Development Control
Gloucester City Council
PO Box 3252, Gloucester, GL1 9FW
01452 396396
development.control@gloucester.gov.uk
www.gloucester.gov.uk/planning

Application for Planning Permission

Town and Country Planning 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

Robinswood Inn

Address Line 1

Matson Avenue

Address Line 2

Address Line 3

Gloucestershire

Town/city

Gloucester

Postcode

GL4 6LJ

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

Easting (x)

385344

Northing (y)

215276

Description

Applicant Details

Name/Company

Title

Mr

First name

Laurence

Surname

Aston

Company Name

Aqua Construction Limited

Address

Address line 1

Severn Farm

Address line 2

Elmore Lane West

Address line 3

Town/City

Quedgeley

Country

Gloucestershire

Postcode

GL2 3NW

Are you an agent acting on behalf of the applicant?

- [x] Yes
- [ ] No

Contact Details

Primary number

***** REDACTED ******

Secondary number

Fax number

Email address

***** REDACTED ******

Agent Details

Name/Company

Title

Mr

First name

Daniel

Surname

Christison

Company Name

Quattro Design Architects Ltd

Address

Address line 1

Matthews Warehouse

Address line 2

High Orchard Street

Address line 3

Gloucester Quays

Town/City

Gloucester

Country

United Kingdom

Postcode

GL2 5QY

Contact Details

Primary number

***** REDACTED ******

Secondary number

***** REDACTED ******

Fax number

Email address

***** REDACTED ******

Site Area

What is the measurement of the site area? (numeric characters only).

1465.00

Unit

Sq. metres

Description of the Proposal

Please note in regard to:

- **Fire Statements** - From 1 August 2021, planning applications for buildings of over 18 metres (or 7 stories) tall containing more than one dwelling will require a 'Fire Statement' for the application to be considered valid. There are some exemptions. View government planning guidance on fire statements or access the fire statement template and guidance.
- **Permission In Principle** - If you are applying for Technical Details Consent on a site that has been granted Permission In Principle, please include the relevant details in the description below.
- **Public Service Infrastructure** - From 1 August 2021, applications for certain public service infrastructure developments will be eligible for faster determination timeframes. See help for further details or view government planning guidance on determination periods.

Description

Please describe details of the proposed development or works including any change of use

Erection of 10no dwelling consisting of 4no houses and 6no flats, with associated amenity space, parking and hard / soft landscaping

Has the work or change of use already started?

◯ Yes
⊘ No

Existing Use

Please describe the current use of the site

Vacant

Is the site currently vacant?

⊘ Yes
◯ No

If Yes, please describe the last use of the site

Public house

When did this use end (if known)?

Does the proposal involve any of the following? If Yes, you will need to submit an appropriate contamination assessment with your application.

Land which is known to be contaminated

◯ Yes
⊘ No

Land where contamination is suspected for all or part of the site

◯ Yes
⊘ No

A proposed use that would be particularly vulnerable to the presence of contamination

◯ Yes
⊘ No

Materials

Does the proposed development require any materials to be used externally?

⊘ Yes
◯ No

Please provide a description of existing and proposed materials and finishes to be used externally (including type, colour and name for each material)

Type:
Walls

Existing materials and finishes:

Proposed materials and finishes:
Brick - ? - Red Render - Eco Rend - Chalk White

Type:
Roof

Existing materials and finishes:

Proposed materials and finishes:
Cement fibre slate tiles Greencoat PLX Steel Standing Seam

Type:
Windows

Existing materials and finishes:

Proposed materials and finishes:
Dark Grey uPVC Frames

Type:
Doors

Existing materials and finishes:

Proposed materials and finishes:
Dark Grey Composite doors to houses Dark Grey Aluminium frame doors to ground floor of flats

Type:
Boundary treatments (e.g. fences, walls)

Existing materials and finishes:

Proposed materials and finishes:
Close board timber fencing 1800mm high Brick wall 1800mm high Knee Rail

Type:
Vehicle access and hard standing

Existing materials and finishes:

Proposed materials and finishes:
Block parking to parking area

Are you supplying additional information on submitted plans, drawings or a design and access statement?

- [x] Yes
- [ ] No

If Yes, please state references for the plans, drawings and/or design and access statement

Please refer to drawings

Pedestrian and Vehicle Access, Roads and Rights of Way

Is a new or altered vehicular access proposed to or from the public highway?

- [x] Yes
- [ ] No

Is a new or altered pedestrian access proposed to or from the public highway?

- [x] Yes
- [ ] No

Are there any new public roads to be provided within the site?

- [ ] Yes
- [x] No

Are there any new public rights of way to be provided within or adjacent to the site?

- [ ] Yes
- [x] No

Do the proposals require any diversions/extinguishments and/or creation of rights of way?

- [ ] Yes
- [x] No

If you answered Yes to any of the above questions, please show details on your plans/drawings and state their reference numbers

Please refer to proposed site plan

Vehicle Parking

Does the site have any existing vehicle/cycle parking spaces or will the proposed development add/remove any parking spaces?

- [x] Yes
- [ ] No

Please provide information on the existing and proposed number of on-site parking spaces

Vehicle Type:
Cars

Existing number of spaces:
0

Total proposed (including spaces retained):
15

Difference in spaces:
15

Trees and Hedges

Are there trees or hedges on the proposed development site?

- [x] Yes
- [ ] No

And/or: Are there trees or hedges on land adjacent to the proposed development site that could influence the development or might be important as part of the local landscape character?

- [ ] Yes
- [x] No

If Yes to either or both of the above, you may need to provide a full tree survey, at the discretion of the local planning authority. If a tree survey is required, this and the accompanying plan should be submitted alongside the application. The local planning authority should make clear on its website what the survey should contain, in accordance with the current 'BS5837: Trees in relation to design, demolition and construction - Recommendations'.

Assessment of Flood Risk

Is the site within an area at risk of flooding? (Check the location on the Government's Flood map for planning. You should also refer to national standing advice and your local planning authority requirements for information as necessary.)

◯ Yes
⊘ No

Is your proposal within 20 metres of a watercourse (e.g. river, stream or beck)?

◯ Yes
⊘ No

Will the proposal increase the flood risk elsewhere?

◯ Yes
⊘ No

How will surface water be disposed of?

☐ Sustainable drainage system

☐ Existing water course

☐ Soakaway

☑ Main sewer

☐ Pond/lake

Biodiversity and Geological Conservation

Is there a reasonable likelihood of the following being affected adversely or conserved and enhanced within the application site, or on land adjacent to or near the application site?

To assist in answering this question correctly, please refer to the help text which provides guidance on determining if any important biodiversity or geological conservation features may be present or nearby; and whether they are likely to be affected by the proposals.

a) Protected and priority species

◯ Yes, on the development site
◯ Yes, on land adjacent to or near the proposed development
⊘ No

b) Designated sites, important habitats or other biodiversity features

◯ Yes, on the development site
◯ Yes, on land adjacent to or near the proposed development
⊘ No

c) Features of geological conservation importance

◯ Yes, on the development site
◯ Yes, on land adjacent to or near the proposed development
⊘ No

Supporting information requirements

Where a development proposal is likely to affect features of biodiversity or geological conservation interest, you will need to submit, with the application, sufficient information and assessments to allow the local planning authority to determine the proposal.

Failure to submit all information required will result in your application being deemed invalid. It will not be considered valid until all information required by the local planning authority has been submitted.

Your local planning authority will be able to advise on the content of any assessments that may be required.

Foul Sewage

Please state how foul sewage is to be disposed of:

- [x] Mains sewer
- [ ] Septic tank
- [ ] Package treatment plant
- [ ] Cess pit
- [ ] Other
- [ ] Unknown

Are you proposing to connect to the existing drainage system?

- (x) Yes
- ( ) No
- ( ) Unknown

If Yes, please include the details of the existing system on the application drawings and state the plan(s)/drawing(s) references

Please refer to submitted drainage report

Waste Storage and Collection

Do the plans incorporate areas to store and aid the collection of waste?

- (x) Yes
- ( ) No

If Yes, please provide details:

Bin store to flats and rear garden access to houses

Have arrangements been made for the separate storage and collection of recyclable waste?

- (x) Yes
- ( ) No

If Yes, please provide details:

Bin store to flats and rear garden provision to houses

Trade Effluent

Does the proposal involve the need to dispose of trade effluents or trade waste?

- ( ) Yes
- (x) No

Residential/Dwelling Units

Does your proposal include the gain, loss or change of use of residential units?

- [x] Yes
- [ ] No

Please note: This question is based on the current housing categories and types specified by government.

If your application was started before 23 May 2020, the categories and types shown in this question will now have changed. We recommend that you review any information provided to ensure it is correct before the application is submitted.

Proposed

Please select the housing categories that are relevant to the proposed units

- [ ] Market Housing
- [x] Social, Affordable or Intermediate Rent
- [ ] Affordable Home Ownership
- [ ] Starter Homes
- [ ] Self-build and Custom Build

Social, Affordable or Intermediate Rent

Please specify each type of housing and number of units proposed

Housing Type:
Houses

1 Bedroom:
0

2 Bedroom:
0

3 Bedroom:
2

4+ Bedroom:
2

Unknown Bedroom:
0

Total:
4

Housing Type:
Flats / Maisonettes

1 Bedroom:
0

2 Bedroom:
6

3 Bedroom:
0

4+ Bedroom:
0

Unknown Bedroom:
0

Total:
6

Proposed Social, Affordable or Intermediate Rent Category Totals	1 Bedroom Total	2 Bedroom Total	3 Bedroom Total	4 Bedroom Total	Unknown Bedroom Total	Bedroom Total
	0	6	2	2	0	10

Existing

Please select the housing categories for any existing units on the site

- [ ] Market Housing
- [ ] Social, Affordable or Intermediate Rent
- [ ] Affordable Home Ownership
- [ ] Starter Homes
- [ ] Self-build and Custom Build

Totals

Total proposed residential units	10
Total existing residential units	0
Total net gain or loss of residential units	10

All Types of Development: Non-Residential Floorspace

Does your proposal involve the loss, gain or change of use of non-residential floorspace?
Note that 'non-residential' in this context covers all uses except Use Class C3 Dwellinghouses.

- ○ Yes
- ⊘ No

Employment

Are there any existing employees on the site or will the proposed development increase or decrease the number of employees?

- ○ Yes
- ⊘ No

Hours of Opening

Are Hours of Opening relevant to this proposal?

- ○ Yes
- ⊘ No

Industrial or Commercial Processes and Machinery

Does this proposal involve the carrying out of industrial or commercial activities and processes?

- ○ Yes
- ⊘ No

Is the proposal for a waste management development?

◯ Yes
⊘ No

Hazardous Substances

Does the proposal involve the use or storage of Hazardous Substances?

◯ Yes
⊘ No

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

Authority Employee/Member

With respect to the Authority, is the applicant and/or agent one of the following:
(a) a member of staff
(b) an elected member
(c) related to a member of staff
(d) related to an elected member

It is an important principle of decision-making that the process is open and transparent.

For the purposes of this question, "related to" means related, by birth or otherwise, closely enough that a fair-minded and informed observer, having considered the facts, would conclude that there was bias on the part of the decision-maker in the Local Planning Authority.

Do any of the above statements apply?

◯ Yes
⊘ No

Ownership Certificates and Agricultural Land Declaration

Certificates under Article 14 - Town and Country Planning (Development Management Procedure) (England) Order 2015 (as amended)

Please answer the following questions to determine which Certificate of Ownership you need to complete: A, B, C or D.

Is the applicant the sole owner of all the land to which this application relates; and has the applicant been the sole owner for more than 21 days?

- ◯ Yes
- ⊘ No

Can you give appropriate notice to all the other owners/agricultural tenants? (Select 'Yes' if there are no other owners/agricultural tenants)

- ⊘ Yes
- ◯ No

Certificate Of Ownership - Certificate B

I certify/ The applicant certifies that:

- ⊘ **I have/The applicant has given the requisite notice to everyone else (as listed below) who, on the day 21 days before the date of this application, was the owner* and/or agricultural tenant** of any part of the land or building to which this application relates; or**
- ◯ **The applicant is the sole owner of all the land or buildings to which this application relates and there are no other owners* and/or agricultural tenants**.**

*** "owner" is a person with a freehold interest or leasehold interest with at least 7 years left to run.**

**** "agricultural tenant" has the meaning given in section 65(8) of the Town and Country Planning Act 1990**

Owner/Agricultural Tenant

Name of Owner/Agricultural Tenant:
***** REDACTED ******

House name:
Cherry Tree Cottage

Number:

Suffix:

Address line 1:
Weedon Hill

Address Line 2:

Town/City:
Hyde Heath

Postcode:
HP6 5RN

Date notice served (DD/MM/YYYY):
24/02/2022

Person Family Name:

Person Role

- ◯ The Applicant
- ⊘ The Agent

Title

Mr

First Name

Daniel

Surname

Christison

Declaration Date

24/02/2022

☑ Declaration made

Declaration

I / We hereby apply for Full planning permission 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.

