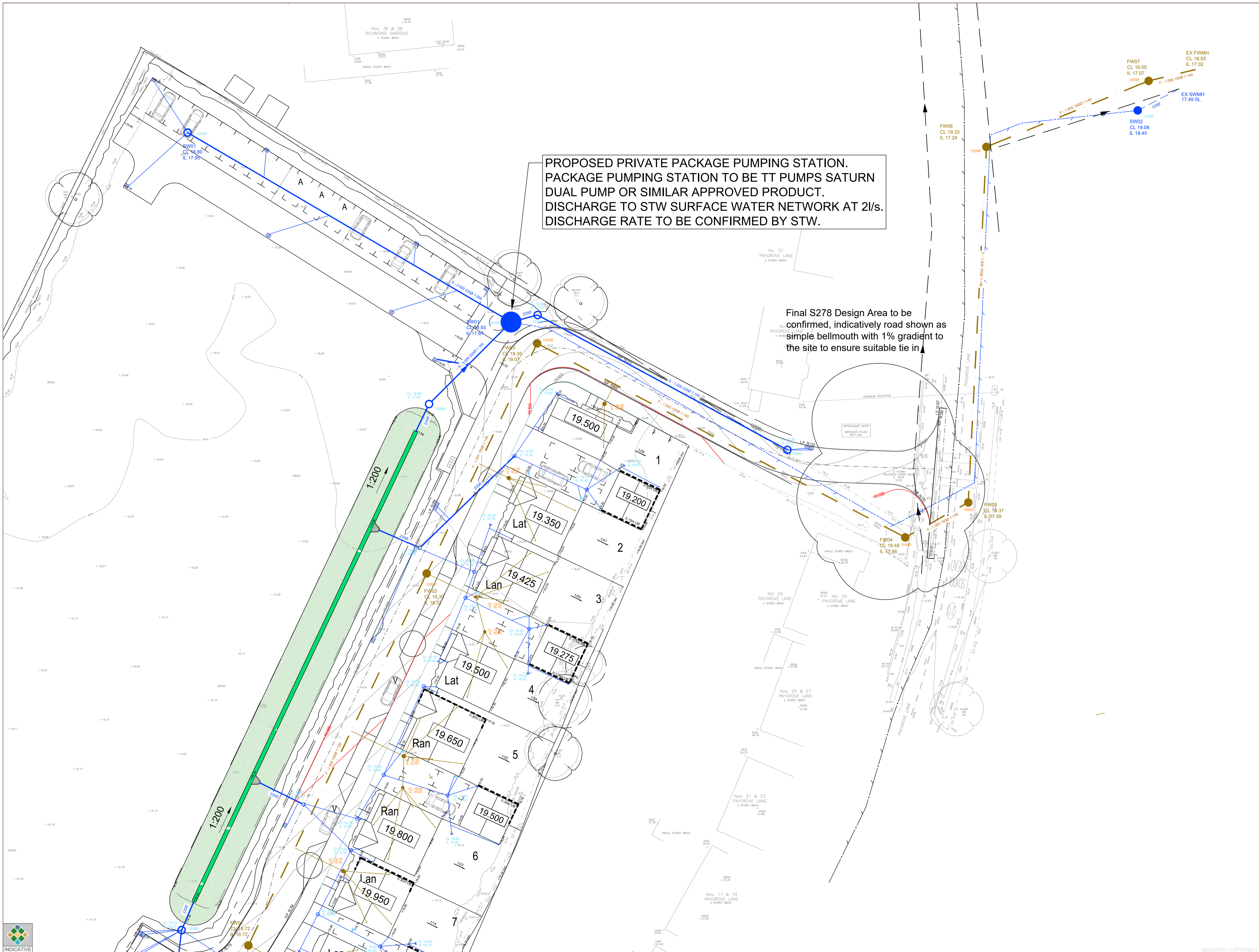
- Preliminary
- Feasibility
- Planning
- Building Regulations
- Tender
- Construction issue
- As Built

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2. Do not scale drawing. all dimensions to be checked on site prior to construction and any discrepancies reported to contract administrator.
3. Do not use this drawing for setting out unless drawing specifically indicates setting out points.
4. Engineering information is indicative only and should be taken from structural engineers design.



Drawing title: Ruscombe House Type, 5 bedroom
Client: Cotswold Oak Ltd
Drawn by: AH Checked: JE
Project No: 21.20.020

Project: Land at Paygrove Lane, Longlevens
Scale: 1:100 @ A1
Date: November 2021
Project / Drawing No: 21.20.020 PLH05



PROPOSED PRIVATE PACKAGE PUMPING STATION.
 PACKAGE PUMPING STATION TO BE TT PUMPS SATURN
 DUAL PUMP OR SIMILAR APPROVED PRODUCT.
 DISCHARGE TO STW SURFACE WATER NETWORK AT 2l/s.
 DISCHARGE RATE TO BE CONFIRMED BY STW.

Final S278 Design Area to be confirmed, indicatively road shown as simple bellmouth with 1% gradient to the site to ensure suitable tie in

- Notes:**
- Do not scale from this drawing. All dimensions are in metres, unless stated otherwise.
 - Ordnance Survey, (c) Crown Copyright 2020. All rights reserved. Licence number 100022432.
 - Drawing to be read in conjunction with all other drawings. Any discrepancies are to be reported to the engineer 5 working days in advance of undertaking any work.
 - All pipework to be 1000 PVC UNO
 - All chambers to be 4500 Type D Chambers UNO. Chambers marked with diameter to be Type B Chambers (except chamber at pump).

- KEY**
- SURFACE WATER MANHOLE AND SEWER
 - FOUL WATER MANHOLE AND SEWER
 - HIGHWAY GULLY AND CONNECTION
 - FINISHED FLOOR LEVELS
 - SWALE
 - PROPOSED LEVEL
 - RISING MAIN
 - HEADWALL
 - GRADIENT
 - UNDERBUILD (WITH HEIGHT)

A	16.02.22	ROAD AND LAYOUT AMENDED	PG	KT
Rev	Date	Details	Drawn By	Checked By



CLIENT:	Cotswold Oak Ltd			
PROJECT:	Paygrove Lane, Longlevens			
TITLE:	Engineering Layout Sheet 1			
STATUS:	INFORMATION			
SCALE @ A1:	DATE:	DRAWN:	CHECKED:	APPROVED:
1:250	26/01/2022	PG	KT	KT
JOB NO:	DRAWING NO:	REVISION:		
CTP-0760	C002	A		













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Notes:

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3. Drawing to be read in conjunction with all other drawings. Any discrepancies are to be reported to the engineer 5 working days in advance of undertaking any work.
4. All pipework to be 1000 PVC UNO
5. All chambers to be 4500 Type D Chambers UNO. Chambers marked with diameter to be Type B Chambers (except chamber at pump).

KEY

-  SURFACE WATER MANHOLE AND SEWER
-  FOUL WATER MANHOLE AND SEWER
-  HIGHWAY GULLY AND CONNECTION
-  FINISHED FLOOR LEVELS
-  SWALE
-  PROPOSED LEVEL
-  RISING MAIN
-  HEADWALL
-  GRADIENT
-  UNDERBUILD (WITH HEIGHT)

Rev	Date	Details	Drawn By	Checked By
A	19/02/22	RACD AND LAYOUT AMENDED	PG	KT



CLIENT:
Cotswold Oak Ltd

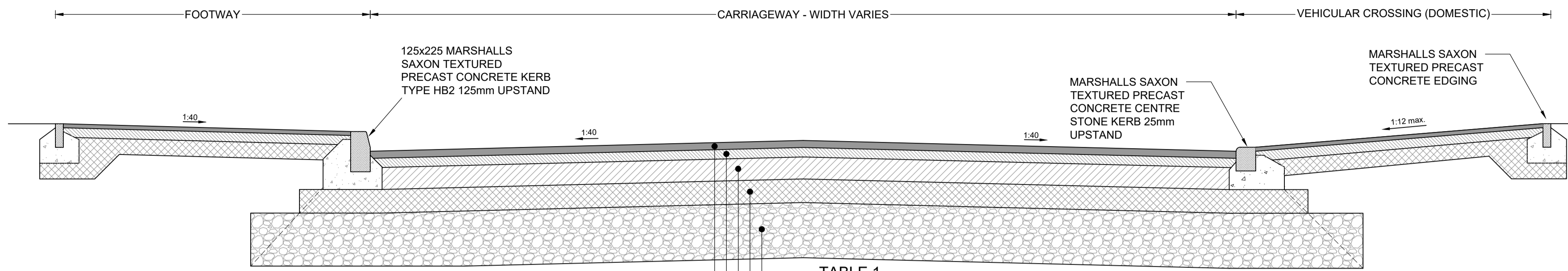
PROJECT:
**Paygrove Lane,
Longlevens**

TITLE:
**Engineering Layout
Sheet 2**

STATUS:
INFORMATION

SCALE @ A1:	DATE:	DRAWN:	CHECKED:	APPROVED:
1:250	26/01/2022	PG	KT	KT
JOB NO:	DRAWING NO:	REVISION:		
CTP-0760	C003	A		





SURFACE COURSE 30mm AC10 CLOSE SURF 100/150

BINDER COURSE 60mm AC20 DENSE BIN 100/150

BASE COURSE 100mm AC32 HDM BASE 40/60

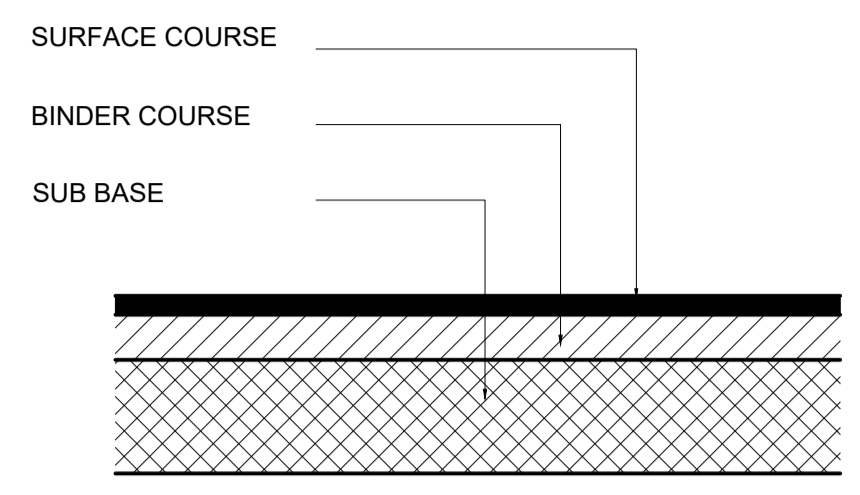
GRANULAR SUB BASE MATERIAL TYPE 1 DEPTH TO TABLE 1 VALUES.

GRANULAR CAPPING LAYER MATERIAL TYPE 1. DEPTH TO TABLE 1 VALUES.

