

neutralize any localized dips and hollows, smoothing out the

no-dig surface construction and accordingly it is advised that

iv) This operation places trees at the greatest risk during

New hard surfacing is to be constructed to an engineer's

specification with regard to the anticipated loading. The

FLAC oversees surface preparation as a minimum

4. DESIGN AND CONSTRUCTION PRINCIPLES

ground ready for construction

to the primary alignment or used for temporary access with

the secondary alignment of fencing in place, a temporary

No vehicle or plant movements are to take place upon the

designed and constructed to bear the loading adequately.

new permanent hard surfacing unless they have been

wearing course may be beneficial.

(please refer to the primary AMS at section D for excavations within the

- Pits within the RPA must be kept to the minimum dimensions practicable

The thrust boring/pipe jacking must take place at a depth of no less than

and any excavations must be carried out under arboricultural supervision

1000mm below the existing ground level: this is very important to avoid

- Only water or non phyto-toxic materials are to be used for lubrication to

RPA and section E for root treatment within the RPA)

the principal rooting horizon

avoid contamination of the rooting area

Many trees on this site are under legal protection by

Method Statement that damages the trees could render

prosecution under Town & Country Planning Act 1990

Any failure in compliance with the Arboricultural

the developer & contractor liable to criminal

Tree Preservation Order:

construction work on site, the approved tree works (see FLAC dwg. no. 34-1036.02) shall be undertaken by tree

2. No plant access is permitted for tree work operations within the RPAs or VTBs of retention trees, including

tree contractors. Each tree shall be cut down to a low

4. Trees for removal within the RPA of retention trees

4. Stumps from felled trees not in proximity to retention

B) INSTALLATION OF PHYSICAL TREE PROTECTION

5. Following completion of enabling tree works, physical protection) shall be installed in line with the provisions

- Tree Protection Fencing (TPF) to BS5837:2012 Figure 2 (see Inset Sketch 1) fitted with all-weather warning signs

6. The TPF to be installed on the primary alignment (as per the dwg key) prior to any demolition, ground works and construction operations. It is to be be left in situ throughout the redevelopment process except for temporary repositioning to secondary alignment (see

7. The Temporary Ground Protection will be installed at the locations shown by the relevant hatching (see key) prior to any demolition and construction operations. It is to be be left in situ throughout the redevelopment

8. Installation of Permanent Ground protection (No-Dig private driveway/footpath) is to be carried out under arboricultural supervision by FLAC following adjustment of proximal fencing to the secondary alignment as depicted (see detailed task specific methodology on this

9. The fencing, ground protection and any existing hard surfaces within the root protection area comprise the Construction Exclusion Zone. Within this zone, the following activities are strictly prohibited during primary

 Excavation / lowering of levels into rootable soil: removal of surface organic matter using hand tools is acceptable; scraping or reduction in depth of topsoil is

 Removal of existing hard surfaces (= 'secondary - Grubbing out of redundant buried structures (see

 Operation, transit or storage of plant, and storage of materials, including demolition arisings, other than on

-No services/drainage to be aligned through RPAs/VTBs

- Boundary features to avoid continuous excavations or trenching within RPAs/VTBs (fences on posts preferable)

10. The Construction Exclusion Zone shall be established site-wide as set out above, and shall remain in place

only be severed following assessment of impact by the arboriculturist.