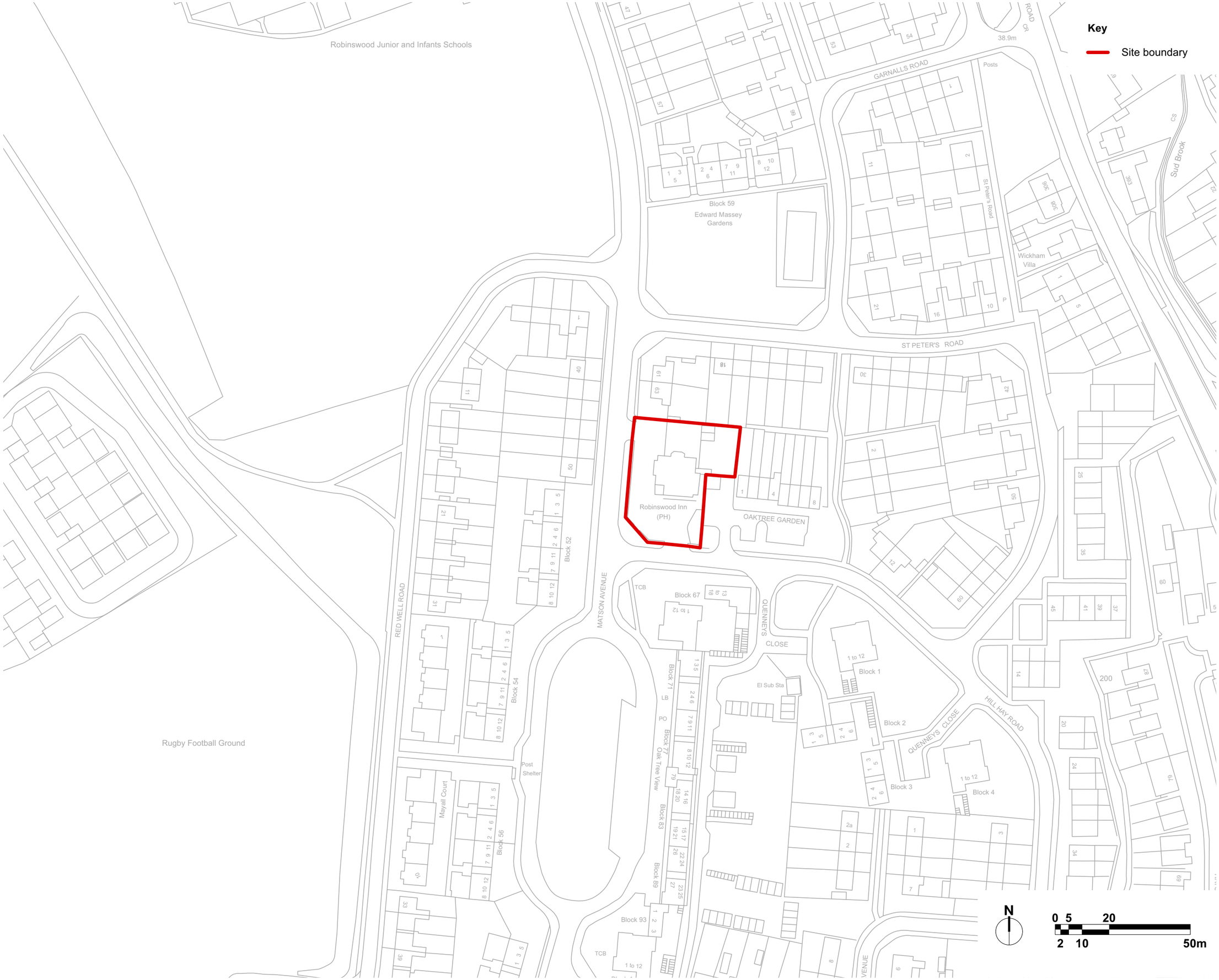
☑ I / We agree to the outlined declaration

Signed

Quattro Design Architects Ltd

Date

25/02/2022



Key

Site boundary

NOTES

REVISIONS

REV: DATE - DRAWN - CHECKED: NOTES

-: 17.02.22 - DC:
Drawing created.

DRAWING TITLE

Site Location Plan

PROJECT

Robinswood Inn,
Matson Avenue, Matson

CLIENT

Aqua Construction

SCALE	1:1250@A3
DATE	Feb 2022

DRAWING NO.	**REV**
6447-P-01	**-**

Quattro
design architects

Gloucester | London | Cardiff
Registered Office: Matthews Warehouse, High Orchard Street, Gloucester Quays, GL2 5QY

Key

Site boundary

www.quattrodesign.co.uk

NOTES

REVISIONS

REV. DATE - DRAWN - CHECKED: NOTES

-: 17.02.22 - DC - RF:
Drawing created.

DRAWING TITLE

Existing Site Plan

PROJECT

Robinswood Inn,
Matson Avenue, Matson

CLIENT

Aqua Construction

SCALE 1:200@A3

DATE Feb 2022

Quattro designarchitects

DRAWING NO. **REV**

6447-P-05 -

Matthews Warehouse, High Orchard Street
Gloucester Quays, GL2 5QY

N

0 5 2 10

Key

- Site boundary
- Road
- Footpath
- Paving
- Shared surface / parking
- Parking space
- Planted areas
- Private gardens
- Retained tree
- Removed trees
- Proposed trees
- Brick wall 1800mm
- Close board timber fencing 1800mm
- Knee Rail
- Possible retaining feature

www.quattrodesign.co.uk

NOTES

REVISIONS

REV. DATE - DRAWN - CHECKED: NOTES

-: 23.11.20 - DC - RF:
Drawing created.
A: 27.11.20 - DC:
House type floor areas revised.
B: 19.05.21 - DC:
Unit size, layout and position amended following revised floor plans.
C: 16.08.21 - DC:
2no 3Bed units replaced by 2no 4Bed units. Layout amended to accomodate.
D: 06.01.22 - DC:
Roof area of apartments cut back in line with revised floor plans and elevations.
E: 20.01.22 - DC:
Layout revised in accordance with client comments recieved 18.01.22
F: 26.01.22 - DC:
Layout revised in accordance with client comments recieved 25.01.22

Accommodation Schedule

	Area (Sqft)	Area (Sqm)	House Type	Storey	Total no.	Total Area (Sqft)	Total Area (Sqm)
Affordable							
P5	559.728	52	2BF	1	6	3358.4	312
P3	882.6	82	3BH	2	2	1765.3	164
P4	1022.6	95	4BH	2	2	2045.2	190
Sub Total					10	7168.8	666
Total					10	7168.8	666
Total Car Parking Spaces						16.0	

DRAWING TITLE

Proposed Site Plan

PROJECT

Robinswood Inn,
Matson Avenue, Matson

CLIENT

Aqua Construction

SCALE 1:200@A3

DATE Nov 2020

Quattro designarchitects

DRAWING NO. **6447-P-10**

REV **F**

Matthews Warehouse, High Orchard Street
Gloucester Quays, GL2 5QY

Former Robinswood Inn, Matson, Gloucester Planning reference: 22/00278/FUL Erection of eleven dwellings.

Planning Reference: 20/00847/OUT – comments on previous application

Gloucester City Council
Tree Consultation Response on Planning Application

To: Ron Moss
From: Justin Hobbs, City Arboriculturist
Date: 6th May 2021
Location: Robinswood Inn , Matson Avenue, Gloucester, GL4 6LJ
Proposal: Construction of four dwellings and six apartments - Outline planning application with all matters reserved

Development Plan
Joint Core Strategy (adopted December 2017)
Policy INF3-Green infrastructure provides that existing green infrastructure, including trees should be protected. Developments that impact woodlands, hedges and trees should be justified and include acceptable measures to mitigate any loss.

Emerging Development Plan
Gloucester City Plan
The Pre-Submission version of the Gloucester City Plan (City Plan) was approved for publication and submission on 26 September 2019 and has been submitted for examination. On the basis of the stage of preparation that the plan has reached, and the consistency of its policies with the NPPF, the emerging policies of the plan can be afforded limited to moderate weight in accordance with paragraph 48 of the NPPF.
Policy E 4 relates to Trees, Woodlands and hedgerows and requires that development avoids significant adverse impacts on existing trees, woodlands or hedgerows. On development sites where existing trees to be retained, applicants will be required to demonstrate how these trees will be protected through all phases of development. It is expected that the protection measures will adhere to those contained within BS 5837:2012 Trees in relation to design, demolition and construction - recommendations, or subsequent revisions.

Comments:
There are no trees on site of significant amenity value. Development presents an opportunity to increase tree cover in the vicinity.

However, there are trees just off site to the north that may well be impacted by, and impact upon the proposed apartment bock. A tree survey and arboricultural impact assessment as per BS5837:2012 should have been submitted to investigate this issue.

Applicant's comments regarding a tree survey & arboricultural impact assessment

The trees referred to by the City Arboriculturist (just north of the site) have been taken down, by the landowner, Gloucester City Homes, therefore, in the absence of the referred to trees it is considered a tree survey and arboricultural impact assessment is NOT required.

Photographs (just north of the site) showing trees now been removed

ISSUING OFFICE:
Queen Anne House
66 Cricklade Street
Cirencester
Gloucestershire
GL7 1JN

T: 01285 610145
E: info@wildwoodecology.com
W: www.wildwoodecology.com

SHADOW HABITAT REGULATIONS ASSESSMENT

ROBINSWOOD INN MATSON AVENUE GLOUCESTER GL4 6LJ

SUTTON COX ARCHITECTS

DOCUMENT REF: WWE21126/SHRA/B | 08/07/2021

Client:	Sutton Cox Architects
Site/Job:	Robinswood Inn Matson Avenue Gloucester GL4 6LJ
Report title:	Shadow Habitat Regulations Assessment
Report reference:	WWE21126/SHRA/B

Grid Reference:	SO 8534 1527
Architect/Agent:	Charles Cox of Sutton Cox Architects, Cheltenham
Planning reference:	20/00847/OUT

VERSIONING AND QUALITY ASSURANCE

Rev	Status	Date	Author(s)	Approved by
A	Draft	07/07/2021	Richard Dodd CEcol MCIEEM Principapal Ecologist	
B	Final	08/07/2021	Richard Dodd CEcol MCIEEM Principapal Ecologist	

DISCLAIMER

This document has been prepared by Wildwood Ecology Limited for Sutton Cox Architects solely as a Shadow Habitat Regulations Assessment. Wildwood Ecology Limited accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

The evidence which we have prepared and provided is true and has been prepared and provided in accordance with the guidance of The Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

CONTENTS

List of tables

1 INTRODUCTION

1.1 Sutton Cox Architects (the agent) has on behalf of their client, submitted a planning application to Gloucester City Council (planning ref: 20/00847/OUT) for the Construction of four dwellings and six apartments (the proposal) for land at Robinswood Inn Matson Avenue Gloucester GL4 6LJ (the site) centred at grid reference SO 8534 1527.

1.2 There are internationally (European) designated sites for nature conservation present offsite but within a zone of influence that may impact on one or more of their designated features. Under the Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitat Regulations), there is therefore a need to assess these impacts.

1.3 Gloucester City Council is the 'competent authority', as defined under the Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitat Regulations) and as such is required to ensure that the proposal complies with the requirement of the Habitats Regulations. This process involves undertaking a Habitats Regulations Assessment (HRA), the purpose of which is to assess the possible effects of the proposal on the nature conservation interest of sites designated under both the Habitats and Birds Directives. These important sites consist of Special Areas of Conservation (SAC) and Special Protection Areas (SPA), and also include Ramsar Sites – collectively referred to as European sites.

1.4 The purpose of this report is to inform the HRA process; to identify whether the proposal is likely to have an adverse effect on the integrity of any designated sites of European importance. The requirement to carry out this assessment is set out within the Habitats Regulations.

2 HABITATS REGULATIONS ASSESSMENT

Legislation

2.1 The Conservation of Habitats and Species Regulations 2017 (as amended), referred to as the 'Habitats Regulations' transposes the requirements of the European Habitats[1] and Birds[2] Directives into domestic UK legislation.

2.2 The Habitats Directive ensures the conservation of a wide range of rare, threatened or endemic animal and plant species. Some 200 rare and characteristic habitat types are also targeted for conservation in their own right and sites that meet the right criteria are designated as Special Areas of Conservation (SACs).

2.3 Europe is home to more than 500 wild bird species. But at least 32 % of the EU's bird species are currently not in a good conservation status. The Birds Directive aims to protect all of the 500 wild bird species naturally occurring in the European Union and sites that meet the right criteria are designated as Special Protection Areas (SPAs).

2.4 The UK is one of 171 contracting parties to the Ramsar Convention[3], an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.

2.5 Collectively, SACs, SPAs and Ramsar sites form a pan-European Union network of protected sites, formally known (before Brexit) as Natura 2000 sites, or European sites, and this term has been adopted throughout this report.

Habitats Regulations Assessment Process

2.6 The requirement of the Habitats Regulations with regard to the implication of plans or projects are set out within Part 6 'Assessment of Plans and Projects' and specifically Regulation 61. Chapter 8 of the Habitats Regulations sets out the requirements with regard to land use plans within Regulation 102 (which apply to the provisions of Article 6(3) and (4) of the Habitats Directive. The step-based approach implicit within Regulation 61 is referred to as a 'Habitats Regulations Assessment', which is the term used throughout this report.

2.7 It is mandatory on any public body (referred to as a 'competent authority' within the Habitats Regulations) to carry out a HRA where they are proposing to carry out a project, implement a plan or authorise another party to carry out a plan or project. Competent authorities are required to record the process undertaken, ensuring that there will be no adverse effects on the integrity of a European site as a result of a plan or project.

[1] https://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm
[2] https://ec.europa.eu/environment/nature/legislation/birdsdirective/index_en.htm
[3] https://www.ramsar.org/

Local context

2.8 The purpose of Habitats Regulations Assessment (HRA) of strategic plans such as the Gloucestershire Minerals & Waste Development Framework, Local Transport Plan and Surface Water Management Plans is to make sure the plans do not harm internationally designated sites.

2.9 HRA also applies to other plans and projects such as some planning applications. The requirement for HRA of plans or projects derives from Article 6(3) and (4) of the European Communities (1992) Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora ("Habitats Directive"). These requirements have been transposed into national law by the 'Conservation of Habitats and Species Regulations' which is often referred to as the 'Habitats Regulations'.

2.10 International sites in and within 15km of Gloucestershire

- Rodborough Common SAC - (Stroud)
- Dixton Wood SAC - (Tewkesbury)
- Wye Valley and Forest of Dean Bat Sites SAC - (Forest of Dean, Monmouthshire)
- River Wye SAC - (Forest of Dean, Monmouthshire, Herefordshire, Powys)
- Wye Valley Woodlands SAC - (Forest of Dean, Monmouthshire, Herefordshire)
- North Meadow and Clattinger Farm SAC - (Wiltshire)
- Cotswold Beechwoods SAC - (Cotswold)
- Bredon Hill SAC - (Worcestershire)
- Walmore Common SPA - (Tewkesbury)
- Severn Estuary SPA - (Stroud, Forest of Dean)

Assessment Stages

2.11 The European Commission has developed guidance in relation to Articles 6(3) and (4) of the Habitats Directive and this recommends a four-stage approach to addressing the requirements of these articles.

2.12 Table 1 summarises the detail and legislative context for the four HRA stages. In subsequent sections further detail is provided about the method that has been adopted when completing Stage 1 and 2.