TABLE 1

SUB GRADE CBR%	SUB BASE THICKNESS	CAPPING LAYER THICKNESS
<=2%	150mm	400mm
<=5%	150mm	200mm
<=15%	200mm	-
<=30%	150mm	-
>30%	0	-

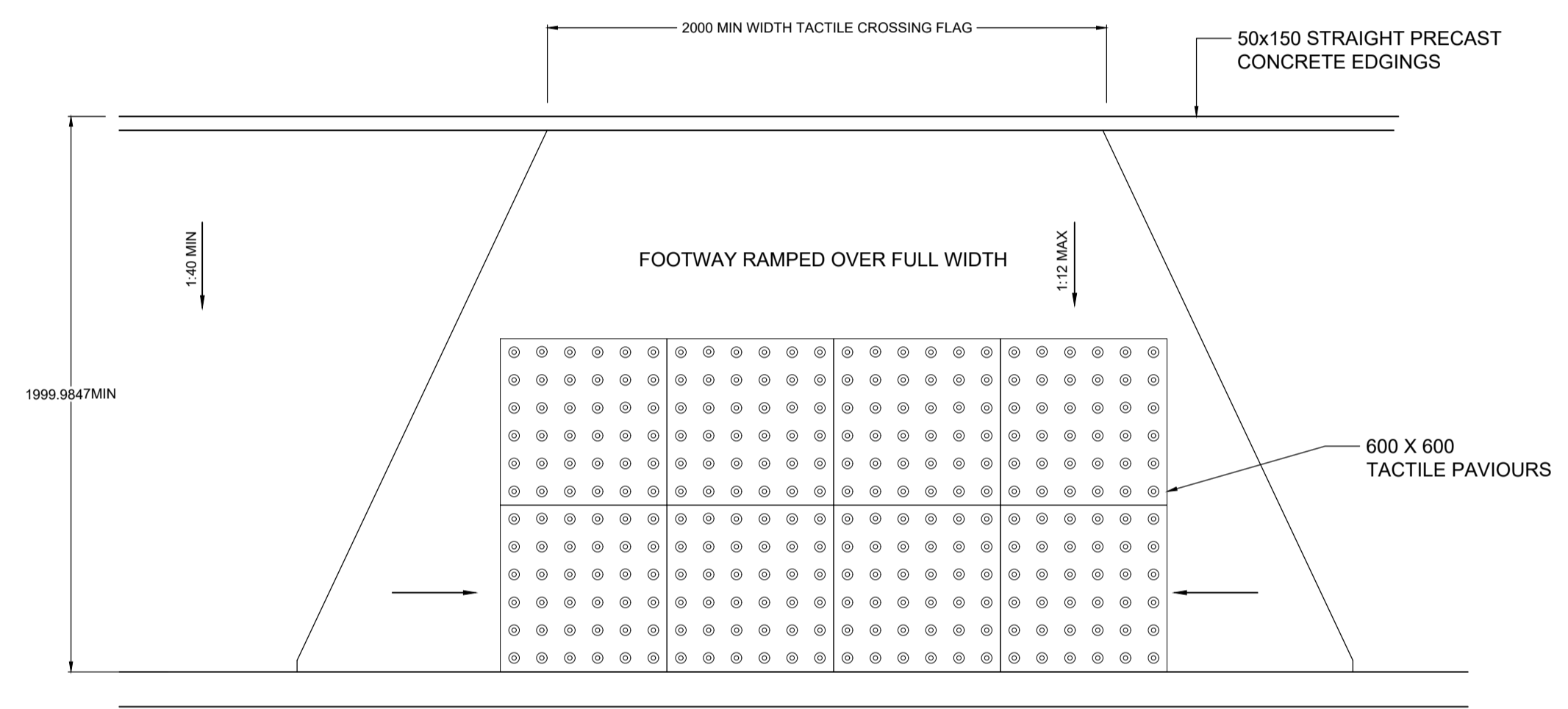
NOTE: MINIMUM TOTAL THICKNESS 450mm IF SUB-GRADE IS FROST SUSCEPTIBLE



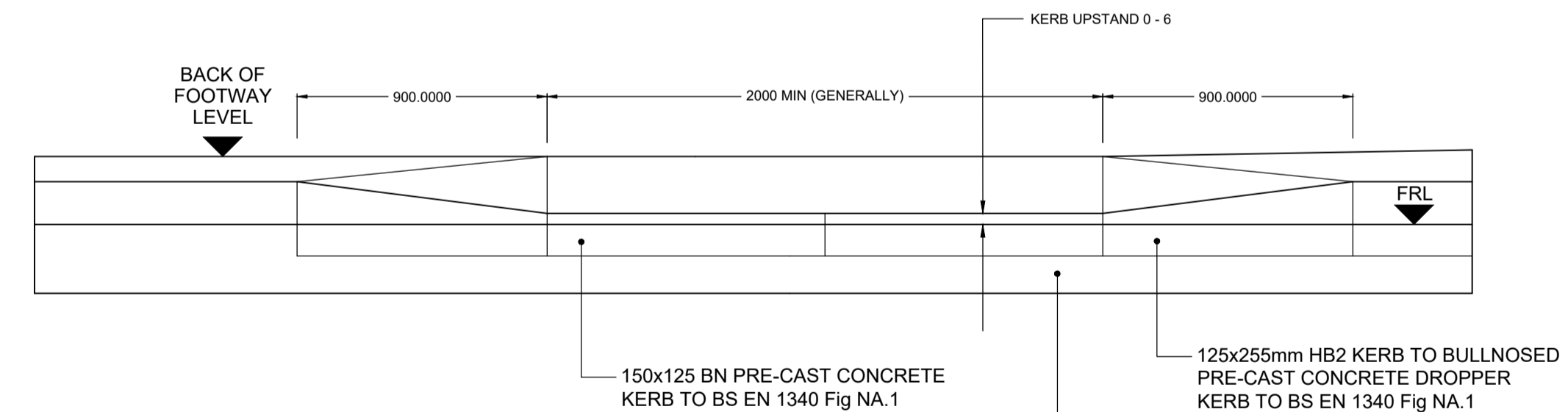
LAYER	SPECIFICATION	THICKNESS (mm)
SURFACE COURSE	DENSE BITUMEN SURFACE COURSE MACADAM, (0/6mm NOMINAL SIZE), TO CLAUSE 7.5, BS 4987. 100/150 PEN BINDER.	20
BINDER COURSE	DENSE BITUMEN BINDER COURSE MACADAM, (0/20mm NOMINAL SIZE), TO CLAUSE 6.5, BS 4987. 100/150 PEN BINDER.	60
SUB BASE	TYPE 1 GRANULAR MATERIAL TO CLAUSE 803 TABLE 8/2 MCHW VOLUME I SERIES 800	SEE TABLE 1

PRIVATE DRIVE CONSTRUCTION (BITMAC)

(Cars and Light Vehicles) NHBC 10.2.6



PLAN



ELEVATION

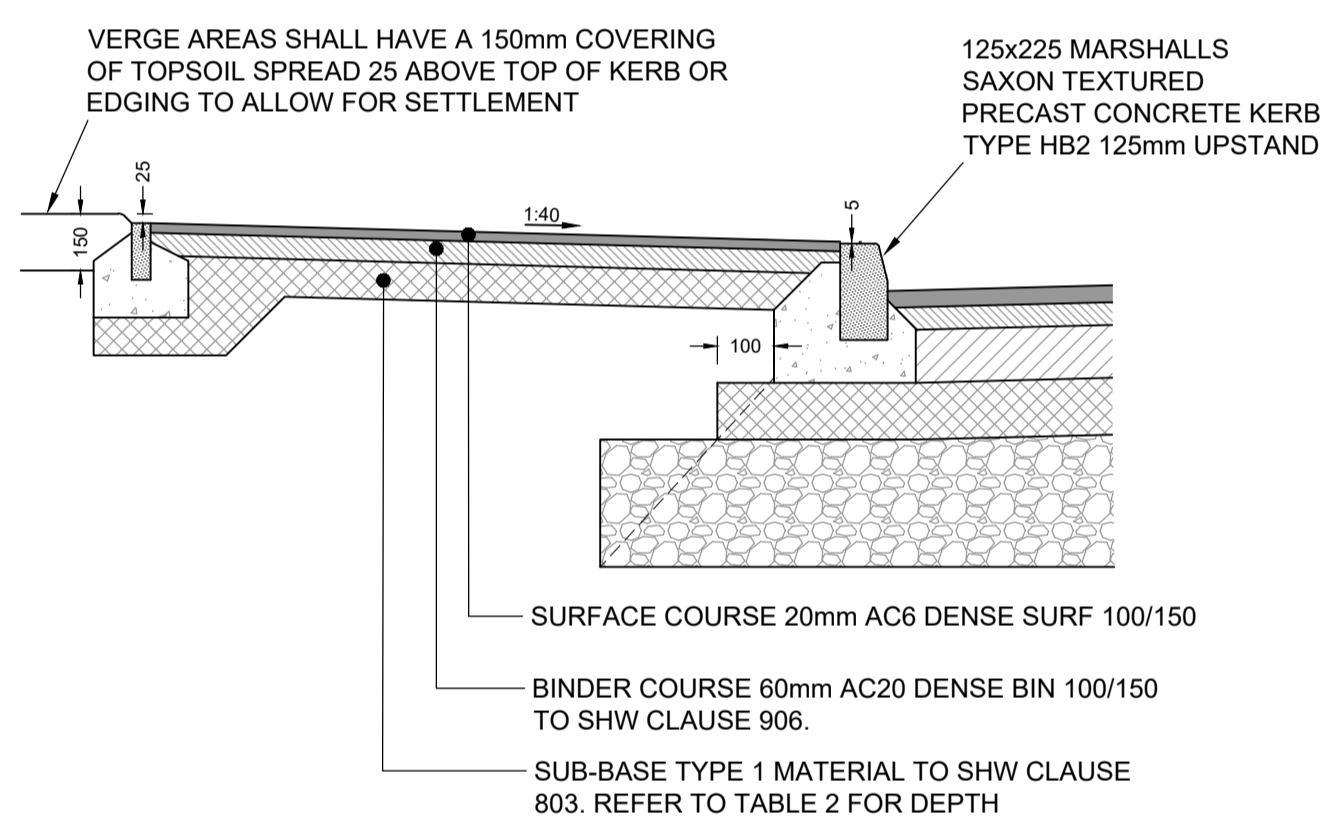
NOTE: WHERE PEDESTRIAN CROSSING IS NOT PERPENDICULAR TO THE KERB, TACTILE PAVING IS TO BE ALIGNED WITH CROSSING DIRECTION AND A MINIMUM OF 800mm DEPTH OF TACTILE PAVING TO BE PROVIDED.

UNCONTROLLED PEDESTRIAN CROSSING

SCALE 1:20

CARRIAGEWAY CONSTRUCTION DETAIL

SCALE 1:20



FOOTWAY DETAIL CONSTRUCTION DETAIL

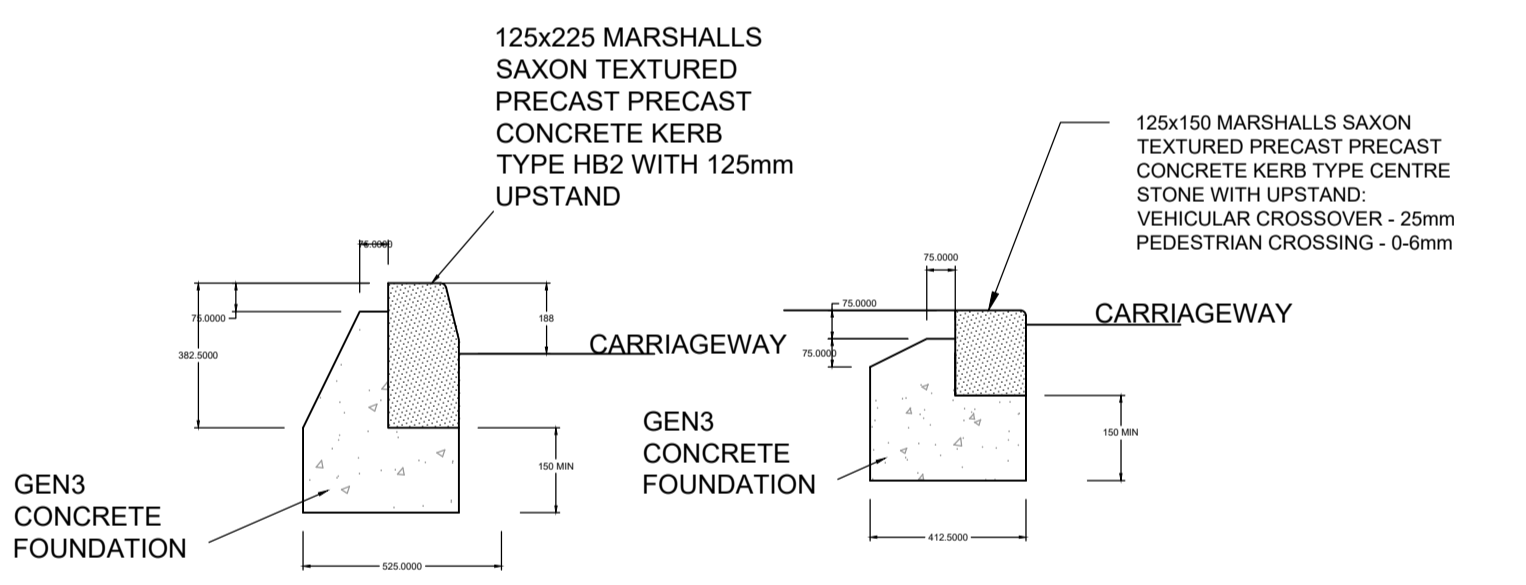
SCALE 1:20

TABLE 2

SUB GRADE CBR%	SUB BASE THICKNESS
<=2%	300mm
>2%	150mm

FOOTWAY EDGING (EF)