Where concrete is to be used to fix the posts in place then the upper

membrane, such as a 1000 micron polythene, to protect tree roots

There must be no storage or mixing of concrete within the RPAs of

from the toxic effects of uncured concrete leachate

retained trees.

metre of holes must first be lined with a heavy-duty, non-permeable

throughout the redevelopment process. No elements of the physical tree protection shall be removed or altered without prior written consent from the local planning

11. Demolition of superstructures within 3m of tree canopies and / or the construction exclusion zone is an operation with a high potential to damage retention trees ('high-risk operation'), and requires on-site arboricultural supervision by FLAC

12. Within the Construction Exclusion Zone, break-out and replacement of existing hard surfaces and decommissioning of redundant services, including drainage structures, are also high-risk operations and

shall be undertaken under site supervision by FLAC

#### D) METHODS FOR TREE FRIENDLY WORKING

13. Redundant buried structures are preferably disconnected / backfilled and retained in situ; further advice should be sought from FLAC before consideration is given to grubbing them out. Existing hard surfaces within the Construction Exclusion Zone are to be retained and not demolished / removed until completion of primary construction (see Phasing

14. The recommendations of BS5837:2012 6.2.4.1 shall be strictly observed throughout the demolition and construction process:

# BS5837:2012 6.2.4.1

authority.

Planning of site operations should take sufficient account of wide loads, tall loads and plant with booms, jibs and counterweights (including drilling rigs), in order that they can operate without coming into contact with retained trees. Such contact can result in serious damage to the trees and might make their safe retention impossible. Consequently, any transit or traverse of plant in proximity to trees should be conducted under the supervision of a banksman, to ensure that adequate clearance from trees is maintained at all times. Access facilitation pruning should be undertaken where necessary to maintain this clearance

Note In some instances local planning authority consent for pruning might be required

15. No-dig new surfaces shall be constructed in accordance with the principles set out in the Arboricultural Practice Note 12 Through the trees to development (APN12) using a 3 dimensional cellular confinement system of appropriate specification to the anticipated loading. The design of the cellular confinement system is to be produced by engineers.

BS5837:2012 7.2 Avoiding physical damage to roots during demolition or construction

7.2.1 To avoid damage to tree roots, existing ground levels should be retained within the RPA. Intrusion into soil (other than for piling) within the RPA is generally not acceptable, and topsoil within it should be retained in situ. However, limited manual excavation within the RPA might be acceptable, subject to justification. Such excavation should be undertaken carefully, using hand-held tools and preferably by compressed air soil displacement.

NOTE Due to the demands that manual excavation places on a development project, and limitations arising from health and safety considerations, it is not realistic to plan for excavation using hand-held tools where there is a need for trench shoring or grading the sides of the excavation to a stable angle of repose

16. Boundary treatments within RPAs/VTBs shall preferably comprise timber fences fixed to posts (see risk/control methodology for fence post installation elsewhere on this drawing). Any walls within RPAs/VTBs will require tree-friendly, non-invasive design avoiding trench footings by, for example, brickwork founded upon pile supported lintels born above the existing ground level, pile hole locations avoiding major tree roots and ground-truthed under arboricultural supervision.

D) EXCAVATIONS WITHIN THE RPAS

17. Excavations within the RPA may proceed only under arboricultural supervision. Personnel must be briefed on the precautions to be taken by the arboricultural consultant at the start of an operation; supervision will be carried out to ensure that the method statement is understood and complied with.

18. No mechanical excavation shall occur within the RPA; this is because where roots are encountered by excavators the roots can sustain longitudinal shattering which causes extensive damage to the tree.

19. Excavations of the top 600mm associated with any construction activities within the RPA shall be carried out carefully and by hand tools only e.g. spades, shovels, trowels etc, this may include a hand held pneumatic breaker where sub-surface structures are encountered and their removal is essential. Air excavation tools may be employed where operatives have an understanding of the use of these tools in proximity to roots and soil conditions allow. Care must be taken to avoid damage to the bark of parts of roots that will be retained.

# E) ROOT TREATMENT

20. Root pruning operations may proceed only under arboricultural supervision.

21. In normal circumstances where roots are encountered they are first assessed primarily for size; roots over 25mm in diameter would normally be retained and those below 25mm in diameter should be pruned at 90 degrees to the direction of the root.