2.13 The proposal of concern within this report is unlikely to trigger Stages 3 and 4 given its extent and development size.

Table 1 – stages in the Habitats Regulation Assessment process

Stage	Description
Stage 1: Screening	This process identifies the likely impacts upon a European site of a project or plan, either alone or in-combination with other projects or plans and determines whether these impacts are likely to be significant. If no adverse impact is determined, the project or plan can proceed. If an adverse impact is identified, Stage 2 is commenced. Following the recent ECJ judgement in the case of "people over wind" (Case C-323/17), measures that are necessary to avoid or reduce impacts on the European site, even when considered standard environmental best-practice, can only be considered at Stage 2.
Stage 2: Appropriate Assessment.	Stage 2 is subsequent to the identification of likely significant effects upon a European site in Stage 1. This assessment determines whether a project or plan would have an adverse impact on the integrity of a European site, either alone or in-combination with other projects or plans. This assessment is confined to the effects on the internationally important habitats and species for which the site is designated (i.e. the interest features of the site). If no adverse impact is determined, the project or plan can proceed. If an adverse impact is identified, Stage 3 is commenced.
Stage 3: Assessment of alternative solutions.	Where a plan or project has been found to have adverse impacts on the integrity of a European site, potential avoidance/mitigation measures or alternative options should be identified. If suitable avoidance/mitigation or alternative options are identified, that result in there being no adverse impacts from the project or plan on European sites, the project or plan can proceed. If no suitable avoidance/mitigation or alternative options are identified, as a rule the project or plan should not proceed. However, in exceptional circumstances, if there is an 'imperative reason of overriding public interest' for the implementation of the project or plan, consideration can be given to proceeding in the absence of alternative solutions. In these cases, compensatory measures must be put in place to offset negative impacts.
Stage 4: Assessment where no alternative solutions exist and where adverse impacts remain.	Stage 4 comprises an assessment of the compensatory measures where, in light of an assessment of imperative reasons of overriding public interest, it is deemed that the project should proceed.

Stage 1 – screening

2.14 This stage identifies the likely effects of the proposal on any European site, either alone or in combination with other plans or projects. Specifically, this stage considers whether these effects are likely to be significant with regards to the integrity of the European site. The proposal will require 'appropriate

assessment' if it is considered that any aspect of it will have a significant effect of any European site.

Stage 2 – Appropriate Assessment

2.15 If it is considered that a plan or project is likely to have a significant effect on the integrity of a European site, the requirements of Stage 2 are triggered. This stage considers the impacts of the proposal on the integrity of the European site in view of the site's conservation objectives. If adverse impacts are identified, this assessment should also consider measures to mitigate the identified impacts.

2.16 If necessary, modifications to those proposal or policies are identified to avoid any adverse effects on a site integrity. If mitigation is not possible and adverse effects on a European site's integrity remain, the process must proceed to Stage 3.

Guidance of Procedure and Method

2.17 The report has referred to the following published guidance and good practice:

- Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (European Commission 2002)
- The Habitats Regulations Assessment Handbook. DTA Publications (2019).
- Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (European Communities, 2018)
- Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC (European Communities, 2007)
- The National Planning Policy Framework (2019) (NPPF) and National Planning Practice Guidance (NPPG)
- The Planning Inspectorate PINS Note 05/ 2018: Consideration of avoidance and reduction measures in Habitats Regulations Assessment: People over Wind, Peter Sweetman, v Coillte Teoranta (The Planning Inspectorate, 2018).
- NEA001 Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations (Natural England, 2018).
- UK Government Guidance on the use of Habitats Regulations Assessment (July 2019) [https://www.gov.uk/guidance/appropriate-assessment]

2.18 The guidance does not define the method for undertaking or recording Habitats Regulations Assessment but notes that the adopted method must be appropriate to its purpose under the Habitats Directive and Habitats Regulations (i.e., an 'appropriate assessment').

Scope of Assessment

2.19 An important part of the HRA process is ensuring Natural England is consulted to ensure that the scope of the assessment is appropriate for the purposes of discharging the duties set out within the Conservation of Habitats and Species Regulations 2017 (as amended). HRA is an iterative process that aims to influence the development of a plan or project so as to ensure the ecological integrity of affected European sites is maintained.

3 IDENTIFICATION OF RELEVANT EUROPEAN SITES

Introduction

3.1 International nature conservation sites are often collectively known as Natura 2000 sites. Natura 2000 is an EU-wide network of nature protection areas established under the Habitats Directive. The aim of the network is to assure the long-term survival of Europe's most valuable and threatened habitats and species.

3.2 Natura 2000 consists of:

- Special Areas of Conservation (SACs) - these are designated under the UK Regulations made under the Habitats Directive to protect those habitat types and species that are considered to be most in need of conservation at a European level (excluding birds).
- Special Protection Areas (SPAs) - these are designated under the UK Regulations under the Birds Directive to protect rare and vulnerable birds, and also regularly occurring migratory species.
- Ramsar sites - these are wetlands of international importance designated under the Ramsar Convention.

3.3 Although not included in the European legislation, as a matter of policy, Ramsar sites in England and Wales are protected as European sites. The vast majority are also classified as SPAs and Sites of Special Scientific Interest (SSSIs). All SPAs and terrestrial SACs in England and Wales are also designated as SSSIs under the Wildlife and Countryside Act (1981) as amended.

European Sites in and around Robinswood Inn Matson Avenue Gloucester GL4 6LJ

3.4 No European sites lie within or immediately adjacent to the site. The potential for impacts by the proposal on all European sites within 15 km of the site has been considered.

3.5 European sites within 15km of the site are:

- Walkmore Common – Ramsar site and Special Protection Area (SPA) – approximately 4.6 km to the west of the site
- Severn Estuary – Ramsar site and Special Area of Conservation (SAC) – approximately 13.5 km to the south-west of the site
- Cotswold Beechwoods – Special Area of Conservation (SAC) – approximately 3.3 km to the east of the site
- Rodborough Common - Special Area of Conservation (SAC) – approximately 11.1 km to the south of the site

Walkmore Common: Ramsar site and Special Protection Area (SPA)

Principal features

3.6 An area of low-lying improved and unimproved grassland close to the River Severn. The area is dissected by a network of drainage ditches and is subject to intermittent seasonal flooding. The common is grazed by cattle during the

summer months and is surrounded by improved grassland. It regularly supports internationally important numbers of wintering *Cygnus columbianus bewickii*, although the average peak count for the five winters 1987/88 to 1991/92 was 153 - fractionally below the threshold of 170 birds required for qualification under Ramsar criterion. These swans also use the Upper Severn Estuary Ramsar site. Locally important concentrations of other Anatidae and wader species also occur in winter, especially when the site is flooded.

Conservation issues

3.7 Part of Walmore Common is protected through a management agreement established by English Nature. The importance of the site depends on the maintenance of regular, shallow flooding during the winter months and a lack of disturbance from human activities.

Severn Estuary – Ramsar site and Special Area of Conservation (SAC)

Principal features

3.8 The Severn Estuary is one of the largest estuaries in Britain and it has the second largest tidal range in the world. Its classic funnel shape and southwest orientation makes it susceptible to extreme weather conditions in the east Atlantic. There are large urban developments on the estuary. The high tidal range leads to strong tidal stream and high turbidity, producing communities characteristic of the extreme physical conditions of liquid mud and tide-swept sand and rock. The site is particularly important for the run of migratory fish between the sea and rivers via the estuary. Species using the estuary include *Salmo salar, S. trutta, Petromyson marinus, Lampreta fluviatilis, Alosa alosa, A. fallax* and *Anguilla anguilla*. The estuary is also important for migratory birds during spring and autumn migrations. During the five year period 1987/88 to 1991/92 the estuary supported nationally important numbers of *Charadrius hiaticula, Calidris alpina, Numenius phaeopus*, and *Tringa totanus*. The site also regularly supports more than 20,000 waterfowl. In the five year period 1988/89 to 1992/93 the average peak count was 68,026 waterfowl, comprising 17,502 wildfowl and 50,524 waders. These included internationally important numbers of *Anser albifrons albifrons* (3,002), *Tadorna tadorna* (2,892), *Anas strepera* (330), *Calidris alpina* (41,683) and *Tringa totanus* (2,013). Several other species occur in nationally important numbers.

Conservation issues

3.9 Land uses at the site include habitat/nature conservation, bait collecting, recreational and sport hunting, recreational, sport and commercial fishing, permanent pastoral agriculture, grazing, birdwatching, boating, swimming, sewage treatment, industrial water supply, flood control, sand/gravel extraction, harbour use, military activities, industry, and transport. A project officer has been appointed to prepare a management strategy. A management plan for the Severn Estuary is expected to be completed by

1997. The intention is to link this with the National Rivers Authority Catchment Management Plan. The area is also covered by a Ministry of Agriculture, Fisheries and Food funded Shoreline Management Plan.

Cotswold Beechwoods – Special Area of Conservation (SAC)

Qualifying features

3.10 The Cotswold Beechwoods represent the most westerly extensive blocks of *Asperulo-Fagetum* beech forests in the UK (H9130 feature). The woods are floristically richer than the Chilterns, and rare plants include red helleborine *Cephalanthera rubra*, stinking hellebore *Helleborus foetidus*, narrow-lipped helleborine *Epipactis leptochila* and wood barley *Hordelymus europaeus*. There is a rich mollusc fauna. The woods are structurally varied, including blocks of high forest and some areas of remnant beech coppice.

Conservation objectives

3.11 Maintain the total extent of the H9130 feature at 472.16 hectares.

3.12 Maintain the distribution and configuration of the H9130 feature, including where applicable its component vegetation types, across the site.

3.13 Ensure the component vegetation communities which comprise the H9130 feature are broadly referable to and characterised by the following National Vegetation Classification types:

- W12 Fagus sylvaticaMercurialis perennis
- W14 Fagus sylvatica-Rubus fruticosus
- W7 *Alnus glutinosa-Fraxinus excelsior-Lysimachia nemorum*
- Pockets of beech rich W8 Fraxinus excelsior-Acer campestre-Mercurialis perennis woodland

3.14 Maintain an appropriate tree canopy cover/density across the H9130 feature, which will typically be between 30-90%.

3.15 Restore areas of permanent/temporary open space within the H9130 feature, typically to cover approximately 10% of the feature area.

3.16 Restore the extent and continuity of undisturbed, mature/old growth stands or a scatter of large trees allowed to grow to over-maturity/death comprising a minimum of 10% of the H9130 feature at any one time) and the assemblages of veteran and ancient trees (5-10 trees per hectare).

3.17 Restore the continuity and abundance of standing or fallen dead and decaying wood, typically between 30 - 50 m^3 per hectare of standing or fallen timber or 3-5 fallen trees >20cm per hectare, and at least 4 standing dead trees per hectare.

3.18 Restore at least 3 age classes (pole stage/ medium/ mature) spread across the average life expectancy of the commonest trees.

3.19 Restore a graduated woodland edge into adjacent semi-natural open habitats, other woodland/wood-pasture types or scrub.

3.20 Maintain a diversity (at least 3 species on more base rich sites) of site-native trees (e.g. beech, ash, whitebeam, yew, sycamore, holly) across the site.

3.21 Maintain the extent, quality and spatial configuration of the unimproved calcareous grasslands and Cotswold scarp woodlands surrounding or adjacent to the site which is known to support the H9130 feature.

3.22 Restore browsing/grazing by herbivores to sufficient levels to allow tree seedlings and saplings the opportunity to exceed browse height, and which restore the characteristic structure of the H9130 woodland feature.

3.23 Restore the potential for sufficient natural regeneration of desirable trees and shrubs; typically, tree seedlings of desirable species (measured by seedlings and <1.3m saplings - above grazing and browsing height) should be visible in sufficient numbers in gaps, at the wood edge and/or as regrowth as appropriate.

3.24 Maintain a woodland canopy and under-storey of which 95% is composed of site native trees and shrubs.

3.25 Maintain the abundance of the species listed below to enable each of them to be a viable component of the Annex 1 habitat; Populations of Horseshoe bats *Rhinolophus ferrumequinum, Rhinolophus hipposideros* Red Helleborine (*Cephalanthera rubra*) Duke of Burgundy butterfly (*Hamearis Lucina*) Non-marine mollusc assemblage: *Ena montana, Phenacolimax major, Acicula fusca, Macrogastra rolphii, Helix pomatia, Abida secale* Notable woodland species include; Angular Solomon's-seal (*Polygonatum odoratum*), Mezereon (*Daphne mezereum*), Limestone Fern (*Gymnocarpum robertianum*), Green Hellebore (*Helleborus viridis*), Common Wintergreen (*Pyrola minor*), Bird's-nest Orchid (*Neottia nidus-avis*), Broad-leaved Helleborine (*Epicactis helleborine*), Lily-of-the-valley (*Convollaria majus*), Yellow Bird's-nest (*Monotropa hypopitys*). Vascular plant species of disturbed areas within woodland: Fingered Sedge (*Carex digitata*), Narrow-leaved Helleborine (*Epicactis leptochila*), Yellow Star-of-Bethlehem (*Gagea lutea*), Stinking Hellebore (*Helleborus foetidus*), Wood Barley (*Hordelymus europaeus*), Pale St-John's-wort (*Hypericum montanum*).

3.26 Restore the frequency/cover of the following undesirable species to within acceptable levels and prevent changes in surface condition, soils, nutrient levels or hydrology which may encourage their spread.; sycamore, periwinkle.

3.27 Maintain the properties of the underlying soil types, including structure, bulk density, total carbon, pH, soil nutrient status and fungal:bacterial ratio, to within typical values for the H9130 habitat.

3.28 Maintain the soil structure within and around the root zones of the mature and ancient tree cohort in an uncompacted condition.

3.29 Restore as necessary the concentrations and deposition of air pollutants to within the site-relevant Critical Load or Level values given for this feature of the site on the Air Pollution Information System (www.apis.ac.uk).

3.30 At a site, unit and/or catchment level (as necessary), maintain natural hydrological processes to provide the conditions necessary to sustain the H9130 feature within the site.

3.31 Maintain any artificial light at levels which are unlikely to affect natural phenological cycles and processes to the detriment of the H9130 feature and/or its typical species at this site.