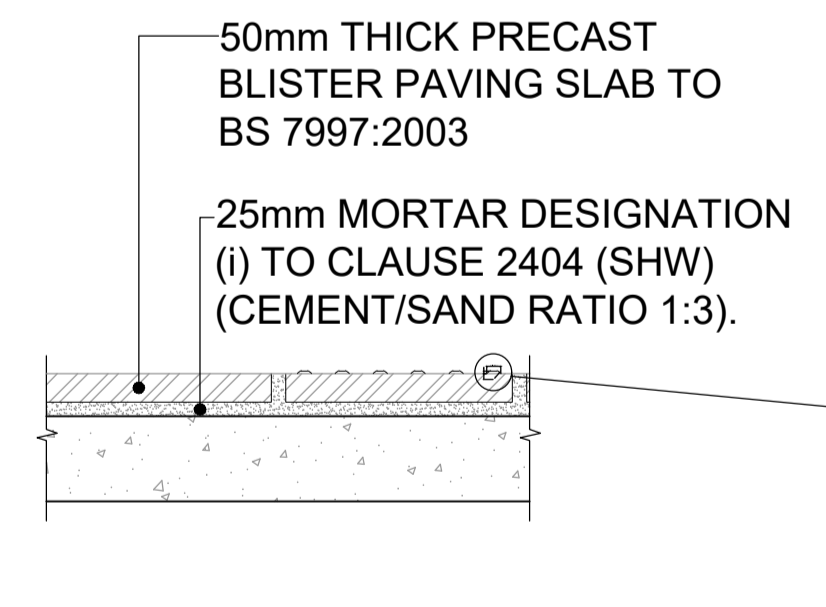
SCALE 1:10



TYPE HB2 HALF BATTER KERB BULLNOSED KERB CENTRE STONE

SCALE 1:20

SCALE 1:10



TACTILE PAVING - COLOUR BUFF

SCALE 1:20

5 PITCHES - 7 DOMES

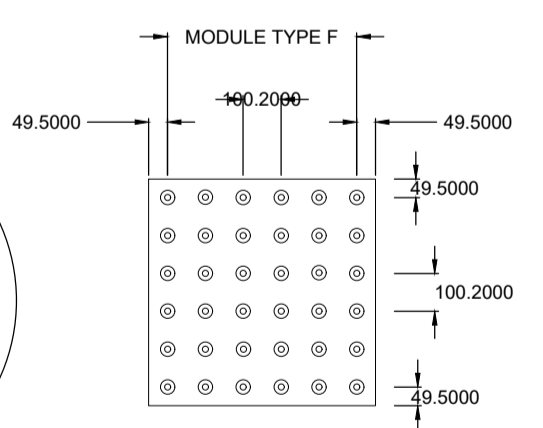


TABLE 2

SUB GRADE CBR%	SUB BASE THICKNESS
<=2%	550mm
<=5%	350mm
<=15%	200mm
<=30%	150mm
>30%	0

NOTE: MINIMUM TOTAL THICKNESS 450mm IF SUB-GRADE IS FROST SUSCEPTIBLE

NOTES:

- DO NOT SCALE FROM THIS DRAWING. ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS STATED OTHERWISE.
- ALL ADOPTABLE DRAINAGE SHALL BE CONSTRUCTED IN ACCORDANCE WITH SEWER SECTOR GUIDANCE - APPENDIX C, 'DESIGN AND CONSTRUCTION GUIDANCE FOR FOUL AND SURFACE WATER SEWERS' VERSION 2 MARCH 2020.

A	17/02/22	PRIVATE DRIVE SURFACE AMENDED	PG	KT
Rev	Date	Detail	Drawn By	Checked By



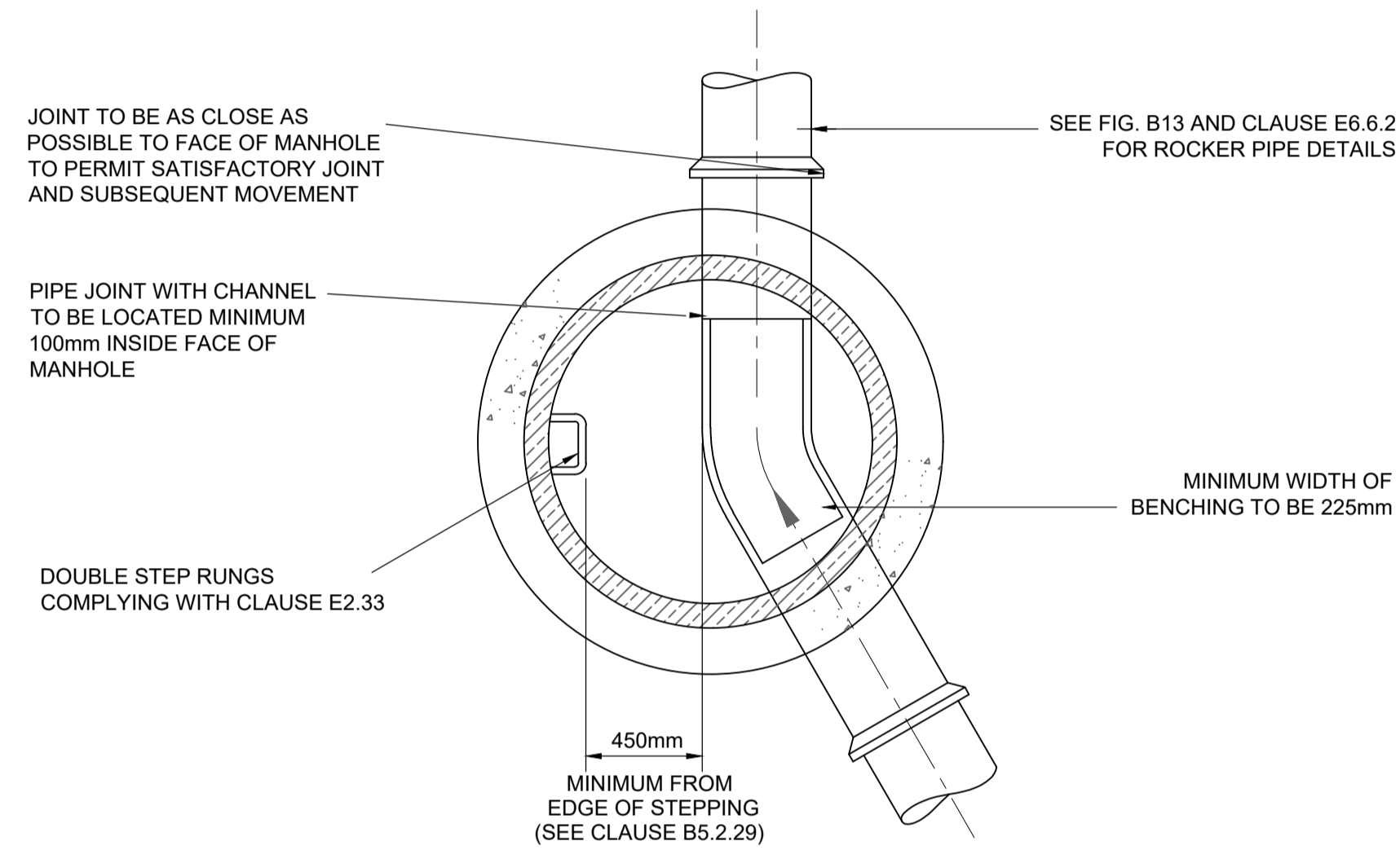
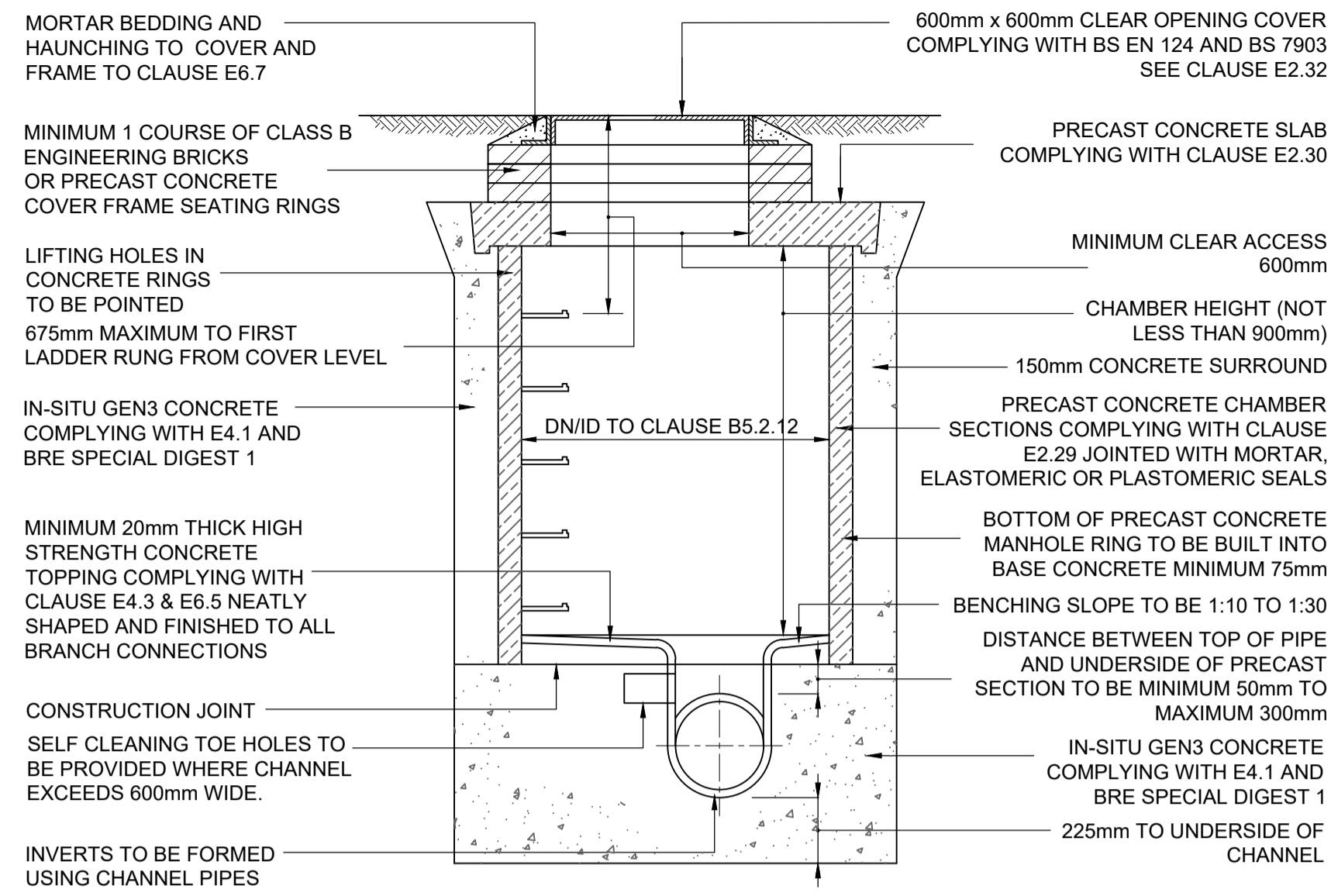
CLIENT: Cotswold Oak Ltd