22. Proprietary cutting tools only shall be used to prune roots i.e. secateurs and sharp pruning saws.

23. Should any roots over 25mm be discovered they should only be severed following consultation with the arboricultural consultant with regard to the tree's health and stability.

24. Where roots are to be left exposed for any period of time they shall be protected from the drying effect of sunlight and will be wrapped in clean dry Hessian to prevent desiccation.

25. Prior to backfilling retained roots should be unwrapped and surrounded by sharp sand (not builder's sand because of the high salt content which is toxic to tree roots) or another loose granular material before

soil is replaced. 26. Any imported topsoil for backfilling must be of good quality and free of contaminants and foreign bodies, it must be well graded and friable to promote good growing conditions and perform as a suitable rooting

requirements of a multipurpose topsoil as is described

medium. The topsoil to be used must satisfy the

within BS3882:2007. 27. All materials, including any new top soil to replace the hard surface must be close to hand prior to commencement of the works. These works will be carried out to the recommendations of BS5837: 2012 7.2 (see below). Once the works are complete tree protection fence is to be erected around the new open

# F) ARBORICULTURAL SUPERVISION & REPORTING

28. All high risk operations (i.e. intra-RPA/VTB)require arboricultural supervision. Additionally ongoing inspection of the tree protection measures shall be provided whilst works are in progress. A schedule of supervision is provided elsewhere on this drawing.

A WRITTEN & PHOTOGRAPHIC REPORT WILL BE PROVIDED WITHIN 5 WORKING DAYS OF EACH MONITORING VISIT

**OUTLINE ARBORICULTURAL MANAGEMENT PLAN** 

The tree stock site wide shall require management in the interests of both trees and users of the surrounding land both on and off site. The overarching objectives are as

Discharge duty of care obligations owed to residents, visitors and neighbours imposed by both common law and Owners and Occupiers Liability Act

Preserve and enhance arboricultural attributes within the constraints of best practice and the controlling statutory protection

The second bullet at (b) captures all trees within the site but this necessarily includes a subset of veteran trees that shall require specific considerations (see sub-heading *Veteran tree management* below)

#### Tree risk and general management It is acknowledged at (a) above that reasonable measures must be taken to minimize the risk of tree failures

resulting in harm or damage. This shall be achieved by cyclical tree inspections to provide:

works recommendations as deemed necessary to achieve an acceptable level of risk d. A schedule of ancillary works if considered advisable in the interests of sound arboricultural management

c. A risk-assessed and prioritized schedule of tree

Best practice and legislative control It is acknowledged at (b) above that statutory tree protection is in force and accordingly tree management

#### requires adherence to legislative controls affecting tree works ordinarily by application to Cheltenham Borough Council for consent, this shall be achieved by: e. Preparation of documentation appropriate for

submission to CBC's Trees Section in pursuit of consent to undertake works to trees under statutory tree protection, as necessary

# Veteran tree management

alongside the general objectives listed above.

The cohort of veteran trees by virtue of their age, size and condition confer attributes of exceptional biodiversity, cultural or heritage value. Maintaining these attributes is a primary objective of the management plan, sitting

Heads of terms for management of veteran trees f. Condition and maintenance of veteran tree crown radius knee-rail

g. Condition and maintenance of veteran tree deterrent planting Maintenance of land within veteran tree buffers Arboricultural risk-facing inspection and preparation of works schedule for application to CBC Assessment of veteran attributes (i.e. structural and

conditional features of ecological potential - please

refer to RAVEN) including works advisable in the

interests of optimizing habitat Assessment of works advisable in the interests of preservation, for example to prevent major mechanical failures and preserving the oldest parts of veteran trees