Rodborough Common - Special Area of Conservation (SAC)

Qualifying features

3.32 Rodborough Common is the most extensive area of semi-natural dry grasslands surviving in the Cotswolds of central southern England and represents CG5 *Bromus erectus – Brachypodium pinnatum* grassland (H6210), which is more or less confined to the Cotswolds. The site contains a wide range of structural types, ranging from short turf through to scrub margins, although short-turf vegetation is mainly confined to areas of shallower soils.

Conservation objectives

3.33 Maintain the total extent of the H6210 feature at 76.49 hectares.

3.34 Maintain the distribution and configuration of the H6210 feature, including where applicable its component vegetation types, across the site.

3.35 Ensure the component vegetation communities of the H6210 feature are referable to and characterised by the following National Vegetation Classification types:

- CG3 *Bromus erectus* grassland
- CG5 Bromus erectus - *Brachypodium pinnatum* grassland With W19 *Juniperus communis – Oxalis acetosella* woodland
- W21 *Crataegus monogyna – Hedera helix* scrub W24 *Rubus fruticosus agg. – Holcus lanatus* underscrub.

3.36 Maintain the abundance of herbaceous species within the range 40%-90%

3.37 Maintain the abundance of the species listed below to enable each of them to be a viable component of the Annex 1 habitat;

- Community constant and preferential species of the component NVC types including tor-grass *Brachypodium pinnatum* and upright brome *Bromopsis erecta*
- Populations of notable plant species; Pasque Flower *Pulsatilla vulgaris*, Fingered Sedge *Carex digitata*, Juniper *Juniperus communis*
- Populations of important orchid species; Musk Orchid *Herminium monorchis,* Frog Orchid *Coeloglossum viride*
- Populations of grassland invertebrates: Duke of Burgundy butterfly *Hamearis Lucina, Abida secale* (rare snail).

3.38 Maintain the frequency/cover of the following undesirable species to within acceptable levels and prevent changes in surface condition, soils, nutrient levels or hydrology which may encourage their spread; *Cirsium arvense, Cirsium vulgare, Rumex crispus, Rumex obtusifolius, Senecio jacobaea, Urtica dioica, all tree and scrub species excluding Juniperus communis,*

3.39 Maintain the natural pattern of zonations/transitions between calcareous grassland and scrub communities.

3.40 Restore the properties of the underlying soil types, including structure, bulk density, total carbon, pH, soil nutrient status and fungal:bacterial ratio, to within typical values for the H6120 habitat.

3.41 Maintain and Restore the overall extent, quality and function of any supporting features (e.g. good quality semi-improved grassland, unimproved neutral and calcareous grassland, and woodland glades and rides), within the local landscape which provide a critical functional connection with the site.

3.42 Maintain and Restore the H6210 feature's ability, and that of its supporting processes, to adapt or evolve to wider environmental change, either within or external to the site.

3.43 Restore as necessary the concentrations and deposition of air pollutants to below the siter relevant Critical Load or Level values given for this feature of the site on the Air Pollution Information System (www.apis.ac.uk).

3.44 Maintain the management measures (either within and/or outside the site boundary as appropriate) which are necessary to maintain the structure, functions and supporting processes associated with the H6210 feature.

Conclusion

3.45 Considering both the relevant qualifying site features (both habitats and species) and conservation objectives, the distance from the site to each European site and the extent of the proposal at the site, the following European sites are screened out for further assessment:

- Walkmore Common – Ramsar site and Special Protection Area (SPA) – approximately 4.6 km to the west of the site
- Severn Estuary – Ramsar site and Special Area of Conservation (SAC) – approximately 13.5 km to the south-west of the site

3.46 The above have been screened out at this stage as the vulnerabilities of the site including habitat loss, fragmentation, physical damage, habitat/community simplification change to water quality and water quantity and disturbance to qualifying species, none of which will not be affected by the proposal given the spatial distance between the two sites.

3.47 The following European sites are therefore taken forward for further impact assessment.

- Cotswold Beechwoods – Special Area of Conservation (SAC) – approximately 3.3 km to the east of the site

- Rodborough Common - Special Area of Conservation (SAC) – approximately 11.1 km to the south of the site

4 POTENTIAL IMPACTS AND PATHWAYS

Introduction

4.1 The proposal is for four dwellings and six apartments, which can potentially have adverse impacts on the habitats and species for which international nature conservation sites are designated. These impacts can be direct, such as habitat loss, fragmentation, or degradation, or indirect such as disturbance or pollution from construction, transportation etc. They can also include long-term effects associated with the operational phase of proposed developments or general population growth, and short-term effects arising from construction phases.

4.2 As outlined in the previous chapter we are considering impacts for the following relevant European sites:

- Cotswold Beechwoods – Special Area of Conservation (SAC) – approximately 3.3 km to the east of the site
- Rodborough Common - Special Area of Conservation (SAC) – approximately 11.1 km to the south of the site

4.3 This chapter identifies the potential impacts and their pathways to relevant European sites within and adjacent to Robinswood Inn Matson Avenue Gloucester GL4 6LJ which may arise as a result of the proposal. It then goes on to identify the types of impact/pathway to which the qualifying features present upon the European sites are particularly sensitive to.

Impacts to European Sites

4.4 The European sites located within the 15km buffer consist of aquatic and terrestrial habitats and species related to such habitats. As these sites are not located within or adjacent to any European sites then impacts related to habitat loss or fragmentation are considered irrelevant.

4.5 Other impacts relating to physical disturbance, habitat/community simplification, disturbance, competition from invasive non-native species, changes in water quantity and quality and pollution may be considered to be relevant and require assessment.

Potential impact pathways

4.6 Considering the habitat groups and species for each of the European sites outlined above the following pathways to impacts have also been identified.

Hydrological impacts

4.7 New development and population increase can result in hydrological effects to existing watercourses and groundwater resources. Such effects can include changes to surface and ground water flows, quality and levels; this can have subsequent effects on habitats and supported species. The main types of potential hydrological effects are water abstraction and water discharges.

4.8 The screening assessment will consider the potential for impacts on a European site due to changes in water levels and/or quality by taking into consideration the vulnerability of their interest features to such impacts, and the pathways i.e. the hydrological connectivity between the site and the areas proposed for development.

Air quality effects

4.9 New developments and an increase in population have the potential to result in an increased use of the road network by vehicles, which could have adverse effects on air quality. This could have subsequent effects on habitats sensitive to air quality changes and higher deposits of nitrogen dioxide, ammonia, particulates and sulphur dioxide (diesel trains).

4.10 It should be noted that the likelihood of this effect is greatly reduced as the distance increases between the deposit area (typically the road network) and the European site. Pollutant levels can be expected to fall substantially at a distance less than 50m from the source and can be expected to fall to background levels at a distance of more than 200m (Design Manual for Roads and Bridges (DMRB) Volume 11, Version 0 November 2019).

4.11 This assessment will consider how the potential impact of new development/housing and the associated increase in traffic has the potential to generate increases in atmospheric pollution. This will be considered in relation to the European sites identified, taking into account the vulnerability of their interest features, proximity to proposed development sites and likely associated traffic increases. Potential point source emissions from industrial developments are also considered.

4.12 This assessment takes into account the High Court judgment in Wealden v SSCLG [2017] ('the Wealden Judgment 2017') and Natural England's guidance on significance thresholds in relation to traffic emissions for roads within 200m of European Sites (Natural England, 2018).

Recreational impacts

4.13 Many European sites will be vulnerable to some degree of impact as a result of recreational pressure, although the effects of recreational impacts are complex and very much dependent on the specific conditions and interest features at each site. For example, otter can be sensitive to disturbance associated with walkers or dogs whereas other species are not; some habitats will be more sensitive to trampling than others; and some sites will be more accessible than others.

4.14 Most recreational activities with the potential to affect European sites are 'casual' and pursued opportunistically (e.g. walking, walking dogs, riding), which makes it difficult to quantify or predict the impacts of these activities on European sites and harder to control or manage. It also means it is difficult to explore in detail all potential impacts of recreational pressures at the strategic level.

4.15 The screening assessment will consider the potential for recreational pressures on a European site by taking into consideration the vulnerability of their interest features to such pressures, the accessibility of the site to the public, the likely attractiveness of the site and its habitats/species to visitors, and the proximity of the site to sites allocated for development.

5 SCREENING FOR LIKELY SIGNIFICANT EFFECTS

The 'screening' process

5.1 The term 'screening' is routinely adopted to describe the initial stage of the Habitats Regulations Assessment. The purpose of screening is to:

- Identify all aspect of the proposal that are not likely to have a significant effect on a European site, either alone or in combination with other aspects of the proposal or other plans or projects. These can be screened out from further assessment.
- Identify those aspects of the proposal where it is likely to have a significant effect on a European site, either alone or in combination with other aspects of the proposal or other plans or projects. These aspects will require 'appropriate assessment' and mitigation measures may need to be introduced.

Likely 'significant' effects

5.2 Current guidance defines a 'likely' effect as one that cannot be ruled out on the basis of objective information (as justified following the European Court of Justice 'Waddenzee' case).

5.3 An effect may be significant if it undermines the conservation objectives for the European site. The assessment of whether a potential effect is significant for the site's interest features must consider, amongst other things, the characteristics and specific environmental conditions of the site concerned.

Screening assessment

5.4 Robinswood Inn Matson Avenue Gloucester GL4 6LJ does not fall within or adjacent to either of the relevant European sites (Cotswold Beechwoods – Special Area of Conservation (SAC) – approximately 3.3 km to the east of the site and Rodborough Common - Special Area of Conservation (SAC) – approximately 11.1 km to the south of the site. A screening assessment of the proposal has been provided in Table 2.

Table 2 – screening assessment of the proposal and assessment of likelihood of effects

Impact	Assessment of likelihood significant effects alone	In-combination assessment	Pre-screening category and outcome
Hydrological	The Drainage Technical Note prepared by Calibro concluded that *"the ground conditions have low potential for infiltration and the nearest water course is too far from the site to feasibly discharge to. Therefore, surface water will be discharged into the existing STW public surface water sewer located in Matson Avenue".* The scale of the development is considered small and at a local level and changes to surface and ground water (quantity) and quality of water discharge on either European site will be negligible given the distance and separation (elevation). As such no likely significant effect is considered reasonably likely to occur alone that would be detrimental to the hydrology of either European sites.	Not applicable (zero effect alone)	Screen out

Air quality	The Transport Statement prepared by Calibro (2020) concluded that *"the proposed development, by reason of its scale and type, is not so great as to materially alter the efficiency or safety of the adjoining public highway network and as such, is acceptable in the context of highway capacity."* The scale of the development is considered small and at a local urban level and increases of vehicle emissions and air quality on either European site will be negligible given the distance (greater than 3 km to the nearest European site and considerably greater than 200m from the source whereby pollutant levels would fall to background levels) and separation (elevation). No new roads are proposed as part of the application and the M5 corridor, which will be a significant contributor to local air quality and pollution, separates the application site from both European sites. As such no likely significant effect is considered reasonably likely to occur alone that would be detrimental to the air quality of either European sites.	Not applicable (zero effect alone)	Screen out
Recreational	The management of livestock grazing, and public recreation are the main issue for achieving favourable condition of these two sites and equally, recreational pressure is affecting the soils through compaction and erosion. The increase in recreational pressure as a result of the proposal on either European site would be close to negligible given the number of units proposed and distance from the application site. It is reasonably likely that frequent (daily) access by foot alone would not be a regular occurrence given the distances and topography of the landscape between the application site and either European site. Access to these sites would therefore likely be by irregular and periodic use of the site for walking or potential dog walking via vehicle, which makes it difficult to predict the actual increase in recreational use at either European site. Given the proximity of other recreational areas within the local environs (such as Matson Park, which lies less than 100m from the site, Matson Wood which lies 615m from the site and Robins Wood Hill Country Park which lies 1.3 km away from the site) for walking, exercising dogs or potentially horse riding, these sites would negate any significant impact on either of these further afield European sites. As such no likely significant effect is considered reasonably likely to occur alone that would be detrimental to soil erosion, compaction, or issues with grazing animals.	Not applicable (zero effect alone)	Screen out

<u>Summary</u>

5.5 The proposal (four dwellings and six apartments) will not have a significant impact on the qualifying features, either alone or in combination with other aspects of the proposal or other plans or projects. These are therefore screened out from further assessment.

5.6 As no significant impacts have been identified, an 'appropriate assessment' is not considered necessary, and the Habitats Regulations Assessment is completed.

6 CONCLUSIONS

6.1 The Stage 1 screening assessment has considered the effects for any impacts on European Sites within 15km of Robinswood Inn Matson Avenue Gloucester GL4 6LJ. The assessment has also considered in-combination effects with other relevant plans and strategies.

6.2 Out of four sites identified within 15 km radius of the site, only two were considered relevant and taken forward screening assessment. Of the two taken forward no negative impacts or effects related to hydrology, air quality or recreation use on these European sites are considered likely, either alone or in-combination with other plans or projects, and all have been screened out as part of the Stage 1 assessment.

6.3 Based on the Stage 1 screening assessment it is recommended that the proposal proceeds and no Stage 2 appropriate assessment will be required.

7 REFERENCES

Bat Conservation Trust and the Institution of Lighting Professionals (2018) Bats and artificial lighting in the UK; *Bats and the Built Environment* series (Guidance Note 08/18), The Bat Conservation Trust, London.

Chartered Institute of Ecology and Environmental Management (April, 2013) Guidelines for Preliminary Ecological Appraisal. CIEEM, Winchester.

DTA Publications (2020). The Habitat Regulations Assessment Handbook. [Online] Available at: https://www.dtapublications.co.uk/.

Environment Agency (2013), Habitats and species protected under the Habitats Regulations Quick Guide. PDF. Doc. [Accessed: 29/02/2020]

Gloucester City Council

Tree Consultation Response on Planning Application

To: **Ron Moss**

From: **Justin Hobbs, City Arboriculturist**

Date: **6th May 2021**

Planning Reference: **20/00847/OUT**

Location: **Robinswood Inn , Matson Avenue, Gloucester, GL4 6LJ**

Proposal: **Construction of four dwellings and six apartments.- Outline planning application with all matters reserved**

Development Plan

Joint Core Strategy (adopted December 2017)

Policy INF3-Green infrastructure provides that existing green infrastructure, including trees should be protected. Developments that impact woodlands, hedges and trees should be justified and include acceptable measures to mitigate any loss.