PROJECT: Paygrove Lane, Longlevens

TITLE: Details Sheet 3 - Highways

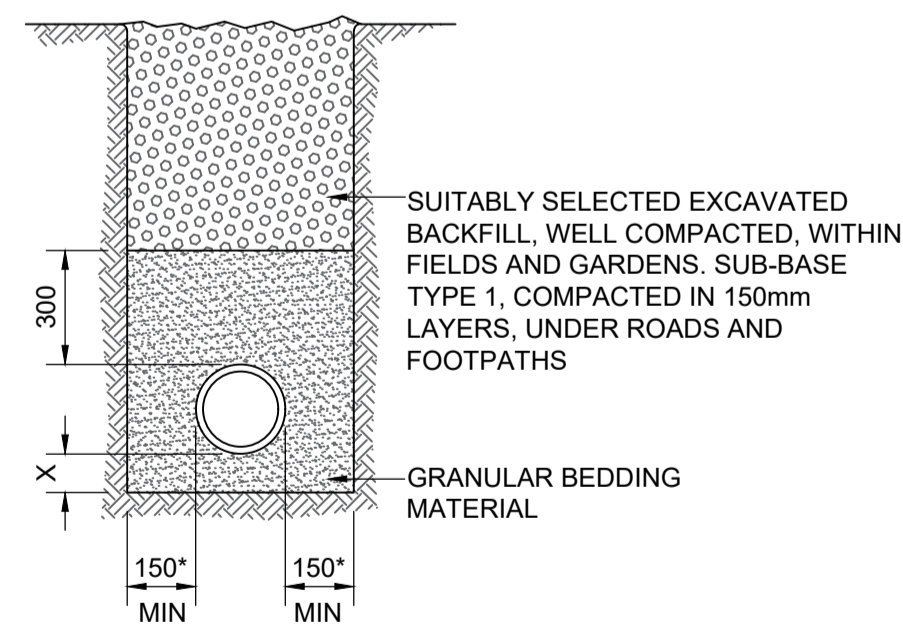
STATUS: APPROVAL

SCALE @ A1:	DATE:	DRAWN:	CHECKED:	APPROVED:
AS SHOWN	FEB 22	PG	KT	KT
JOB NO:	DRAWING NO:	REVISION:		
21-0760	C102	A		

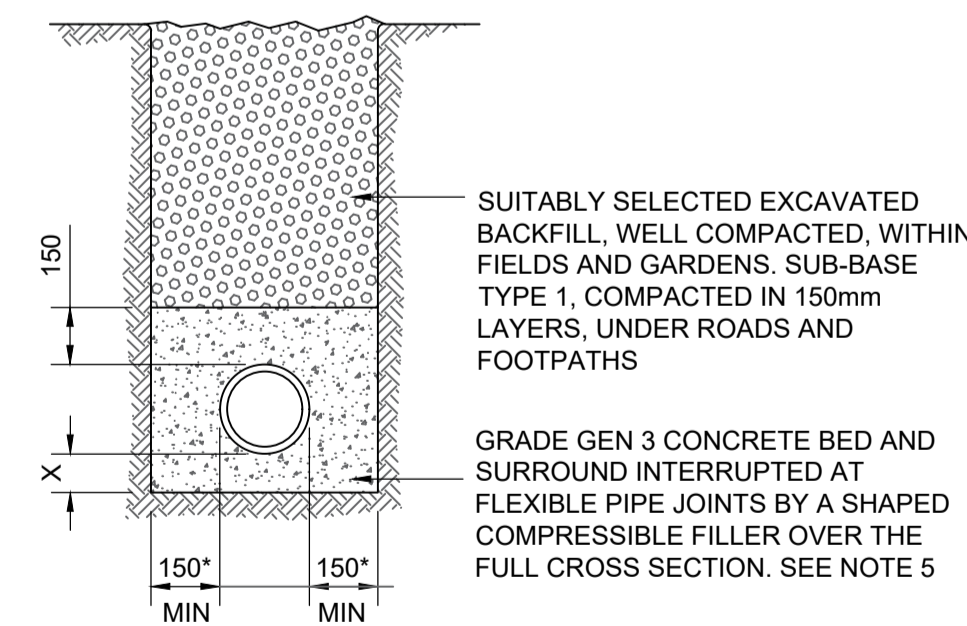


TYPICAL MANHOLE DETAIL - TYPE B

DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 1.35 TO 3.0m RIGID MATERIAL CONSTRUCTION WITH CONCRETE SURROUND NTS



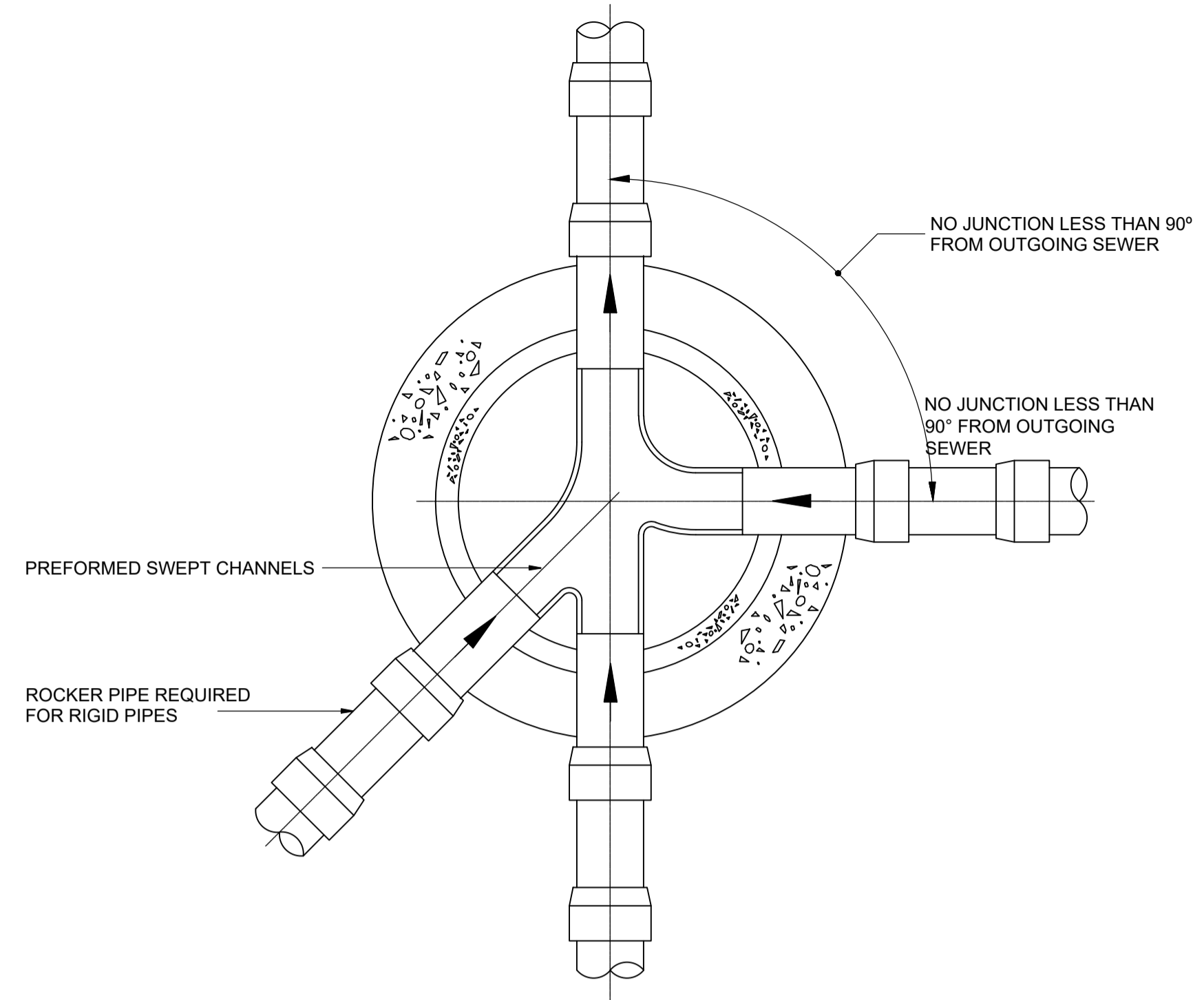
CLASS S BEDDING



CLASS Z BEDDING

TYPICAL PIPE BEDDING

SCALE 1:10



SECTIONAL PLAN

FIG B13 TYPICAL ARRANGEMENT OF PIPE JUNCTIONS WITHIN MANHOLES

RIGID PIPES BUILT INTO MANHOLES SHOULD HAVE A FLEXIBLE JOINT AS CLOSE AS FEASIBLE TO THE EXTERNAL FACE OF THE STRUCTURE AND THE LENGTH OF THE NEXT ROCKER PIPE SHOULD BE AS SHOWN.

Nominal diameter (mm)	Effective length (m)
150 - 600	0.6
601 - 750	1.00
over 750	1.25

ALL PIPES ENTERING THE BOTTOM OF THE MANHOLE TO HAVE SOFFITS LEVEL. NOT TO SCALE

BEDDING NOTES:

- * = 150 FOR PIPES DIAMETER UP TO 300mm, * = 200mm FOR PIPE DIAMETERS OVER 300mmØ BASED ON NARROW TRENCH THEORY: DESIGNER TO CONFIRM FOR SPECIFIC PIPELINE.
- BACKFILL MATERIAL TO BE SELECTED EXCAVATED MATERIAL WHERE THIS MATERIAL COMPLIES WITH CESWI. ADDITIONAL MATERIAL TO MAKE UP ANY DEFICIENCY TO BE GRANULAR SUB-BASE TYPE 1 UNLESS STATED OTHERWISE.

NOMINAL BORE OF PIPE (min)	AGGREGATE SIZE (mm)	
	SINGLE SIZED	GRADED
100	10	-
150	10 OR 14	14 TO 5
225-300	10, 14 OR 20	14 TO 5 OR 20 TO 5
375-525	14 OR 20	14 TO 5 OR 20 TO 5
EXCEEDING 525	14, 20 OR 40	14 TO 5 OR 20 TO 5 OR 40 TO 5

DIM X > 100mm FOR PIPES < 100mmØ
 DIM X ≥ 150mm FOR PIPES > 100mmØ
 DIM X ≥ 200mm FOR PIPES TRENCHES IN ROCK

- IN WET, SOFT, OR SILTY SOILS, WHERE LATERAL SUPPORT IS NOT OBTAINED OR WHERE FINES MAY MIGRATE, THE GRANULAR BEDDING MATERIAL SHALL BE SURROUNDED BY GEOTEXTILE FABRIC WITH MIN 200 OVERLAP.
- TRENCH BACKFILL TO MEET HIGHWAY SPECIFICATION WHEN LAID IN ROAD OR FOOTPATH.
- COMPRESSIBLE FILLER SHALL BE BITUMEN-IMPREGNATED INSULATING BOARD TO BS 622-1, THICKNESS AS TABLE.

NOMINAL DIAMETER OF PIPE (mm)	THICKNESS OF COMPRESSIBLE FILLER (mm)
LESS THAN 450mm	18
450-1200mm	36
EXCEEDING 1200mm	54

NOTES:

- DO NOT SCALE FROM THIS DRAWING. ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS STATED OTHERWISE.
- ALL ADOPTABLE DRAINAGE SHALL BE CONSTRUCTED IN ACCORDANCE WITH SEWER SECTOR GUIDANCE - APPENDIX C, "DESIGN AND CONSTRUCTION GUIDANCE FOR FOUL AND SURFACE WATER SEWERS" VERSION 2 MARCH 2020.