Inspection cycles, qualifications and review The first inspection shall take place immediately

prior to first occupancy

m. The period between inspections as described above shall be every two years

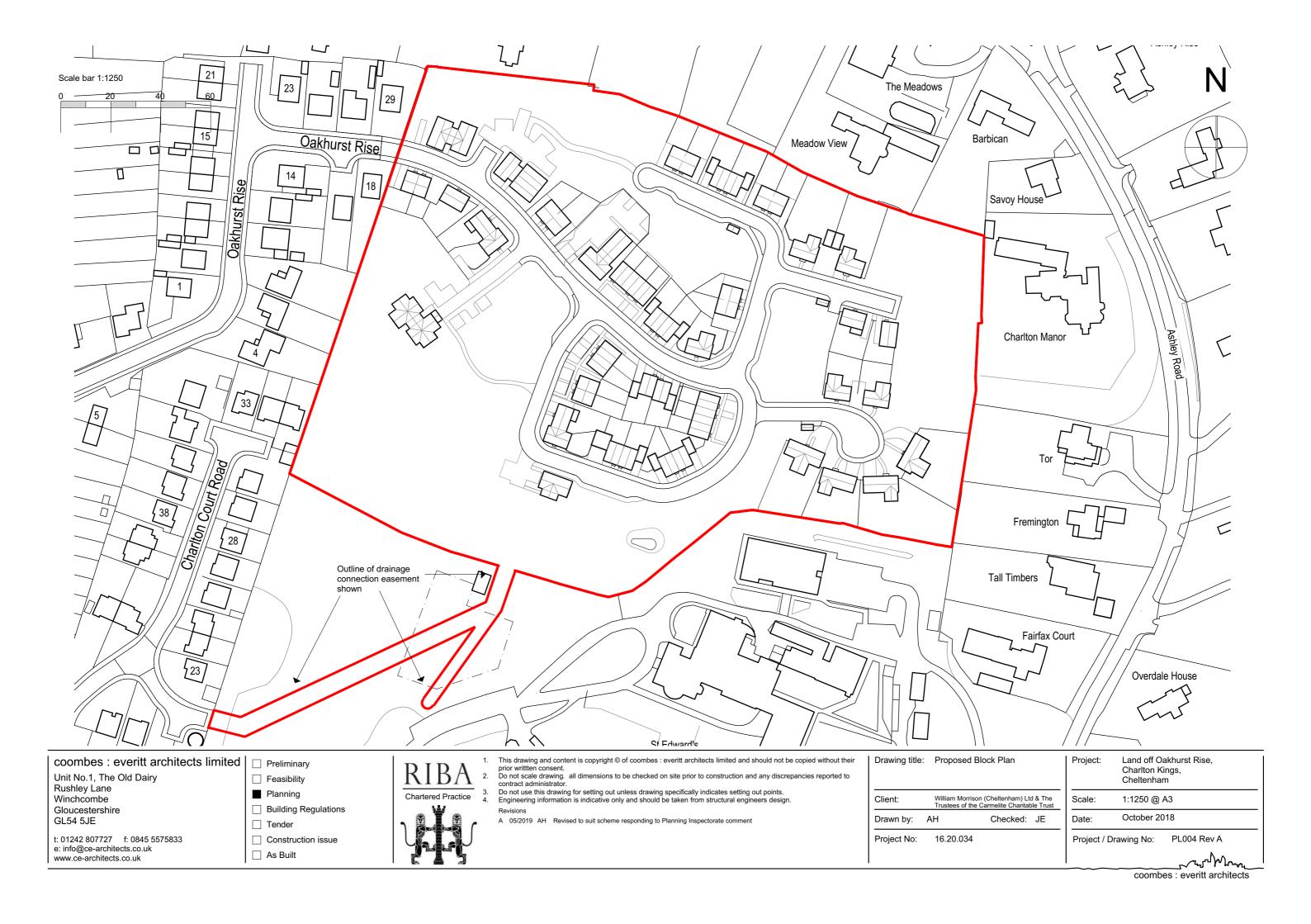
Inspections shall be undertaken by suitably qualified, trained and experienced arboriculturists (i.e. ideally qualified to level 6) with reference to suitable ecologists as appropriate. At each inspection a detailed works specification shall be prepared as