Emerging Development Plan

Gloucester City Plan

The Pre-Submission version of the Gloucester City Plan (City Plan) was approved for publication and submission on 26 September 2019 and has been submitted for examination. On the basis of the stage of preparation that the plan has reached, and the consistency of its policies with the NPPF, the emerging policies of the plan can be afforded limited to moderate weight in accordance with paragraph 48 of the NPPF.

Policy E 4 relates to Trees, Woodlands and hedgerows and requires that development avoids significant adverse impacts on existing trees, woodlands or hedgerows. On development sites where existing trees to be retained, applicants will be required to demonstrate how these trees will be protected through all phases of development. It is expected that the protection measures will adhere to those contained within BS 5837:2012 Trees in relation to design, demolition and construction - recommendations, or subsequent revisions.

Comments:

There are no trees on site of significant amenity value. Development presents an opportunity to increase tree cover in the vicinity.

However, there are trees just off site to the north that may well be impacted by, and impact upon the proposed apartment bock. A tree survey and arboricultural impact assessment as per BS5837:2012 should have been submitted to investigate this issue.

Conclusion

No objection subject to the issue of the off site trees on the northern boundary mentioned in my comments are resolved.

Recommended Conditions:

Tree Conditions

Tree/Hedgerow Planting Scheme-Details Required & Provision for replacement
Before the first use/occupation of the development hereby permitted, full details of proposed tree/hedgerow planting shall be submitted to and approved in writing by the Local Planning Authority. The details shall include location, species and sizes, planting specifications, maintenance schedule, provision for guards or other protective measures. The details shall include the tree pit design and location, type and materials to be used for hard landscaping including specifications.

All planting shall be carried out in accordance with the approved details in the first planting season following the completion or first occupation/use of the development, whichever is the sooner. The planting shall be maintained in accordance with the approved schedule of maintenance. Any trees or plants which, within a period of five years from the completion of the planting, die, are removed or become seriously damaged or diseased shall be replaced in the next planting season with others of similar size and species.

Reason: To ensure adequate provision for trees/hedgerows, in the interests of visual amenity and the character and appearance of the area.

Implementation of Approved Tree/Hedgerow Planting Scheme

All planting comprised in the approved details of tree/hedgerow planting shall be carried out in the first planting season following the occupation of any building or the completion of the development, whichever is the sooner. Any trees or hedgerows, which within a period of 5 years from the completion of the development die, are removed or become seriously damaged or diseased shall be replaced in the next planting season with others of similar size and species, unless the Local Planning Authority gives written consent to any variation. If any trees or hedgerows fail more than once they shall continue to be replaced on an annual basis until the end of the 5 year period.

Reason: To ensure adequate provision for trees/hedgerows, in the interests of visual amenity and the character and appearance of the area.

Approval and Implementation of Trees/Hedgerow Protection Measures

No development including demolition, site clearance, materials delivery or erection of site buildings, shall start on the site until measures to protect trees/hedgerows on and adjacent to the site have been installed in accordance with details that have been submitted to and approved in writing by the local planning authority.

These measures shall include:

1. Temporary fencing for the protection of all retained trees/hedgerows on and adjacent to the site whose Root Protection Areas (RPA) fall within the site to be erected in accordance with BS 5837(2012) or subsequent revisions (Trees in Relation to Design, Demolition and Construction). Any alternative fencing type or position not strictly in accordance with BS 5837 (2012) shall be agreed in writing by the local planning authority prior to the start of development. The RPA is defined in BS5837(2012).

2. Construction Exclusion Zone (CEZ): The area around trees and hedgerows enclosed on site by protective fencing shall be deemed the CEZ. Excavations of any kind, alterations in soil levels, storage of any materials, soil, equipment, fuel, machinery or plant, site compounds, cabins or other temporary buildings, vehicle parking and delivery areas, fires and any other activities liable to be harmful to trees and hedgerows are prohibited within the CEZ, unless agreed in writing with the local planning authority.

The approved tree protection measures shall remain in place until the completion of development or unless otherwise agreed in writing with the local planning authority.

Reason: To ensure adequate protection measures for existing trees/hedgerows to be retained, in the interests of visual amenity and the character and appearance of the area.

Implementation of Approved Trees/Hedgerow Protection Measures

The erection of fencing for the protection of any retained tree shall be undertaken in accordance with the approved details specified in [*Insert details of approved measures, e.g. approved arboricultural method statement*] before any development including demolition, site clearance, materials delivery or erection of site buildings, starts on the site. The approved tree protection measures shall remain in place until the completion of development or unless otherwise agreed in writing with the local planning authority. Excavations of any kind, alterations in soil levels, storage of any materials, soil, equipment, fuel, machinery or plant, site compounds, latrines, vehicle parking and delivery areas, fires and any other activities liable to be harmful to trees and hedgerows are prohibited within any area fenced, unless agreed in writing with the local planning authority.

Reason: To ensure adequate protection measures for existing trees/hedgerows to be retained, in the interests of visual amenity and the character and appearance of the area.

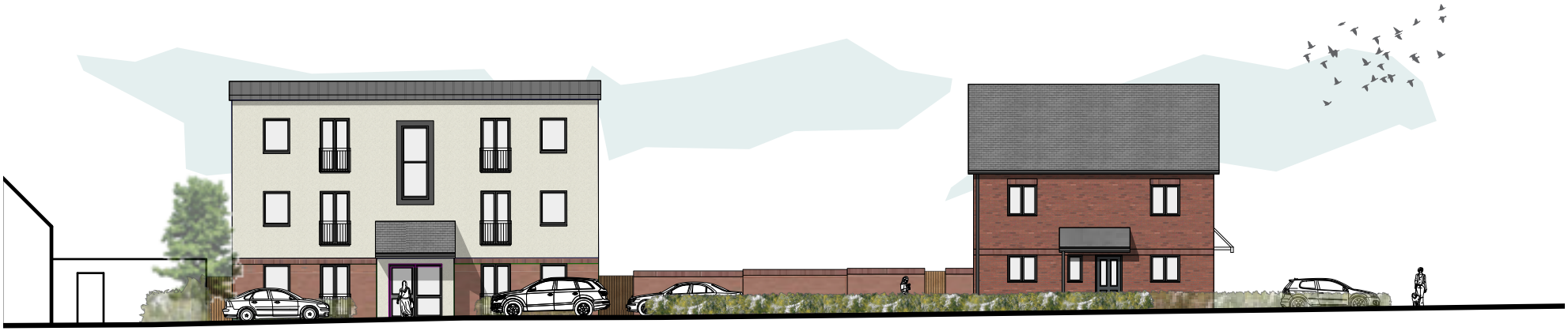
Excavation or Surfacing within the Root Protection Area of Trees

Where excavations or surface treatments are proposed within the root protection areas (RPA) of retained trees and hedgerows, full details shall be submitted to and approved in writing by the local planning authority before any development starts. The RPA is defined in BS5837:2012. Details shall include the proposed locations of excavations and/or surface treatments, proposed methods & specifications of excavations and/or surface treatments

and any post excavation remedial works. All excavations or surface treatments shall be carried out in accordance with the approved details.

Reason: To prevent damage to or loss of trees

Quattro
design architects



Design & Access Statement

Former Robinswood Inn,
Gloucester

Gloucester | London | Cardiff [redacted] quattrodesign.co.uk

Quattro
design architects

Reference:
6447-P-4000

Revision:
-

Author:
DC

Date of Creation:
January 2022

Quattro
design architects

Contents

01 Introduction

Quattro Design Architects have been appointed by Aqua Construction to design residential scheme on the former Robinswood Inn site, in Matson, Gloucester.

The scheme represents an opportunity to develop a scheme that enhances the built environment of Matson, whilst aiding the continual growth of the area, in line with the aspirations of the National Planning Policy Framework (NPPF).

1.1 Project Team

The project team is comprised of the following parties:

Quattro Design Architects Ltd.
Aqua Construction

In addition to the project team, detailed site assessments and surveys have been completed including:

Topographic Survey
Noise Assessment
Transport Assessment

View of existing site from Hill Hay Road, prior to Robinswood Inn demolition

View of site from Matson Avenue following demolition

02 Site Location

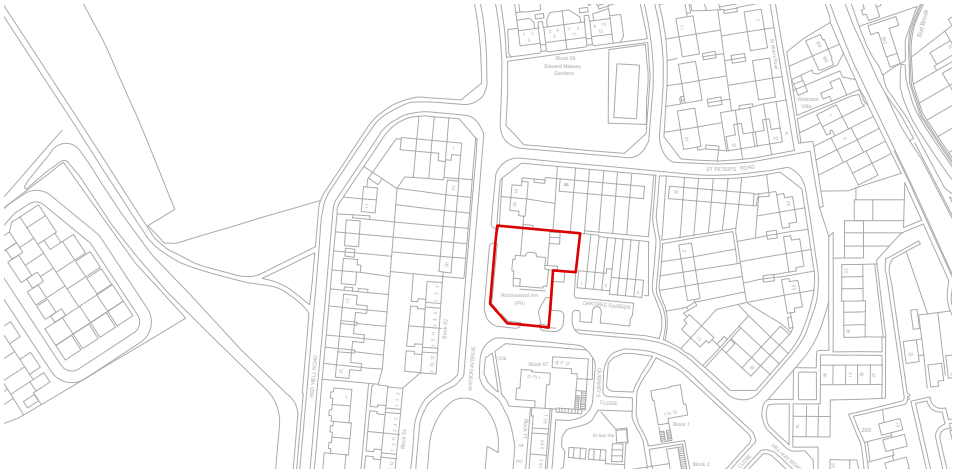
2.1 Site Location and Description.

The site lies less than 4km from the centre of Gloucester, within south central Matson. The site is bounded to the west by the Matson Avenue and to the south by Hill Hay Road.

Surrounding the site is predominately residential homes, ranging from higher density flats to the north, west and south, and dropping to lower density houses to the east. Just beyond the flatted block immediately to the south is Matson shops. Which is a range of retail units including convenience store, post office and pharmacy.

The site was previously used as a public house called Robinswood Inn. The existing building on site was damaged by fire in 2018 and has since been demolished.

Aerial view prior to Robinswood Inn demolition



Site location plan

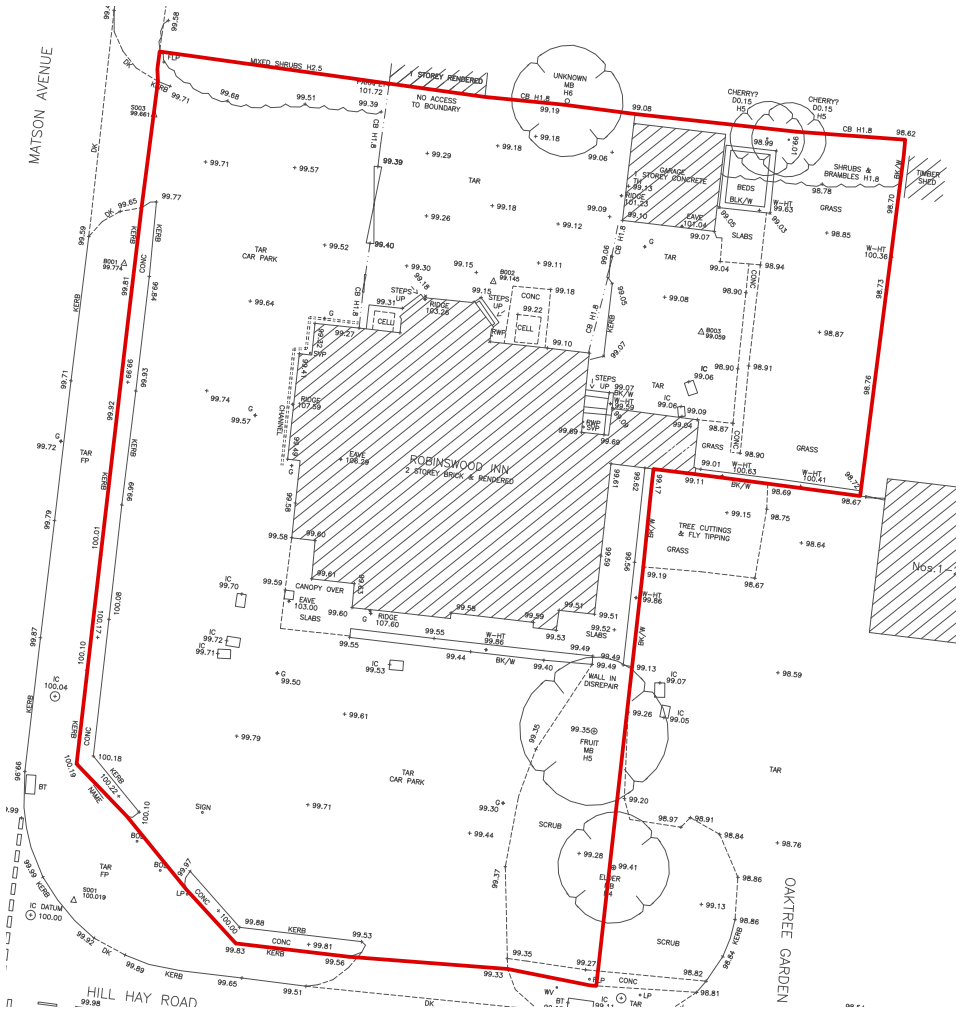
03 Site Analysis

In this section we will identify key characteristics and provide an understanding of the site's context and constraints.

3.1 Site Constraints

The main site constraints have been assessed as follows:

- Overlooking and overbearing: To prevent any occurrence of overlooking, appropriate window locations and type have been used. The use of suitable boundary treatments and site layout has also been carefully considered. Overbearing and loss of views from existing properties have also been taken very seriously and the layout has been designed to ensure this is kept to a minimum.
- Services: Existing services on the site and running around the site have been taken into consideration in accordance with their required easements, including the requirements for the new drainage strategy within the site.
- Topography: The topography of the site is gently slopping from the west down to the east, meaning that careful consideration has been given to the proposed unit locations.



Existing site plan

3.2 Local Character

1 - Small grouping of walk up flats to the north. Characterised by cream coloured render, hanging tiles between bay windows and hipped roof.

2 - Stepped terrace of two storey houses. Use of light brown bricks, external lean-to porch canopies and dual pitch roofs.