Rev	Date	Drawn By	Checked By



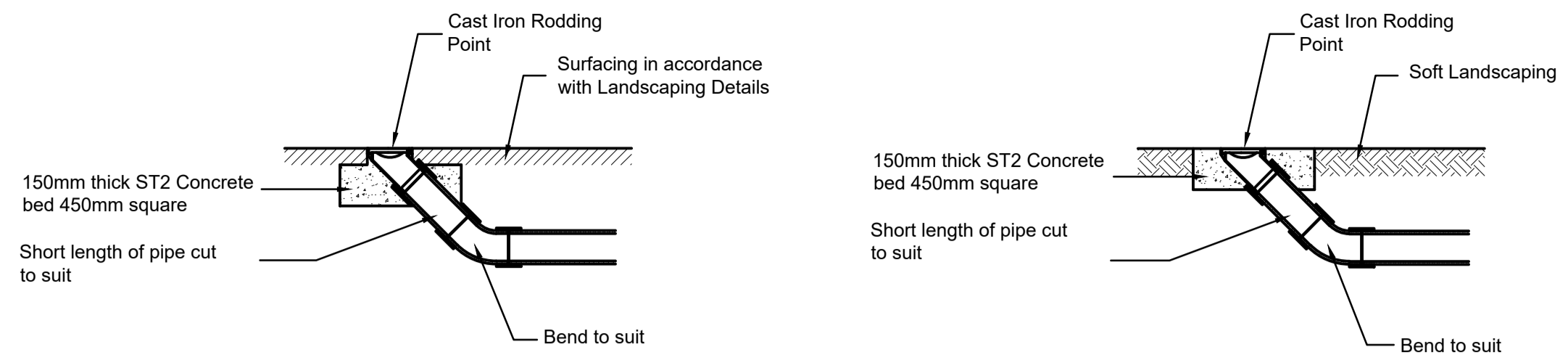
CLIENT: Cotswold Oak Ltd

PROJECT: Paygrove Lane, Longlevens

TITLE: Details Sheet 1 - Drainage

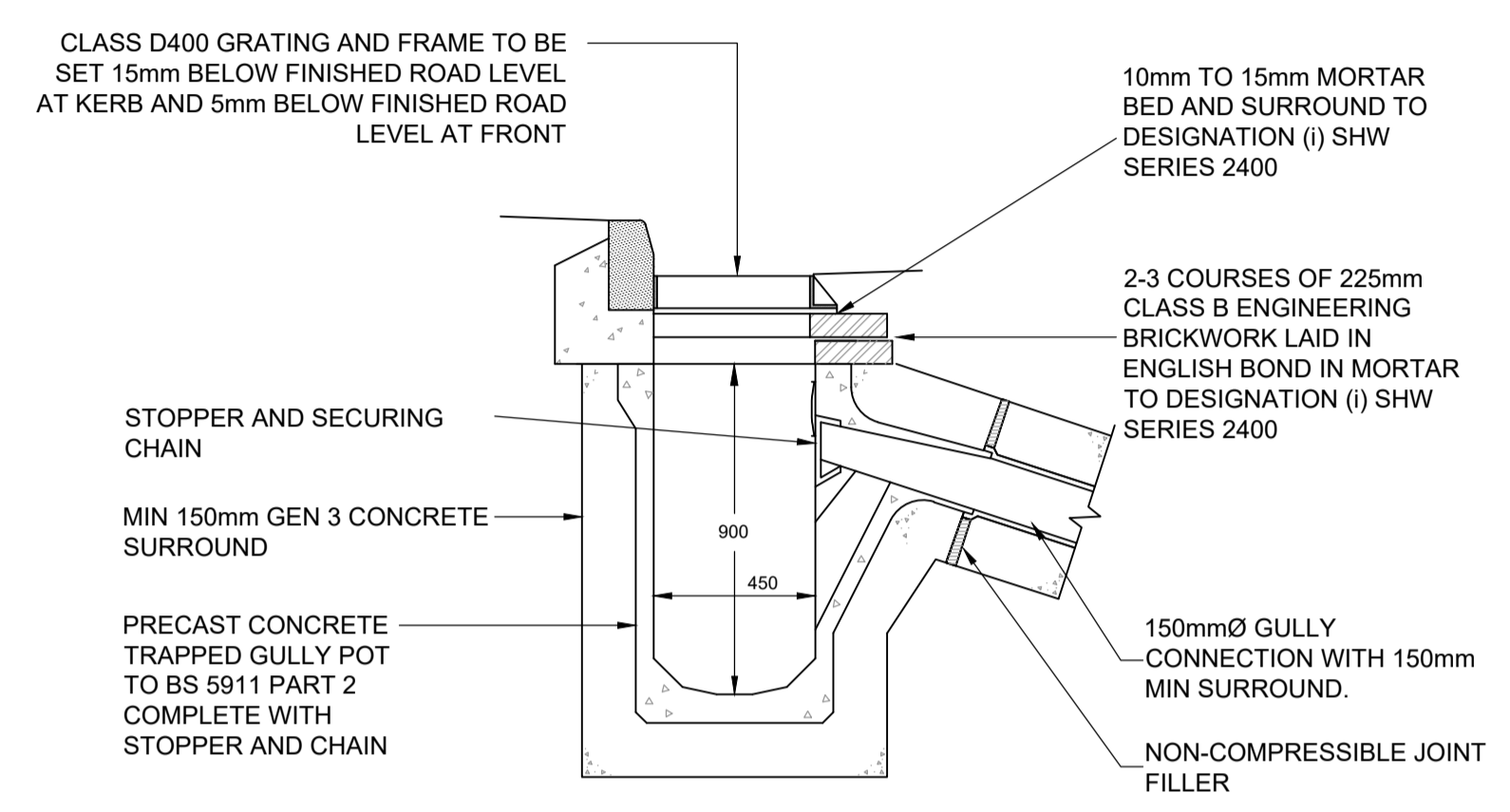
STATUS: APPROVAL

SCALE @ A1:	DATE:	DRAWN:	CHECKED:	APPROVED:
AS SHOWN	FEB 22	PG	KT	KT
JOB NO:	DRAWING NO:	REVISION:		
21-0760	C100	-		

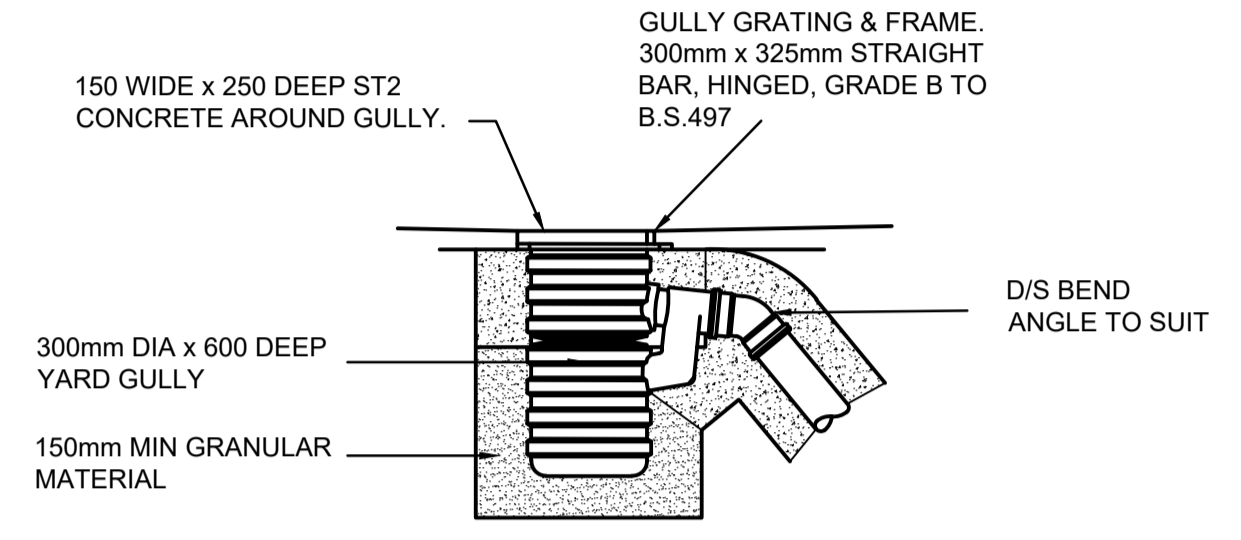


RODDING EYE DETAIL
(Hard landscape Areas)

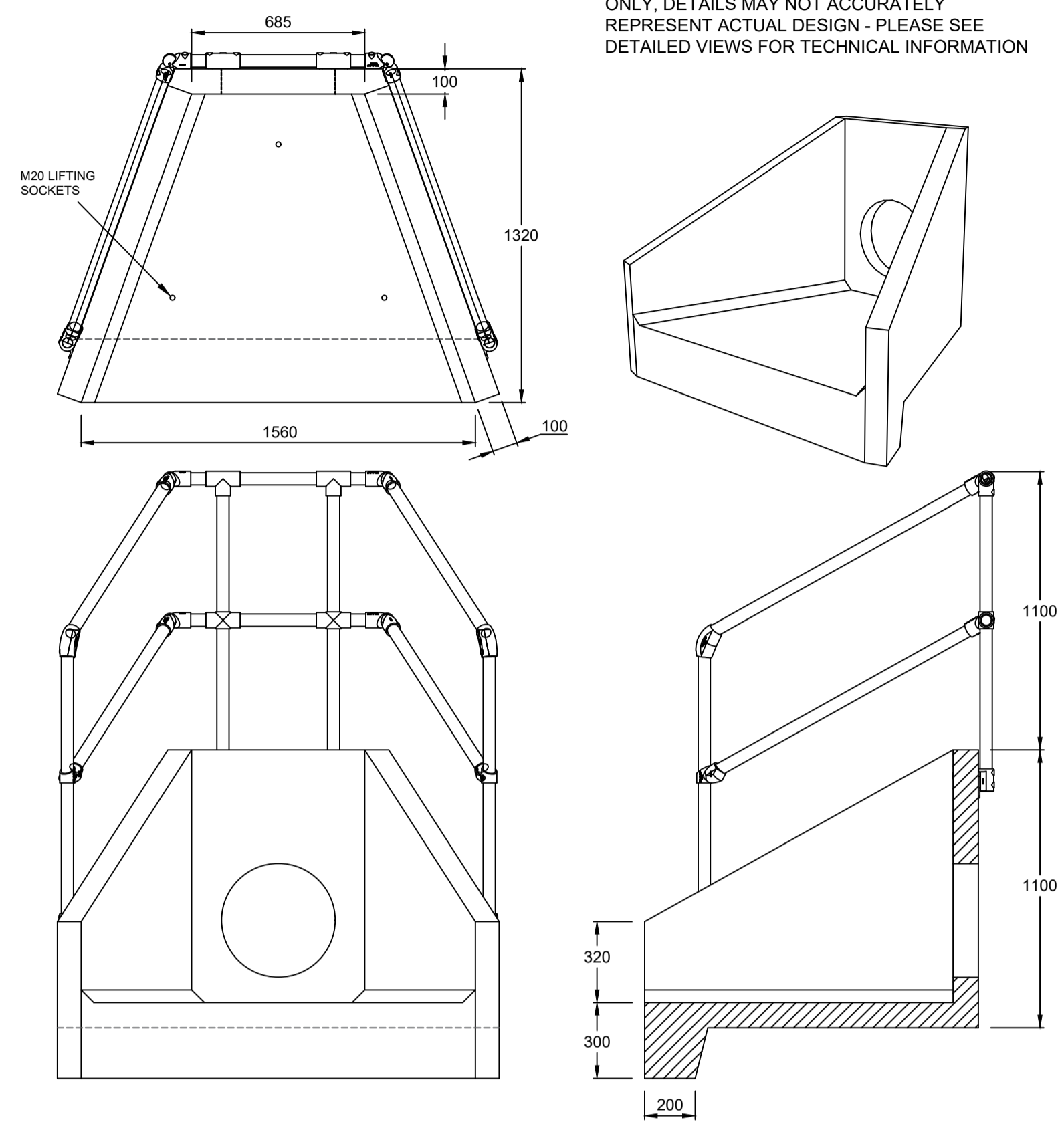
RODDING EYE DETAIL
(Soft landscape Areas)