Tree work shall be undertaken by qualified and experienced arboricultural contractors and they shall be briefed by the project arboriculturist prior to commencing works

p. Tree work shall be undertaken in accordance with BS3998:2010 Tree work - recommendations. Care shall be taken to ensure that nesting birds and bats are not disturbed, and that bat roosts are not damaged during tree work. Pre-work surveys for bats shall be undertaken in accordance with BS8596:2015 Surveying for bats in trees and woodland - Guide

q. Cycles of inspection provide an opportunity to review the management plan particularly in light of tree condition and emerging information relating to tree management.









t: 01242 807727 f: 0845 5575833 e: info@ce-architects.co.uk www.ce-architects.co.uk

Gloucestershire

GL54 5JE

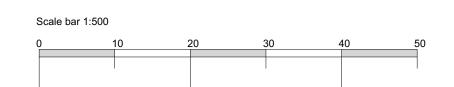
Building Regulations Tender Construction issue

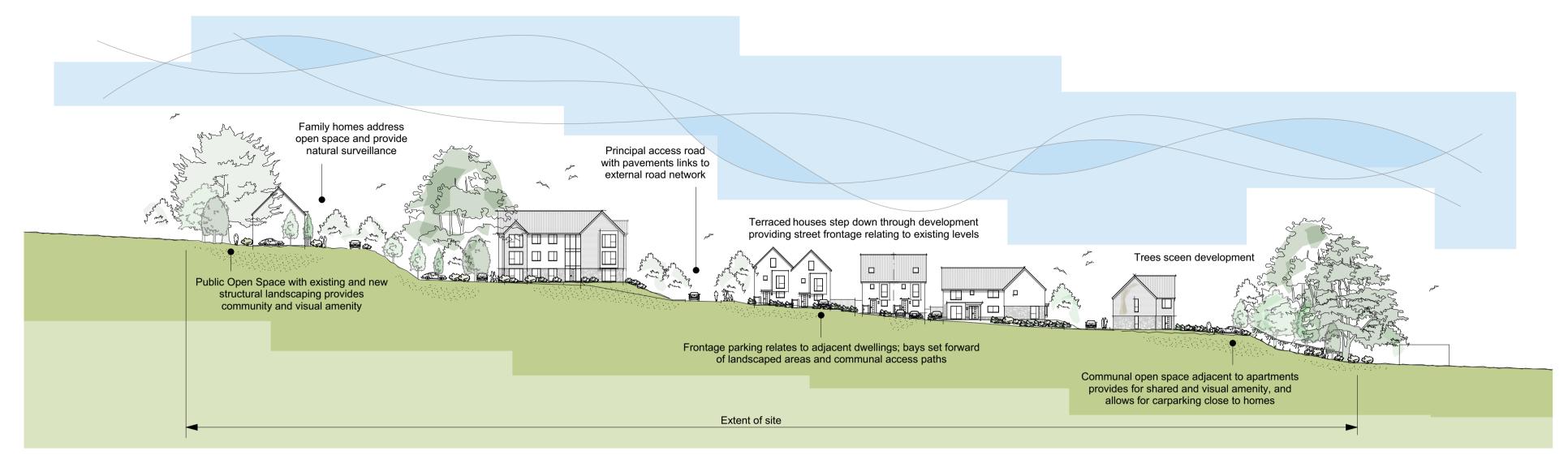
As Built

RIBA Chartered Practice

William Morrison (Cheltenham) Ltd & The Trustees of the Carmelite Charitable Trust Client: Drawn by: Checked: 16.20.034 Project No:

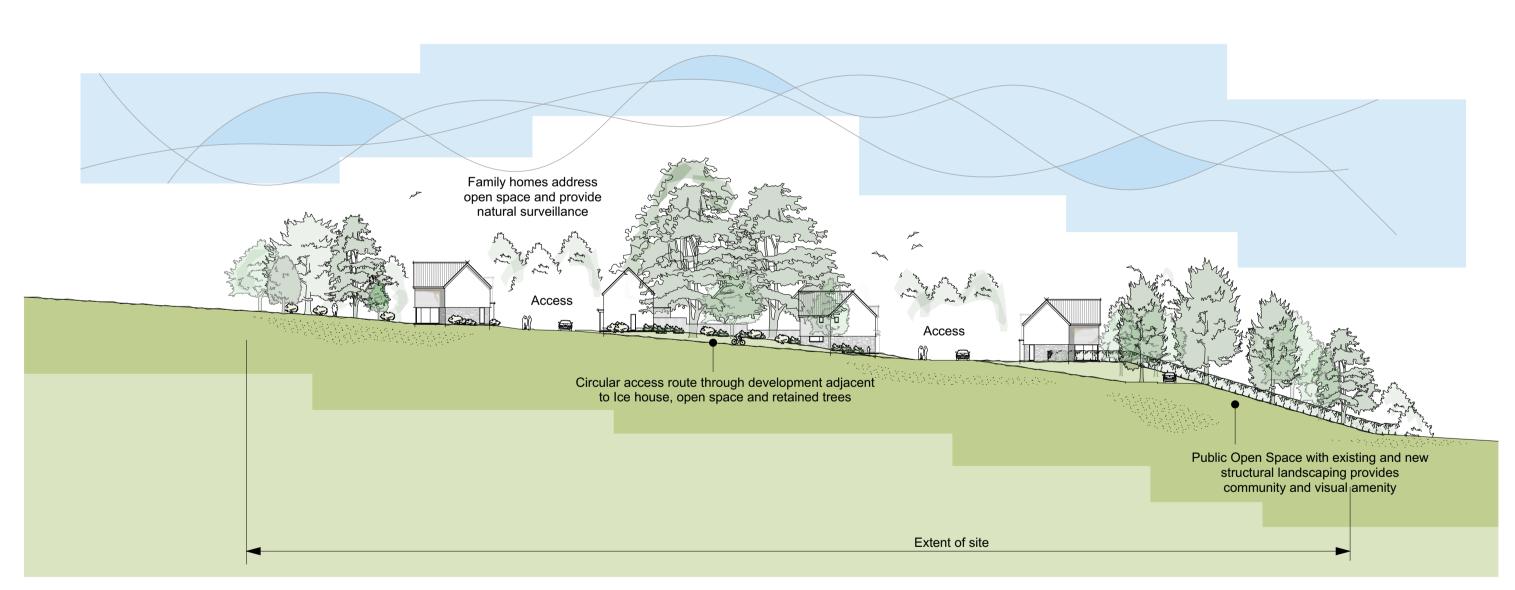
Scale: 1:500 @ A1 October 2018 Date: Project / Drawing No: PL007 Rev A