3 - Matson shops with flats above. Totalling 4 storeys with cream render, varying roof typologies and additional details like balconies and large lean-to canopy.

4 - Block of flats to the south, with flat roof, brick and rendered walls.

5 - Block of flats to the west, with dual pitch roof and cream / peach coloured render.

As the examples to the side shows there is a wide range of typologies and finishes within the area. There is not one main characteristic however there are some reoccurring themes such as the use of render or brick, with a combination of the two in some instances.

Site Location Plan

Local Building Types

04 Existing Consent

The site was granted outline planning permission in February 2022.

The proposed application that this supports is for Full Planning permission, which follows the same design principles that were established in the previous granted scheme.

These principles include:
- Location of housing and flatted development
- Height and massing
- Highways access points
- Fronting and orientation
- On site amenity and parking provisions

Submitting a new full application allows for the new land owner to tie all proposed design elements into the one approval. This includes proposed house types

Formally approved layout

Formally approved elements

05 Layout & Scale

As mentioned in the previous section the layout and scale proposed are the same as those approved in the previously granted outline application. As part of the design development there has of course been a number of sense checks that has taken place and some efficiencies made to the layout. However any changes have been made with the following principles in mind:

- Reaction to the site's location.
- Formation of the public defensible frontage, 'a sense of place'.
- Arrangement between public and private space.
- Interaction and reinforcement of the scheme with the existing built form.
- Appropriate scale of building within this environment.
- Movement of people, both vehicular and pedestrian relating to the site.

5.1 Use

The scheme is for residential accommodation with associated access, parking and landscaping.

Proposed site plan

5.2 Amount & Scale

Due to the site constraints mentioned above and in line with the clients aspirations, we have carefully considered the appropriate balance between providing the accommodation required, and a scheme that is appropriate to its context and respects the character and appearance of the area. The accommodation schedule is as follows:

6no.	2 bed 3 person flats	@ 52sqm
2no.	3 bed 5 person houses	@ 82sqm
2no.	4 bed 6 person houses	@ 95sqm

10no. Total Units

5.3 Scheme Layout

The scheme is for residential accommodation with associated access, parking and landscaping.

The layout of the scheme has arisen through the combination of the site constraints and our established principles for development.

The majority of the site fronts onto Matson Avenue with a duel fronting unit on the corner that continues the active frontage south onto Hill Hay Road.

5.4 Vehicular Entrance and Movement

Access into the site will be off the existing highway along Matson Avenue and Hill Hay Road. Proposed areas of dropped kerb are largely located in place of the existing access points which we used when the site was used as a public house.

Allocated parking are located on site in close proximity to their associated properties.

5.5 Pedestrian Movement

Existing pedestrian footpath along the boundary of the site will remain.

5.7 Scale

Proposed houses will be limited to two storey with dual pitches roofs. The proposed flats will be 3 storey, similar to flats surrounding the site and will have a slightly slopping mono pitch roof that will limit the height impact.

06 Landscaping

All landscaping is intended to provide an attractive and sustainable public realm. Planting throughout the scheme was also been used as a soft boundary, reducing the visual impact of proposed built forms and areas of hardstanding. New planting will be incorporated into the site to further integrate the units with the surrounding environment.

Extensive work has been undertaken by ourselves to create the most appropriate landscaping environment for the proposal. Please see the additional information submitted with this application for further details.

07 Appearance

It has been our aim to provide an attractive and appropriate scheme reflecting the scale of the surrounding built form. It is our intention to produce a crisp, clean design elevationally whilst reacting sensitively to the design cues of the buildings in and around the site.

As there is a mixed and diverse vernacular to the area, it is our role as designers to pick up on the most successful and prominent characteristics. These can then be combined to create an attractive and appropriate scheme for the area.

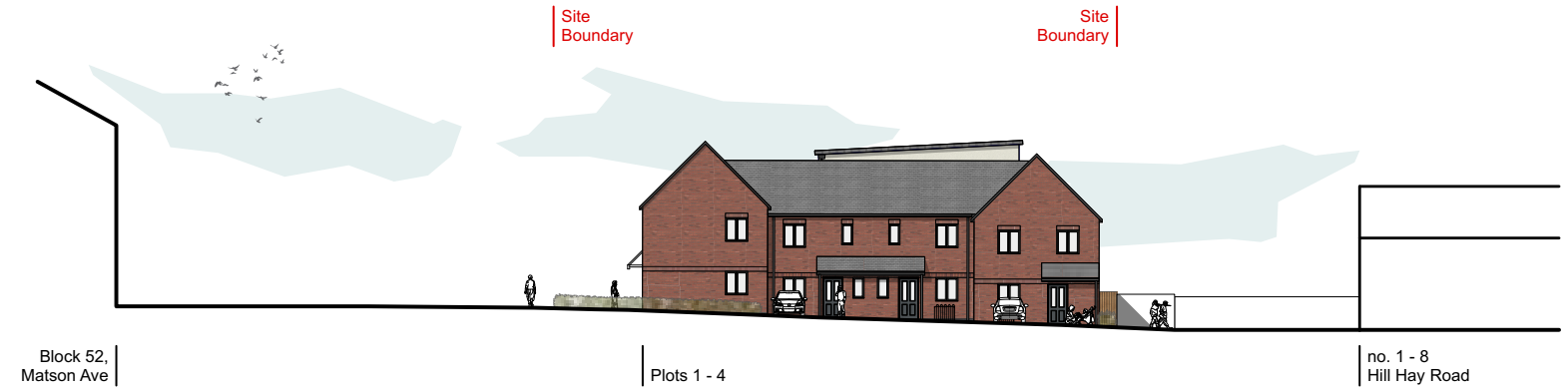
Front elevations of houses

7.1 Pallet of Materials.

Walls	Red Brick
	Render - Eco Rend, Chalk White
Windows	Dark Grey Frames
Roof	Cement Fibre Slate Tiles Greencoat PLX Steel Standing Seam
Doors	Dark Grey Frames

Front elevation of flats

The following image shows a street elevation of the scheme, indicating how the materials will interact.



Proposed street scenes

Appendix A - Waste Minimisation

As a design ethos, we consider a ‘fabric first’ approach to be the most appropriate response to carbon reduction, rather than using renewable technologies. This means that there is physically less carbon used, rather than the same amount of carbon usage but coming from a more sustainable source. We see this as a more efficient and future-proof system to ensure continued low carbon usage.

The following information sets out the approach to waste management that will be applied to the design, construction and occupation of the proposed development. We have looked to cover as far as possible the construction and occupation waste issues and the preventative measures that have will be put in place to reduce the amount of waste produced.

The following list specifies the expected sources of waste from the construction process:

- Building materials from the demolition of the existing buildings on site.
- Soils from site clearance works.
- Organic waste from site clearance works.
- Wastage of construction materials during build phase (aggregate, brick, tiles, timber, metal, paint, various types of plastics, etc).
- Cardboard (from packaging).
- Steel and aluminium containers.
- Telephone directories.
- Paper, newspapers and magazines.
- Plastic bottles.
- Cardboard.
- Glass.
- Textiles.
- Organic waste.
- Non-recyclable items.

A.1 Site Clearance, Site Preparation and Excavations.

There are anticipated wastes associated with the site preparation and site clearance.

High quality topsoil will be separated during excavation works and stored within the site. This can then be re-used on site where appropriate (gardens, planting areas, highway verges etc). Where possible the amount of excavated material will be kept to a minimum and will be re-used on site to re-grade any required areas.

A.2 Construction.

All timber used within the scheme will be sourced from suppliers registered with FSC.

Where possible, we will look to use pre-fabricated and standardised components. These factory made items tend to generate less waste and by using standard product sizes, this also helps to reduce off-cut wastage. All non-standardised items and materials used in the construction will be accurately ordered, thus reducing potential waste occurring from over ordering.

All site operatives will be made aware of the segregated skip system that will be put in place to keep waste materials apart prior to being taken to a registered waste disposal company.

It is proposed that the main contractor will utilise a colour coding system for waste materials. This system will dictate and identify which types of waste go into which container. The colour coding are standardised by the Institution of Civil Engineers for use throughout the construction industry.

Preference should be given to suppliers of materials who will collect unused materials and packaging for re-use and recycling.

Any materials that are delivered to site will be carefully stored in a secure materials compound, with special consideration given to any hazardous materials and waste – although wherever possible materials that do not have hazardous content will be specified. Suitable Method Statements will be completed by the contractor for all potentially dangerous products and materials. Items will be stored in a sensible manner so that materials are easily accessible in the correct order. This will reduce the potential for breakages and will therefore in turn, reduce waste materials.

A.3 Site Occupation.

All waste disposal and recycling facilities will be agreed with the local planning authority. In accordance with the services already provided by the District Council.

Each property will be given the opportunity to recycle as much waste as possible, through the provision of separated recycling and non-recycling bins as the local authority waste collection dictates.

A.4 Transportation of Waste.

Registered carriers will be used for the transportation of all construction waste, in line with ‘Duty of Care’ requirements. All waste will be taken to appropriately licenced sites.

Appropriate waste transfer documentation will be required to be completed by those delivering the waste, and the Site Manager will keep a detailed account of all aspects of disposal, including a register of carriers, disposal sites and relevant licensing details.

The Council will collect domestic waste. Sufficient space has been provided for all properties to manoeuvre all bins directly from their rear garden to their own bin collection point. Access into the site has been provided for bin lorries, and a relevant turning circle has been designed into the scheme, in compliance with Manual for Streets.

The proposal set out by this Waste Minimisation Statement can be said to be in accordance with the governing criteria in practice within the area. The site will provide a sustainable ethos that promotes waste minimisation, waste re-use and recycling throughout the lifespan of the development.

PLANTING SCHEDULE

PROJECT: **Robinswood, Matson**

REFERENCE: **6447-P-3500 Planting Schedule**

Also see: **6447-P-16 Soft Landscaping Plan**

Quattro designarchitects

Shrub and Herbaceous Planting including Bark Mulch - refer to the Planting Techniques document. Ornamental shrub planting is to accord with NHBC guidelines. Planting proposed will consist of the following species:

Abbrev.	Species	Common name	Density	Type	Size
Typical species would include:					
Bc	Bergenia cordifolia	Elephant Ears	500 c/s (3/m2)	Container grown	20/30 2L
Ctr	Ceanothus thyrsiflorus repens	Creeping Blue Blossom	400 c/s (4/m2)	Container grown	20/30 2L
Efg	Euonymus fortunei 'Emerald Gaiety'	Euonymous 'Emerald Gaiety'	500 c/s (3/m2)	Container grown	20/30 2L
Hc	Hypericum calycinum	Rose of Sharon	400 c/s (3/m2)	Container grown	20/30 3L
Hp	Hebe pinguifolia 'Sutherlandii"	Hebe	400 c/s (5/m2)	Container grown	20/30 2L
Lam	Lavandula angustifolia 'Munstead'	Lavender	500 c/s (4/m2)	Container grown	20/30 2L
Lp	Lonicera pileata	Box-leaved Honeysuckle	400 c/s (4/m2)	Container grown	20/30 2L
Pfa	Potentilla fruticosa 'Abbotswood'	Shrubby Cinquefoil 'Abbotswood'	300 c/s (4/m2)	Container grown	25/30 2L
Phf	Photinia	Red Robin	400 c/s (4/m2)	Container grown	40/60 2L
Grass:					
Turf / Seeding: Constituent grasses shall not include less than 65% fescues and should not include Ryegrass.					
Typical Tree Species would include:					
Field grown trees planted in prepared ground protected with spiral guards, fertilised and mulched. Planted in locations shown. (Installed with 2no. stakes with wood X bar and rubber					
T1	Acer Campestre 'Streetwise'	Maple	See Plan for location	Container Grown	10/12 std.
T2	Prunus avium 'Plena'	Cherry	See Plan for location	Container Grown	10/12 std.
NOTES:		**REVISIONS:**			

ACOUSTIC CONSULTANTS LTD

Noise Impact Assessment

Proposed Residential Development
Former Robinswood Inn, Gloucester

Reference: 9565/PR/BL

Client
AQUA CONSTRUCTION

Document Control

Version:	Revision Description:	Date:	Author:	Reviewed by:
1.0	1st Issue	21/04/2022	Pedro Rodrigues MIOA	Blake Lucas MIOA
Rev A	Client Comments	22/04/2022	Pedro Rodrigues MIOA	Blake Lucas MIOA

The report has been prepared in good faith, with all reasonable skill and care, based on information provided or available at the time of its preparation and within the scope of work agreement with the Client. We disclaim any responsibility to the Client and others in respect of any matters outside the scope of the above. The report is provided for the sole use of the named Client and is confidential to them and their professional advisors. No responsibility is accepted to other parties.

The report limits itself to addressing solely on the noise aspects as included in this report. We provide advice only in relation to noise and acoustics. It is recommended that appropriate expert advice is sought on all the ramifications (e.g. CDM, structural, condensation, fire, legal, etc.) associated with any proposals in this report or as advised and concerning the appointment. It should be noted that noise predictions are based on the current information as we understand it and on the performances noted in this report. Any modification to these parameters can alter the predicted level. All predictions are in any event subject to a degree of tolerance of normally plus or minus three decibels. If this tolerance is not acceptable, then it would be necessary to consider further measures.

Table of Contents

1. Introduction

Aqua Construction appointed Acoustic Consultants Limited to carry out an environmental noise assessment and provide noise assessment and advice for the proposed residential development at the Former Robinswood Inn, Gloucester.

The assessment considers the impact of road traffic noise from Matson Avenue and distant road traffic along the M5 to the west and south east respectively. Hill Hay Road running along the southern boundary of the site was considered to have minimal impact and therefore has not been considered in this report. Most road traffic affecting the development has been determined to be from Matson Avenue and distant road traffic along the M5.

The noise impact assessment has been undertaken in accordance with British Standard 8233:2104 (BS8233), World Health Organisation (WHO) 1999 and local authority requirements.

The author of this report is a full Member of the Institute of Acoustics with more than 12 years' experience within the field and, as such, is considered suitably qualified to undertake a noise impact assessment.

2. The Site

The site is located at the former Robinswood Inn, Gloucester. The site is bounded by Matson Avenue and Hill Hay Road to the west and south respectively.