ROAD GULLY
SCALE 1:20



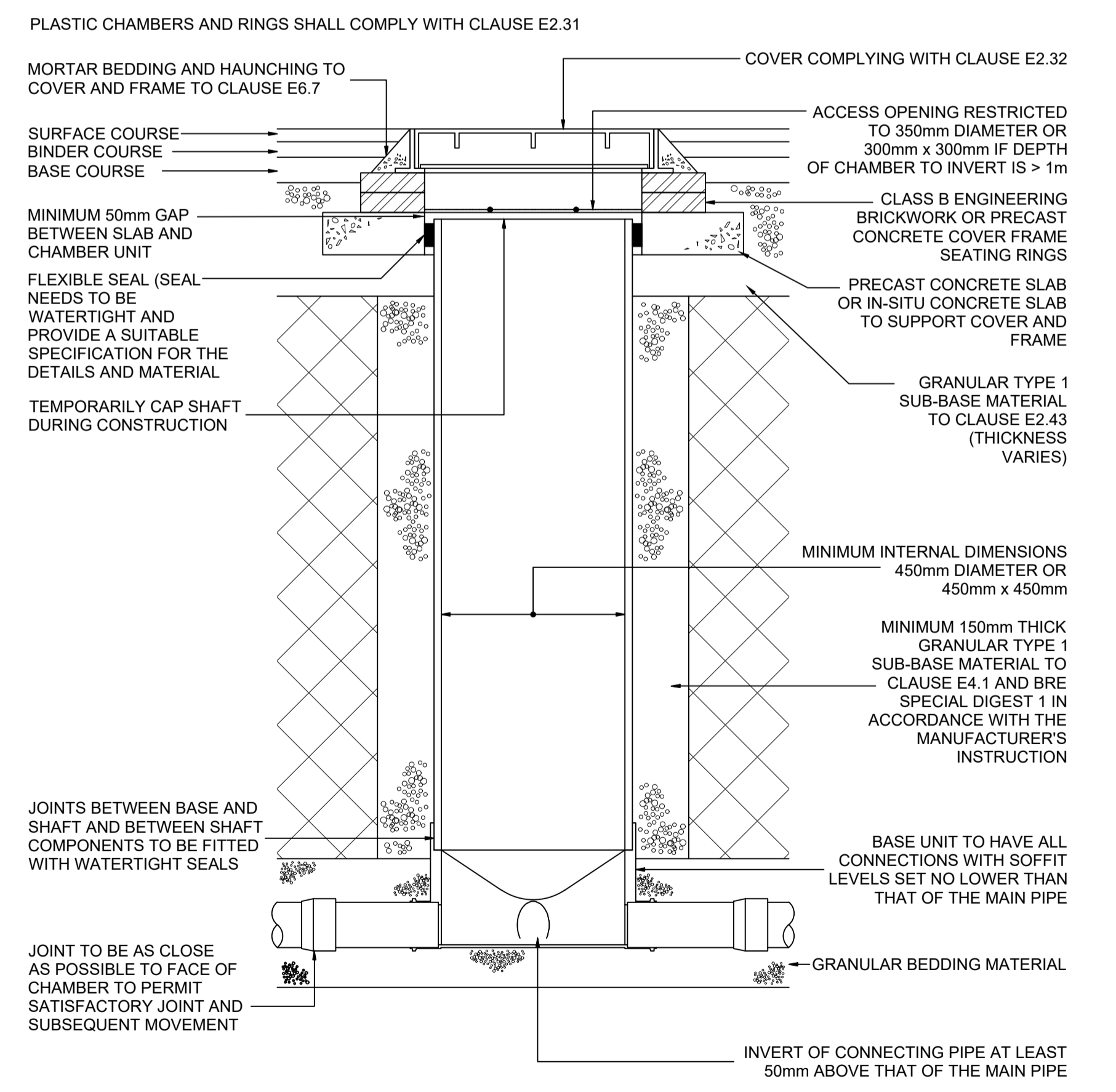
TYPICAL YARD GULLY DETAIL



ALTHON H6C HEADWALL DETAIL
SCALE 1:20

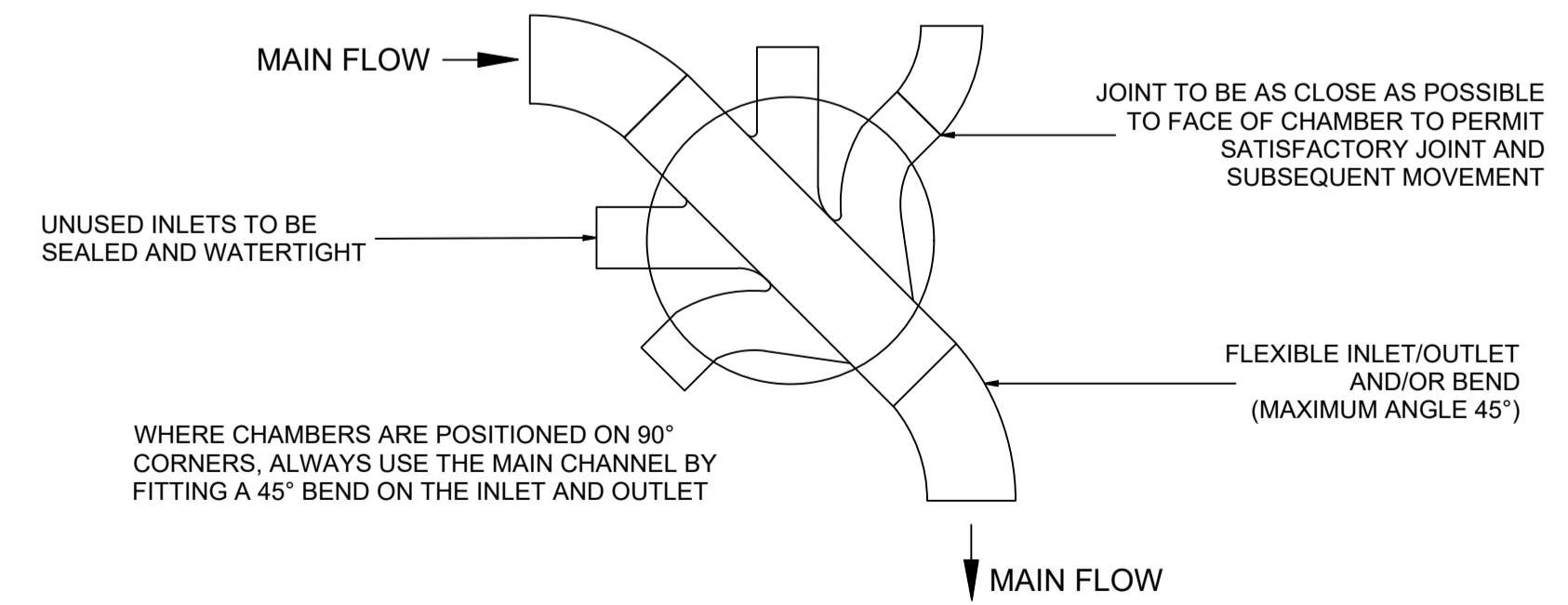
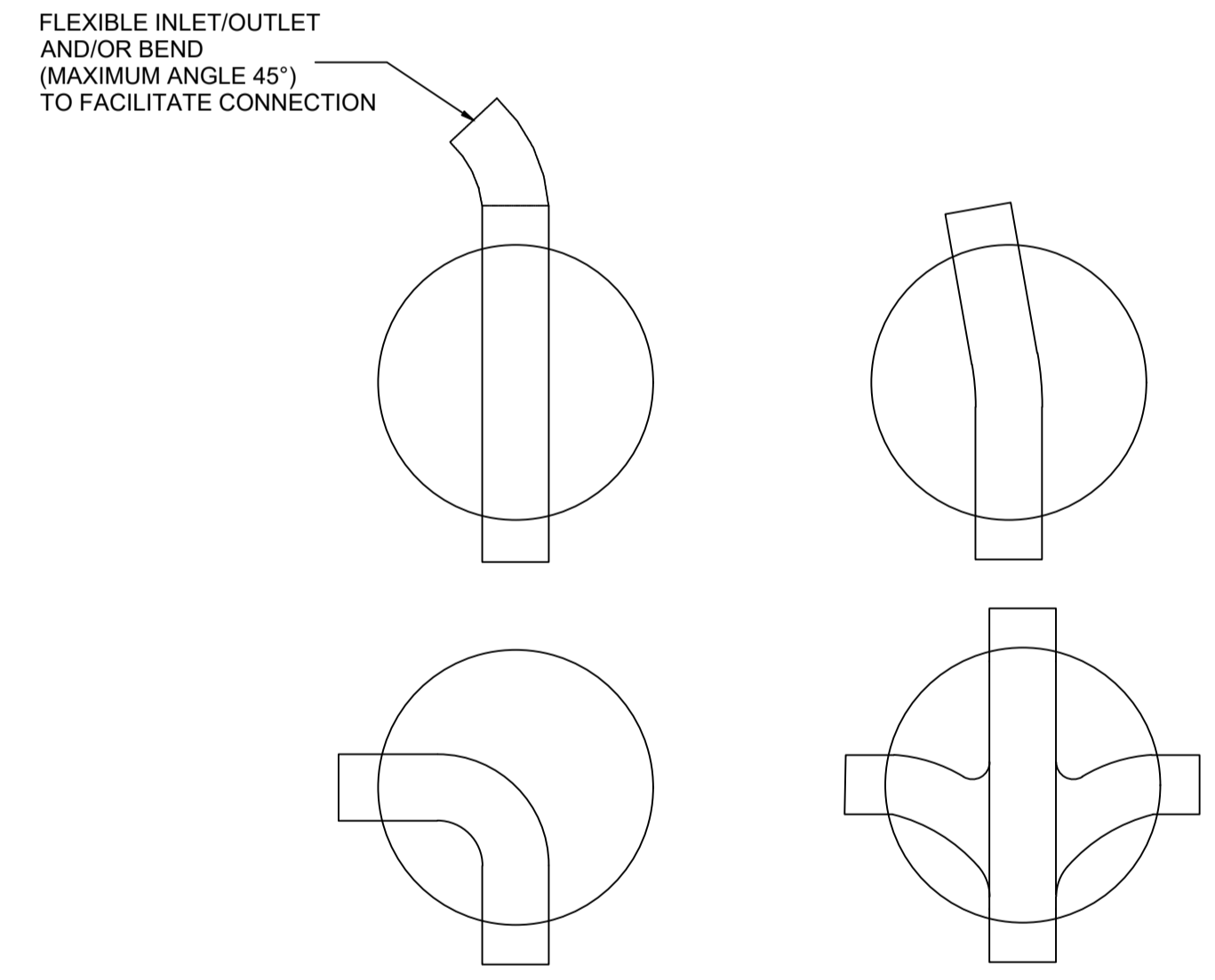
NOTE: ISOMETRIC DRAWING IS FOR REFERENCE ONLY. DETAILS MAY NOT ACCURATELY REPRESENT ACTUAL DESIGN - PLEASE SEE DETAILED VIEWS FOR TECHNICAL INFORMATION

- NOTES:**
- DO NOT SCALE FROM THIS DRAWING. ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS STATED OTHERWISE.
 - ALL ADOPTABLE DRAINAGE SHALL BE CONSTRUCTED IN ACCORDANCE WITH SEWER SECTOR GUIDANCE - APPENDIX C, "DESIGN AND CONSTRUCTION GUIDANCE FOR FOUL AND SURFACE WATER SEWERS" VERSION 2 MARCH 2020.