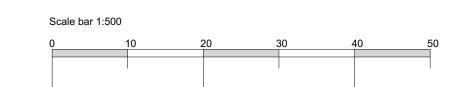


Indicative Street Scene A - A, looking east taken through the centre of the site

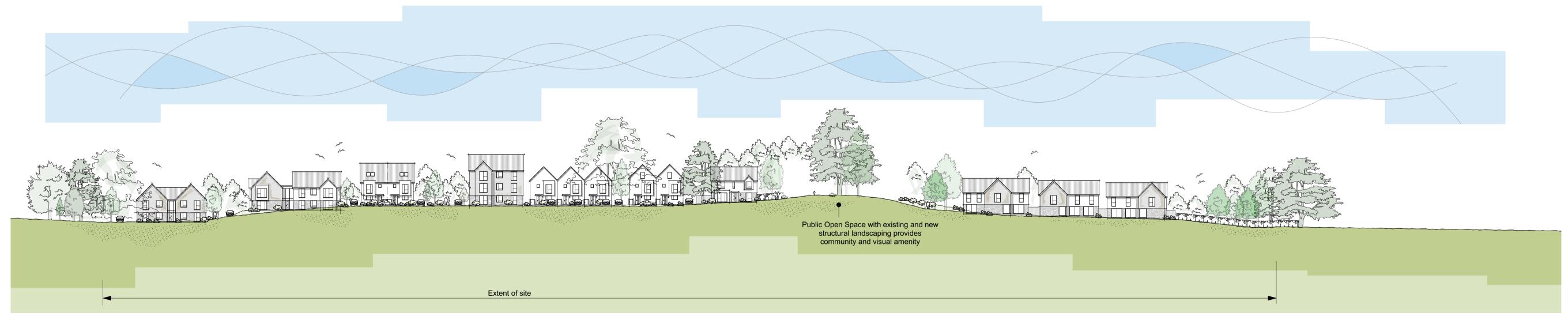


Indicative Street Scene B - B, looking east towards the Ice House

coombes: everitt architects limited Unit No.1, The Old Dairy	☐ Preliminary ☐ Feasibility	<ol> <li>This drawing and content is copyright © of coombes: everitt architects limited and should not be copied without their prior written consent.</li> <li>Do not scale drawing. all dimensions to be checked on site prior to construction and any discrepancies reported to contract administrator.</li> <li>Do not use this drawing for setting out unless drawing specifically indicates setting out points.</li> </ol>	Revisions A 05/2019 AH Revised to suit scheme responding to Planning Inspectorate comment	Drawing title:	Indicative Street Scenes	Project: Land off Oakhurst Rise, Charlton Kings, Cheltenham
Rushley Lane Winchcombe	■ Planning	Engineering information is indicative only and should be taken from structural engineers design.		Client:	William Morrison (Cheltenham) Ltd & The Trustees of the Carmelite Charitable Trust	Scale: 1:500 @ A1
Gloucestershire GL54 5JE	<ul><li>Building Regulations</li><li>Tender</li></ul>	RIBA  Chartered Practice		Drawn by:	AH Checked: JE	Date: October 2018
t: 01242 807727 f: 0845 5575833 e: info@ce-architects.co.uk www.ce-architects.co.uk	<ul><li>☐ Construction issue</li><li>☐ As Built</li></ul>			Project No:	16.20.034	Project / Drawing No: PL010 Rev A







Indicative Street Scene C - C, at entrance to proposed development and through site

coombes: everitt architects limited Unit No.1, The Old Dairy	nited ☐ Preliminary ☐ Feasibility	<ol> <li>This drawing and content is copyright © of coombes: everitt architects limited and should not be copied without their prior written consent.</li> <li>Do not scale drawing. all dimensions to be checked on site prior to construction and any discrepancies reported to contract administrator.</li> <li>Do not use this drawing for setting out unless drawing specifically indicates setting out points.</li> </ol>	Revisions A 05/2019 AH Revised to suit scheme responding to Planning Inspectorate comment	Drawing title:	Indicative Street Scene	Project:	Land off Oakhurst Rise, Charlton Kings, Cheltenham
ushley Lane /inchcombe	■ Planning	4. Engineering information is indicative only and should be taken from structural engineers design.		Client:	William Morrison (Cheltenham) Ltd & The Trustees of the Carmelite Charitable Trust	Scale:	1:500 @ A1
oucestershire _54 5JE	<ul><li>Building Regulations</li><li>Tender</li></ul>	RIBA Chartered Practice		Drawn by:	AH Checked: JE	Date:	October 2018
01242 807727 f: 0845 5575833 info@ce-architects.co.uk vw.ce-architects.co.uk	<ul><li>☐ Construction issue</li><li>☐ As Built</li></ul>			Project No:	16.20.034	Project / D	PL011 Rev A ראיניים איניים