The site is located within a residential use area, and the main noise source affecting the site is road traffic along Matson Avenue and distant traffic noise from M5 to the west and south east respectively. Noise from Hill Hay Road is considered to have minimal impact and negligible and therefore has not been considered in this assessment.

The Google site location and proposed site plan are provided in the figures below.

Figure 1: Existing Site Location (Google Maps)

Figure 2: Proposed Site Layout

Figure 3: Proposed Elevations

3. Planning & Noise

3.1. National Planning Policy Framework

The National Planning Policy Framework (NPPF) was published in March 2012 and revised in July 2021. Section 15 entitled 'Conserving and enhancing the natural environment' addresses noise as a requirement of planning. Paragraph 174 states:

"174. Planning policies and decisions should contribute to and enhance the natural and local environment by:

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate."

Paragraph 185 states:

"185. Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life

b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and

c)limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation. "

The document does not prescribe any assessment methodology or criteria to assess the adverse effect of noise, and refers you to the NPSE.

3.2. Noise Policy Statement for England

The NPPF refers to the Noise Policy Statement for England (NPSE). This was published in March 2010 and aims to provide clarity regarding current policies and practices to enable noise management decisions to be made within the wider context, at the most appropriate level, in a cost-effective manner and in a timely fashion and applies to all forms of noise including environmental noise, neighbour noise and neighbourhood noise.

The NPSE sets out the long term vision of Government noise policy. This long term vision is supported by three noise policy aims as follows:

"Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- *avoid significant adverse impacts on health and quality of life;*
- *mitigate and minimise adverse impacts on health and quality of life; and*
- *where possible, contribute to the improvement of health and quality of life."*

The NPSE introduces the concept of "Significant adverse" and "Adverse" impacts of noise which relate to the noise policy aims. These are applied as follows:

NOEL – No Observed Effect Level

This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.

LOAEL – Lowest Observed Adverse Effect Level

This is the level above which adverse effects on health and quality of life can be detected.

SOAEL – Significant Observed Adverse Effect Level

This is the level above which significant adverse effects on health and quality of life occur.

The Noise Policy Statement for England (NPSE) states that noise levels above the Lowest Observed Adverse Effect Level are acceptable in planning where reduced to a minimum.

With regard to where there is potential for noise impact it states the following in relation to the second noise policy aim:

"The second aim of the NPSE refers to the situation where the impact lies somewhere between LOAEL and SOAEL. It requires that all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development (paragraph 1.8). This does not mean that such adverse effects cannot occur."

The NPSE does not provide any assessment criteria for the noted effect levels and each case must be considered on its merits. The NPSE does, however, emphasise that in dealing with noise Local Planning Authorities are required to take a balanced approach in considering the benefits of development as against any adverse effects which arise. Paragraph 2.18 of the NPSE is particularly relevant in this respect and states:

"There is a need to integrate consideration of the economic and social benefits of the activity or policy under examination with proper consideration of the adverse environmental effects, including the impact of noise on health and quality of life. This should avoid noise being treated in isolation in any particular situation, i.e. not focusing solely on the noise impact without taking into account other related factors."

The planning need is outside the scope of noise and acoustics and will need to be addressed by others.

3.3. National Planning Practice Guidance, Noise

The National Planning Practice Guidance (NPPG) on noise, referred to here, is based on the current version (July 2019) as provided on the Planning Guidance Website.

It states that *"Noise needs to be considered when new developments may create additional noise and when new developments would be sensitive to the prevailing acoustic environment."*

The document provides generic guidance on how to determine the impact of noise and what factors could be a concern.

It includes the option types to mitigate any adverse effects of noise stating that there are four broad types of mitigation. These are engineering, layout, using planning conditions or obligations and noise insulation.

Paragraph 5 of the NPPG provides a table identifying the effect level and examples of effect relating to the impact effect levels provided in the NPSE. The table is duplicated below.

4. Assessment Criteria

4.1. Road Traffic Affecting Dwellings

4.1.1. British Standard 8233:2014

British Standard 8233:2014 entitled "Guidance on sound insulation and noise reduction for buildings" came into effect on 28th February 2014.Section 7.7.2 Table 4 of the British Standard 8233:2014 provides internal ambient noise levels for dwellings from noise sources 'without a specific character'.

The British Standard guideline states that noise levels should not exceed those as noted in Table 2 of the British Standard. These criteria are based on the guidance provided within WHO 1999 and are summarised below:

Table 1: British Standard 8233:2014 Internal Noise Criteria

Activity	Location	Daytime (07:00 to 23:00)	Night-time (23:00 to 07:00)
Resting	Living Room	35 dB $L_{Aeq,16\ hour}$	-
Dining	Dining Room/area	40 dB $L_{Aeq,16\ hour}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,16\ hour}$	30 dB $L_{Aeq,8\ hour}$

4.1.2. Maximum Noise Levels

Section 7.7.2 Note 4 of the British Standard states *"Regular individual noise events (for example, scheduled aircraft or passing trains) can cause sleep disturbance. A guideline value may be set in terms of SEL or $L_{Amax,F}$ depending on the character and number of events per night. Sporadic noise events could require separate values".*

British Standard BS8233 provides no definitive criteria for maximum noise levels from individual events ($L_{Amax,F}$). Section 3.4 of the "Guidelines for Community Noise" published by the World Health Organisation in 1999 (WHO 1999) states *"For a good sleep, it is believed that indoor sound pressure levels should not exceed approximately 45 L_{Amax} more than 10-15 times per night (Vallet & Verbey 1991)".*

4.1.3. External Amenity Levels

British Standard 8233:2014 section 7.7.3.2 entitled 'Design criteria for external noise' states:

"For traditional external areas that are used for amenity space, such as gardens and patios, it is desirable that the external noise level does not exceed 50 dB $L_{Aeq,T}$, with an upper guideline value of 55 dB $L_{Aeq,T}$ which would be acceptable in noisier environments. However, it is also recognized that these guideline values are not achievable in all circumstances where development might be desirable. In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, a compromise between elevated noise levels and other factors, such as the

convenience of living in these locations or making efficient use of land resources to ensure development needs can be met, might be warranted. In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited."

5. Noise Monitoring

An attended short-term road traffic noise monitoring exercise was undertaken at Matson Avenue during three consecutive hours on the 22nd of March 2022 in accordance with CRTN's monitoring procedure.

5.1. Monitoring Equipment

Sound Pressure Levels were measured using a sound level meter with a half-inch condenser microphone. The equipment is checked annually using a Quality System meeting the requirements of British Standard EN ISO/IEC 17025:2005 and in accordance with British Standard EN 10012:2003 and traceable to the National Standards. This equipment was checked and calibrated, and the certificates are available for inspection.

5.2. Weather Conditions

During the noise monitoring exercise, the weather conditions were dry, with an average temperature of approximately 20 degrees centigrade and with low wind speeds generally below 5m/s. The weather conditions are not expected to have adversely affected the measurement process.

5.3. Noise Monitoring Procedure

An attended noise survey was undertaken over three continuous hours on the 22nd of March 2022 between 11:30 hours and 14:30 hours at Monitoring Location A indicated below in Figure 4.

Measurements were completed in accordance with the shortened survey procedures described in CRTN (1988) using fifteen-minute measurement samples taken over three consecutive hours.

The main noise source affecting this monitoring location was noise from road traffic along Matson Avenue to the west. This road is also understood to be a bus route, with busses passing approximately every 10mins. However, the frequency of buses during the night is almost null, with only one or two vehicles between immediately after 23:00 hours. Therefore the impact of buses during the night time period is not expected to have a major impact on the development.

Road traffic noise from Hill Hay Road to the south was considered to have minimal impact upon the development and therefore has not been considered in the assessment below. In addition, the development is also affected by distant road traffic noise associated with the M5 to the south east and at some 715 metres distant.

At Monitoring Location 'A' marked on the Figure 4 below, the sound level meter was fixed to a tripod at approximately 1.5 metres above ground, and in a free-field position.

The meter was set up to measure road traffic noise at approximately 4m from the road kerb.

Figure 4: Noise monitoring location

5.4. Measured Noise Levels

The three hours equivalent noise levels and design night time maximum noise levels have been determined directly from the measurement data at the monitoring locations due to road traffic are provided in Table 2 below.

Table 2: Measured Octave Band Design Noise at 'Monitoring Location A'

Parameter	63	125	250	500	1000	2000	4000	8000	dB(A)
$L_{eq,(3hr)}$	66	59	56	56	57	52	45	38	60
$L_{10(3hr)}$	70	63	60	60	61	56	49	42	64
$L_{max(F)}$ (*)	74	79	73	71	68	62	68	66	75

(*)The 15th highest recorded L_{AFmax} event at monitoring location A was taken and used in the assessment below, however, it is expected that the number of passing by events at night particularly from buses are lower and therefore the L_{Amax} to be considered might be lower

6. Transportation Noise Assessment

6.1. Calculated Road Traffic Noise Levels

Using the measured noise level across a 3-hour period during the daytime, the typical noise levels over a 24-hour period can be calculated using formulae described in *Calculation of Road Traffic Noise* (CRTN) by the Department of Transport and *Planning Policy Guidance: Planning and Noise* (PPG24).

These documents states that the A-weighted equivalent noise levels for daytime ($L_{Aeq,16\ hour}$) and night-time ($L_{Aeq,8\ hour}$) can be calculated as a function of the $L_{A10,3\ hour}$.

Following the CRTN methodology, the arithmetic mean of the consecutive hourly recorded values of L_{A10} was determined and converted to the $L_{A10,18\ hour}$ (which represents the background noise level exceeded for 10% of the time between 06:00 and 00:00 hours) using the following formula:

$$L_{A10\ (18\ hour)} = L_{A10\ (3\ hour)} - 1\ dB(A)$$

As defined in PPG24, the $L_{Aeq16\ hour}$ is calculated as a function of the $L_{A10\ 18\ hour}$ using the following calculation:

$$L_{Aeq\ (16hour)} \cong L_{A10\ (18\ hour)} - 2\ dB$$

As detailed above, the $L_{A10\ 18\ hour}$ is calculated by subtracting 1 dB from the arithmetic mean of the consecutive hourly $L_{A10\ 3\ hour}$ values measured on-site.

Using the $L_{A10\ 18\ hour}$ night-time noise levels were predicted using Method 3 within the TRL report: 'Converting the UK traffic noise index $L_{A10,\ 18h}$ *to EU noise indices for noise mapping (Abbot & Nelson, 2002).'* The method is as follows:

$$L_{night} = 0.90\ x\ L_{A10,18h} - 3.77\ dB$$

The calculated free-field octave noise levels at the location of the worst-case façade are as follows:

Table 3: Spectral Design noise levels at the façade (free-field) at monitoring Location 'A'

Period	Frequency (Hz)								
	63	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**	**dB(A)**
Daytime $L_{eq(16hrs)}$	67	60	57	57	58	53	46	39	61
Night Time $L_{eq(8hrs)}$	59	52	49	49	50	45	38	31	53
$L_{max(F)}$	74	79	73	71	68	62	68	66	75

The night-time maximum noise level has been taken directly from the 15th highest measured daytime maxes event obtained at Monitoring Location A.

6.2. Noise Modelling

To determine noise levels across the site, noise modelling has been undertaken using computer modelling package CadnaA by DataKustik and the measured data noted above.

Road traffic noise was considered to be the most onerous and predominant noise sources in the area and therefore this was the noise source used to build our noise model. The software predicts road and rail traffic noise propagation using the method of 'The Calculation of Road Traffic Noise 1988' (CRTN'88), and a verification model has been created to ensure the measured and predicted levels are comparable.

6.2.1. Noise Modelling Parameters

The noise predictions have been undertaken using the supplied architectural plans and the following general modelling parameters:

- The noise model has been calibrated using the data at 'Monitoring Location A' for road traffic noise from Matson Avenue and M5
- To determine the noise levels across the site and surrounding areas, this has been taken as a hard-reflective ground which is a worst-case scenario.
- Reflections from opposite façades have been determined via the correction method (+1.5 dB), as defined in CRTN.
- The proposed building heights are based on provided architectural drawings. Receivers for each storey are considered to be at the proposed window midpoint height.
- The site's topography was considered to be flat.
- Grid map shown below at 1.5 metres height (Ground floor level, worst case)
- Noise control barriers with a height of 1.8 metres were introduced along the amenity boundary of the proposed site as shown in the architectural drawings; however, for noise modelling purposes, only the western and northern sections of barrier were considered

6.2.2. Noise Modelling Results

Predicted noise emission maps for equivalent noise levels during the daytime ($L_{Aeq,16hour}$) and night-time ($L_{Aeq,8hour}$), and maximum noise events (L_{AFmax}) during the night-time are provided below in the figures below.

Based on the obtained results, it will be necessary to design the building fabric of the residential properties to control road traffic noise levels internally.