TYPICAL INSPECTION CHAMBER DETAIL - TYPE D

DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE UP TO 2m
FLEXIBLE MATERIAL CONSTRUCTION FOR USE IN AREAS SUBJECT TO VEHICLE LOADING
NOT TO SCALE



TYPICAL BASE LAYOUTS FOR TYPE D CHAMBERS

NOT TO SCALE

NOTE: WHERE A BEND IS USED IMMEDIATELY OUTSIDE THE MANHOLE, THIS MAY BE USED AS THE ROCKER PIPE

Rev	Date	Drawn By	Checked By



CLIENT:
Cotswold Oak Ltd

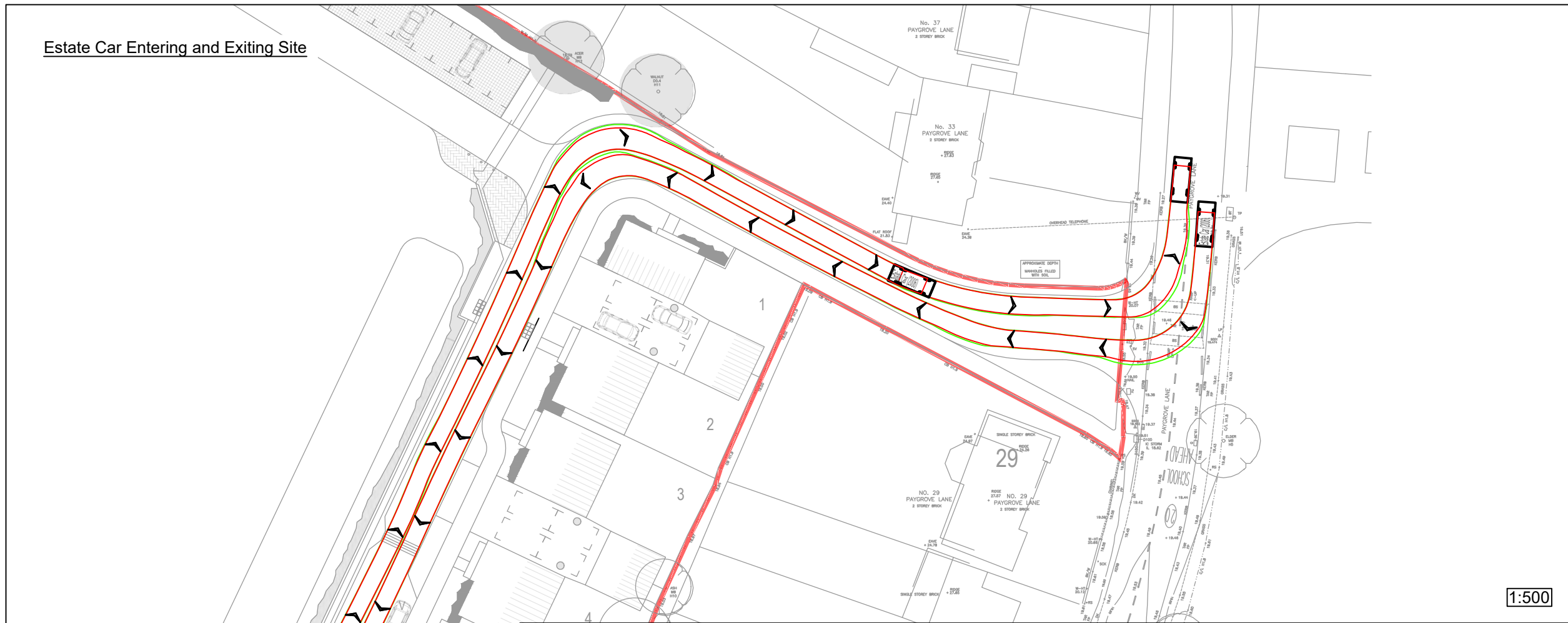
PROJECT:
Paygrove Lane, Longlevens

TITLE:
**Details
Sheet 2 - Drainage**

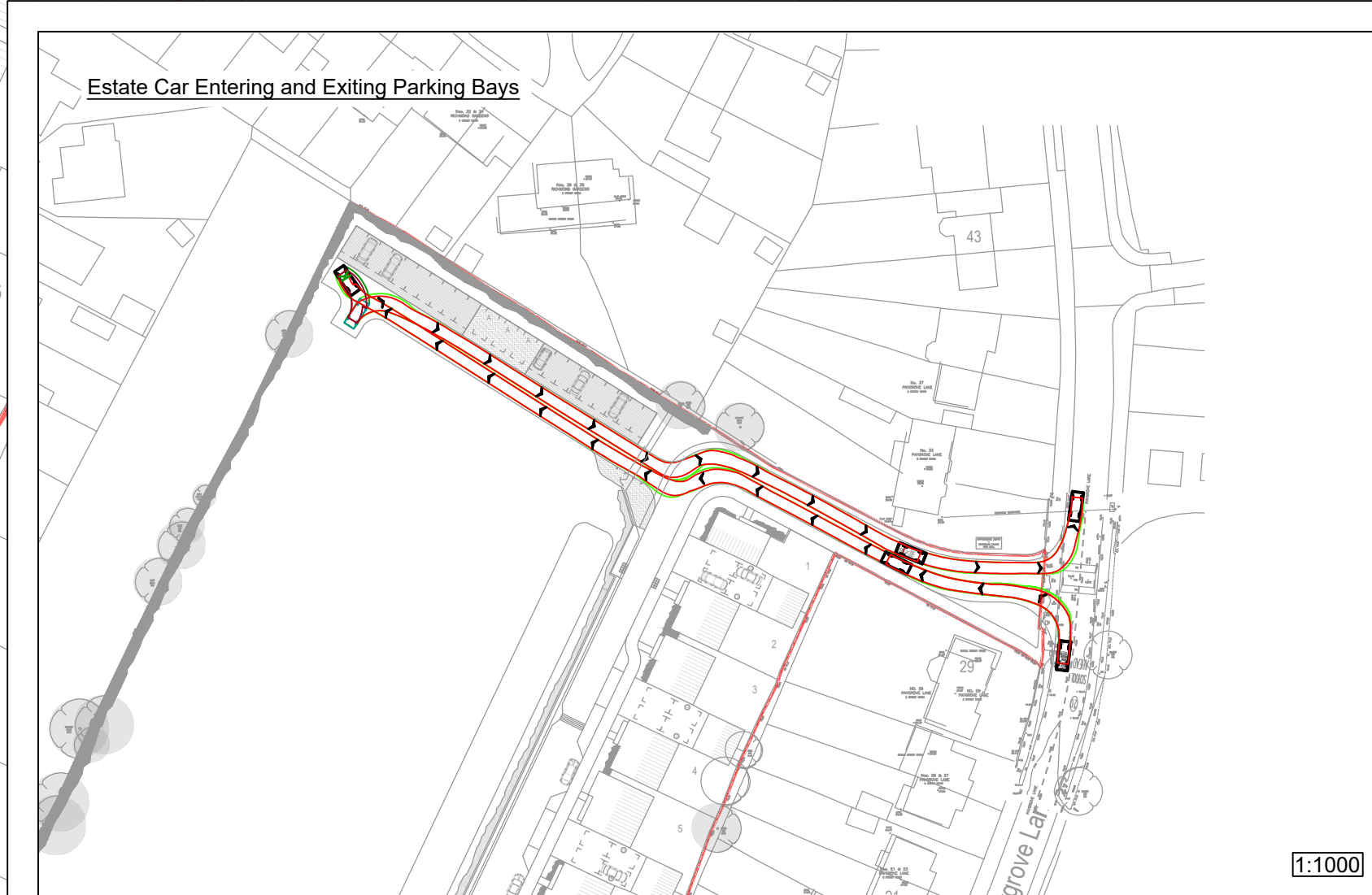
STATUS:
APPROVAL

SCALE @ A1:	DATE:	DRAWN:	CHECKED:	APPROVED:
AS SHOWN	FEB 22	PG	KT	KT
JOB NO:	DRAWING NO:	REVISION:		
21-0760	C101	-		

Estate Car Entering and Exiting Site



Estate Car Entering and Exiting Parking Bays



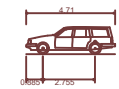
Notes:

1. This drawing is based upon topographical survey drawing number 4900-07NOV16-01 by A D Horner Limited.
2. This drawing is based on the Architects layout (21.20.020_PL005) received from Coombes Everitt Architects on 04/02/2022.
3. Ordnance Survey, (c) Crown Copyright 2020. All rights reserved. Licence number 100022432.
4. Highway boundary information has been provided by Gloucestershire County Council (GCC) and has been overlaid by Cotswold Transport Planning onto the topographical survey on a best fit basis.

KEY:

Site Boundary

Vehicle Profile



Estate Car (2006)	4.710m
Overall Length	1.804m
Overall Width	1.442m
Min Body Ground Clearance	0.207m
Max Track Width	1.756m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	5.950m

1:500

1:1000

Rev	Date	Details	Drawn by	Checked by
A	10.01.22	Updated Layout & SPA	FA	JM



CLIENT:
Cotswold Oak Ltd

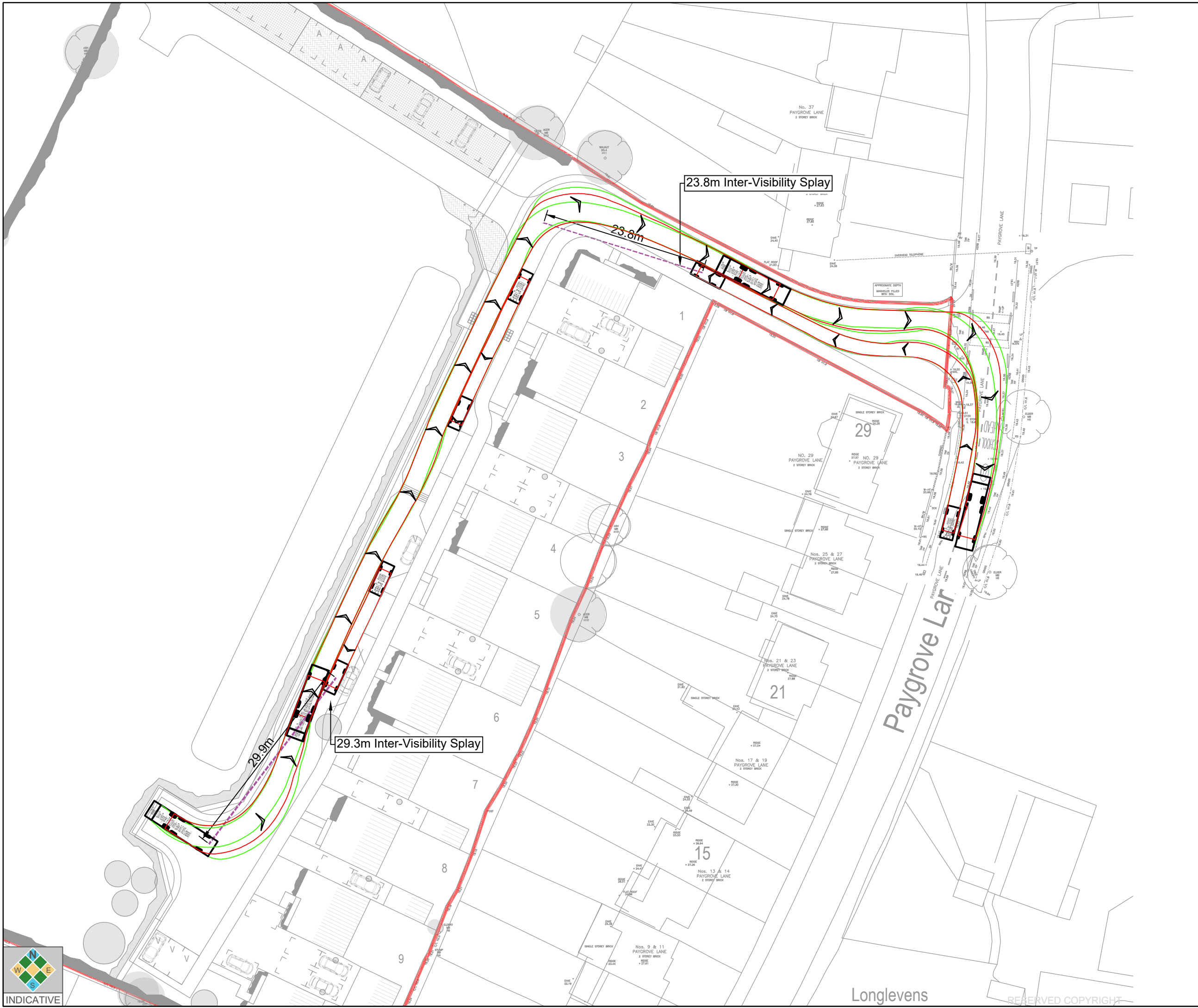
PROJECT:
**Paygrove Lane,
Longlevens**

TITLE:
**OnSite Swept Path Analysis -
Estate Car**

STATUS:
INFORMATION

SCALE @ A3:	DATE:	DRAWN:	CHECKED:	APPROVED:
1: 500	26.01.2021	FA	JM	BQ
JOB NO:	DRAWING NO:	REVISION:		
21-0760	SP03	A		





- Notes:
1. This drawing is based upon topographical survey drawing number 4900-07NOV16-01 by A D Horner Limited.
 2. This drawing is based on the Architects layout (21.20.020_PL005) received from Coombes Everitt Architects on 04/02/2022.
 3. Ordnance Survey, (c) Crown Copyright 2020. All rights reserved. Licence number 100022432.
 4. Highway boundary information has been provided by Gloucestershire County Council (GCC) and has been overlaid by Cotswold Transport Planning onto the topographical survey on a best fit basis.

KEY:

- Site Boundary
- Inter-Visibility Splay

Vehicle Profile

Phoenix 2 Duo Recycler (P2-12W with Elite 6x2 MS chassis)

- Overall Length 10.755m
- Overall Width 2.530m
- Overall Body Height 3.750m
- Min Body Ground Clearance 0.300m
- Track Width 2.530m
- Lock to lock time 4.00s
- Kerb to Kerb Turning Radius 11.450m

Estate Car (2006)

- Overall Length 4.710m
- Overall Width 1.804m
- Overall Body Height 1.442m
- Min Body Ground Clearance 0.207m
- Max Track Width 1.756m
- Lock to lock time 4.00s
- Kerb to Kerb Turning Radius 5.950m

Rev	Date	Details	Drawn by	Checked by
A	10.01.22	Updated Layout & SPA	FA	JM



CLIENT:
Cotswold Oak Ltd

PROJECT:
**Paygrove Lane,
Longlevens**

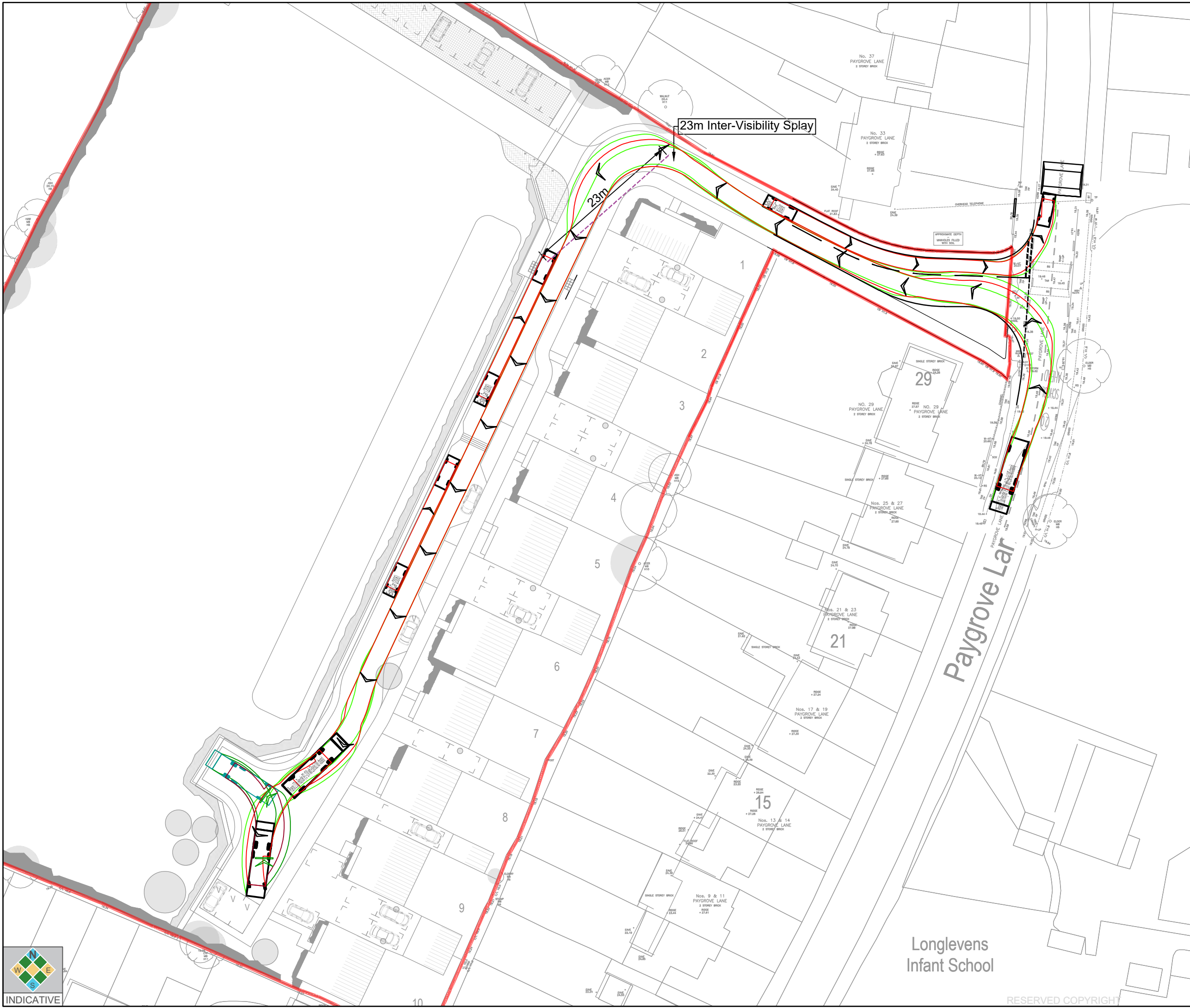
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**Onsite Swept Path Analysis -
Refuse Vehicle Exiting Site**

STATUS:
INFORMATION

SCALE @ A3:	DATE:	DRAWN:	CHECKED:	APPROVED:
1: 250	26.01.2021	FA	JM	BQ
JOB NO:	DRAWING NO:	REVISION:		
21-0760	SP05	A		



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- Notes:
1. This drawing is based upon topographical survey drawing number 4900-07NOV16-01 by A D Horner Limited.
 2. This drawing is based on the Architects layout (21.20.020_PL005) received from Coombes Everitt Architects on 04/02/2022.
 3. Ordnance Survey, (c) Crown Copyright 2020. All rights reserved. Licence number 100022432.
 4. Highway boundary information has been provided by Gloucestershire County Council (GCC) and has been overlaid by Cotswold Transport Planning onto the topographical survey on a best fit basis.

KEY:

- Site Boundary
- Inter-Visibility Splay

Vehicle Profile

Phoenix 2 Duo Recycler (P2-12W with Elite 6x2 MS chassis)

Overall Length	10.755m
Overall Width	2.530m
Overall Body Height	3.750m
Min Body Ground Clearance	0.393m
Track Width	2.530m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	11.450m

Estate Car (2006)

Overall Length	4.710m
Overall Width	1.804m
Overall Body Height	1.442m
Min Body Ground Clearance	0.207m
Max Track Width	1.756m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	5.950m

Rev	Date	Details	Drawn by	Checked by
A	10.01.22	Updated Layout & SPA	FA	JM



CLIENT:
Cotswold Oak Ltd

PROJECT:
**Paygrove Lane,
Longlevens**

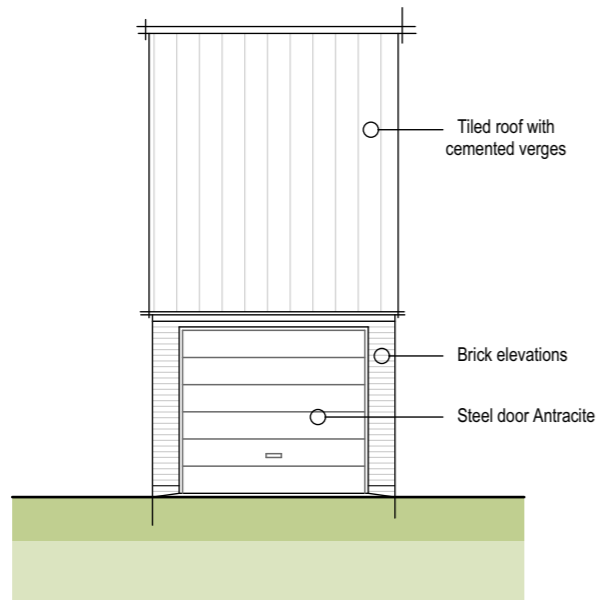
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**Onsite Swept Path Analysis -
Refuse Vehicle Entering Site**

STATUS:
INFORMATION

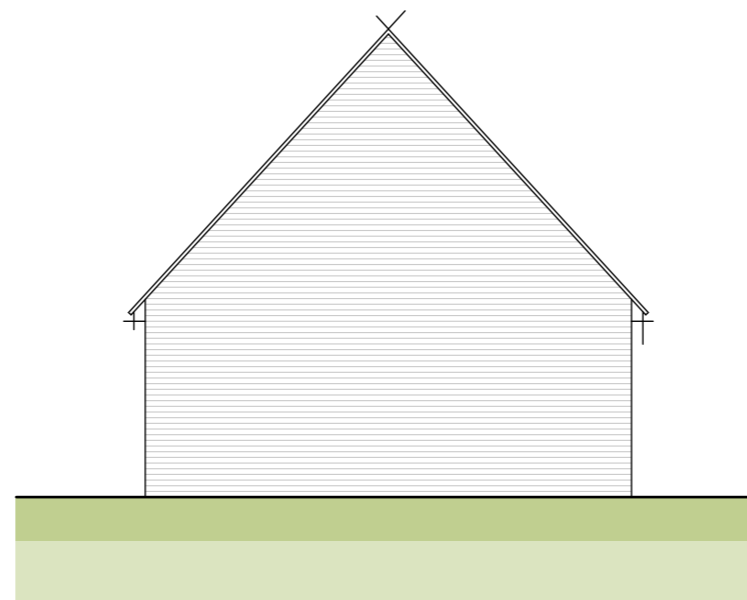
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JOB NO:	DRAWING NO:	REVISION:		
21-0760	SP04	A		



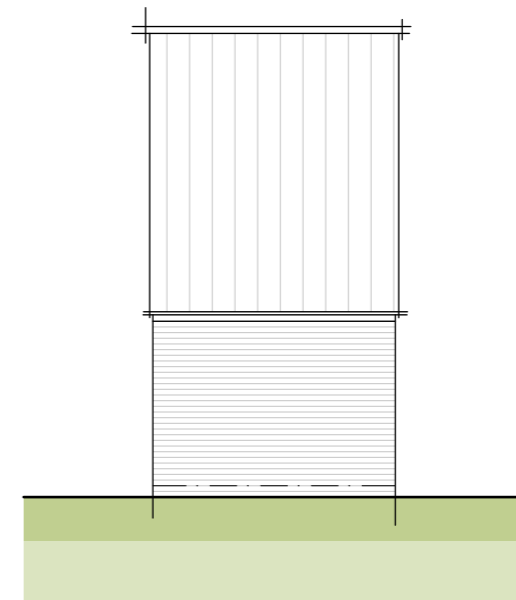
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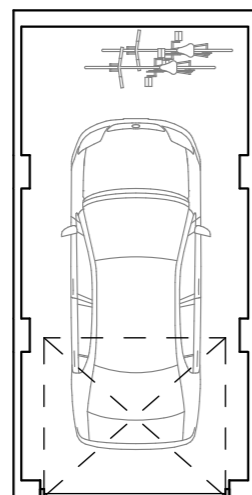
Front Elevation



Side Elevation

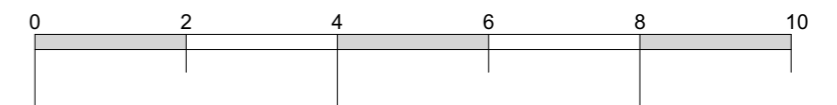


Rear Elevation



Single Garages

Scale bar 1:100



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2. Do not scale drawing. all dimensions to be checked on site prior to construction and any discrepancies reported to contract administrator.
3. Do not use this drawing for setting out unless drawing specifically indicates setting out points.
4. Engineering information is indicative only and should be taken from structural engineers design.

Drawing title: Proposed Single Garage

Client: Cotswold Oak Ltd

Drawn by: AH Checked: JE

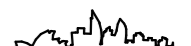
Project No: 21.20.020

Project: Land at Paygrove Lane, Longlevens

Scale: 1:100 @ A3

Date: February 2022

Project / Drawing No: 21.20.020 PLG02


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