Figure 5: Predicted Daytime $L_{Aeq,\ 16hours}$ Noise Map due to Road Traffic Noise

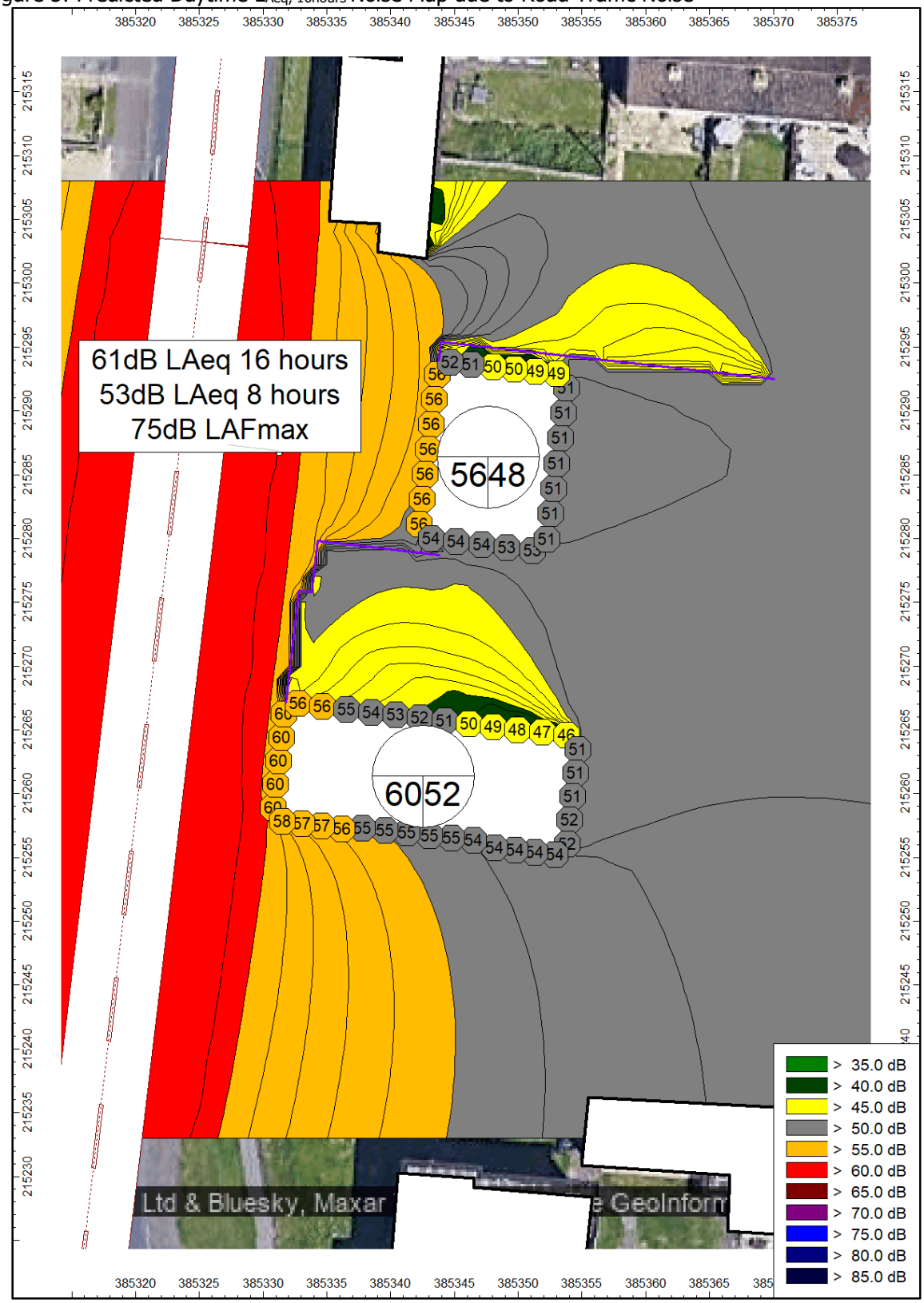


Figure 6: Predicted Night Time $L_{Aeq,\ 8hours}$ Noise Map due to Road Traffic Noise

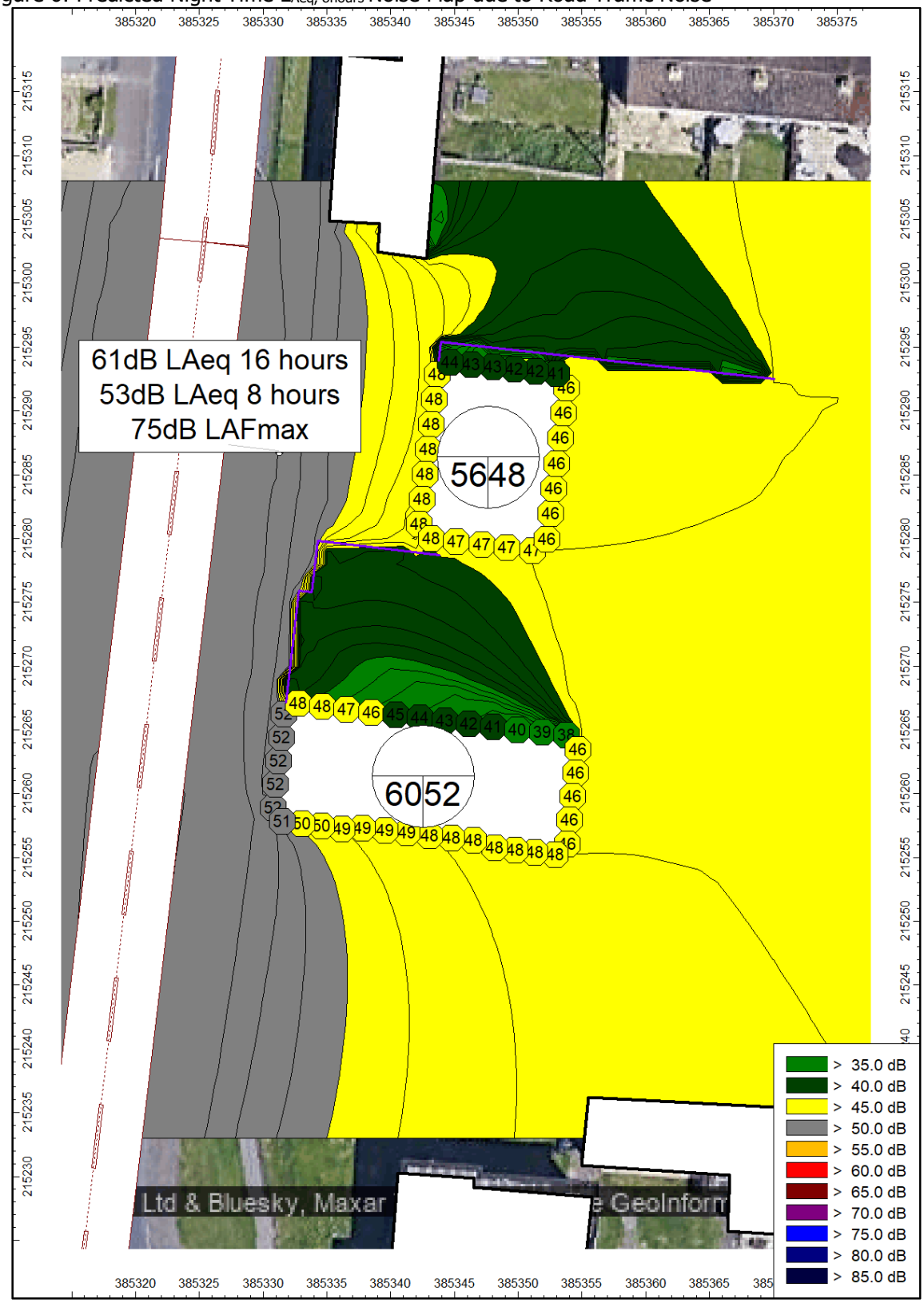
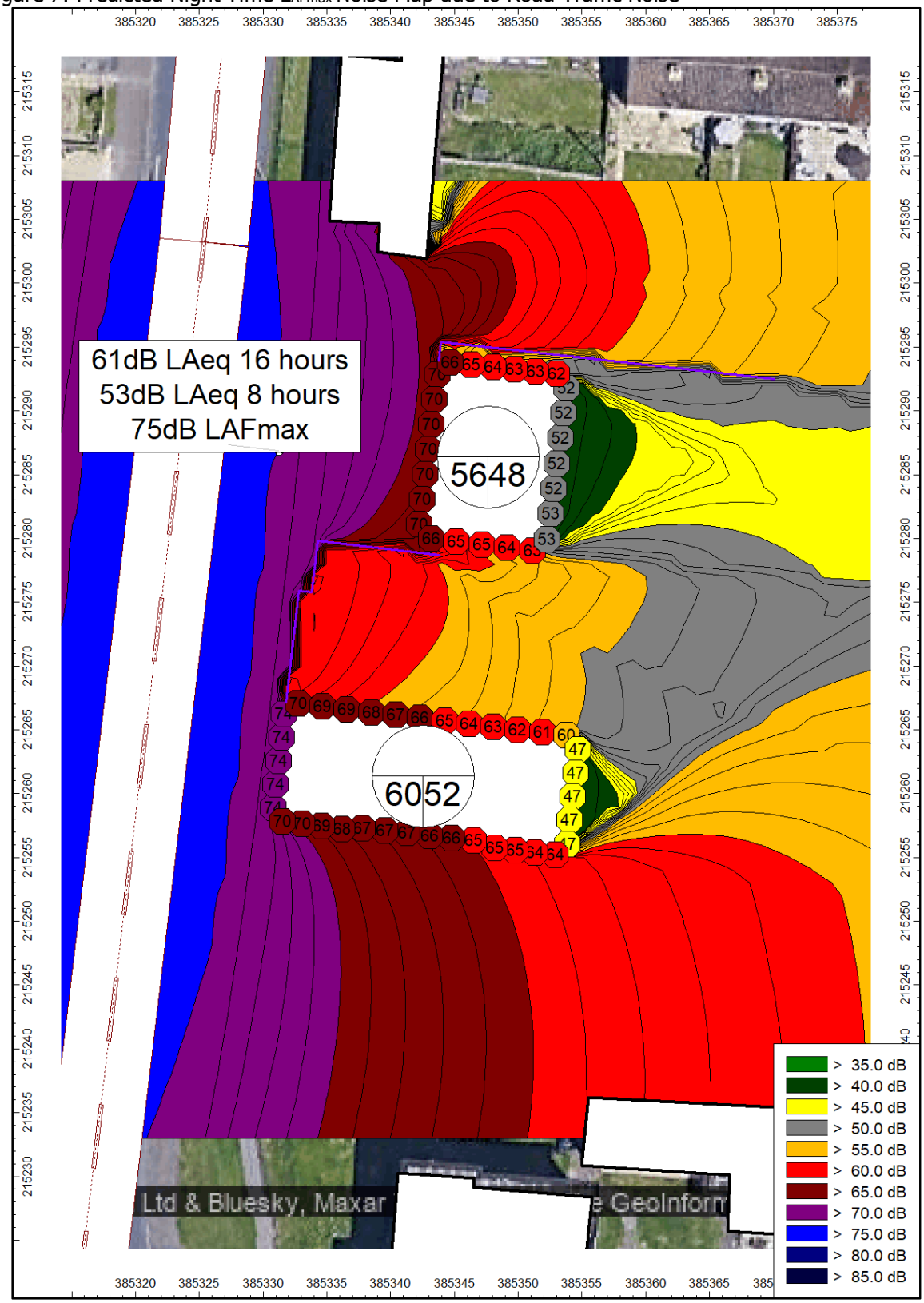


Figure 7: Predicted Night Time L_{AFmax} Noise Map due to Road Traffic Noise



6.3. Building Mitigation Measures

It will be necessary to design the building fabric of the residential properties to control road traffic noise levels internally.

6.3.1. Calculation Method

Calculations for the internal ambient noise levels due to road traffic noise have been undertaken using the calculation method provided in Annex G Section G.2 of British Standard 8233:2014, the building facade construction specified below, and the octave band free-field design equivalent noise levels and maximum noise levels taken from the measured noise spectra noted above.

The calculations assume the following:

- Room size: 24m^2 to daytime rooms and 9m^2 to bedrooms
- Windows: 3m^2 to daytime rooms and 1.5m^2 to bedrooms
- Façade: 10m^2 to daytime rooms and 7.5m^2 to bedrooms
- Vents: 2 per living room, 1 open per bedroom

We advise that building elements, having the sound insulation performances noted below, be incorporated into the design of the façades including the windows, doors, floor, and the building roof.

Alternative constructions to those noted below could be used, however they would need to be assessed to ensure they control external noise to within the BS 8233:2014 and recommended internal ambient noise level criteria.

A colour code mitigation map was created to outline the different noise mitigation measures required for daytime and night time bedrooms and living rooms on each façade of the proposed residential buildings; see below.

Figure 8: Mitigation Map

6.3.2. **External Wall Construction**

The proposed external walls to the development can be of a conventional construction comprising of either masonry or light weight metal/timber frame construction.

- The masonry construction could comprise of at least two skins of block (one of density 1850 Kg/m^3, 100mm cavity, 100mm block (density of 400 Kg/m^3). The inner skin of block would be plastered.

Or,

- The light weight construction could comprise of a twin frame (minimum construction with two layers of board each side of the stud (minimum density 20 Kg/m^3) and 50mm of mineral wool insulation within the cavity.

The above constructions are expected to achieve the following minimum sound reduction indices:

Table 4: Required Minimum Sound Reduction Index of External Wall

Frequency (Hz)	**63**	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**	**Rw**
R (dB)	15	25	42	53	57	62	68	60	52

Any alternative constructions should achieve the above noted performance.

6.3.3. **Roof Construction**

It is understood that the roof construction of the larger building facing Hill Hay Road will comprise traditional techniques, such as a timber construction with tiles (minimum density 30 Kg/m^2) with a loft space and a plasterboard ceiling above the habitable rooms.

The smaller building to the north, facing Matson Avenue will comprise a pitched roof (trusses) with insulation above plaster boarded ceiling and plywood and roof membrane above.

The above constructions are expected to achieve the following minimum sound reduction indices:

Table 5: Required Minimum Sound Reduction Index of Roof

Frequency (Hz)	**63**	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**	**Rw**
Pitched Flat Roof	17	22	37	42	50	57	57	57	44
Loft Space Roof	25	39	47	53	58	56	60	55	56

Any alternative constructions should achieve the above noted performance. Please note that any proposed plant located on the roof might affect noise levels within proposed rooms below.

6.3.4. **Window Construction**

The windows on all elevations can be openable, at occupier discretion for purge ventilation for example. The windows should be constructed from sturdy good quality frames with airtight compression seals. The minimum sound reduction indices required of the windows are as follows:

Table 6: Required sound reduction indices of windows

Colour Code Facade	**Room**	**Sound Reduction Index / dB per Octave Band (Hz)**								**R_w (dB)**	**Typical Construction**
		63	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**		
	Bedrooms	20	24	20	25	35	38	35	36	31	4/12/4
	Living Rooms										
	Bedrooms										
	Living Rooms										

Any alternative constructions should achieve the above noted performance.

6.3.5. **Ventilation Provision**

Trickle background ventilation is normally sufficient to achieve the planning requirements. The vents are required to achieve the following element normalised level difference ($D_{n,e}$) in the open position. The supplier of any chosen ventilation product should provide test data confirming that the ventilation system meets the following performance data. There should be no unattended vents or openings in the façade.

Table 7: Required Minimum Sound Insulation Performance of Vents

Colour Code Facade	Room	Required Ventilator Sound Insulation Performance, $D_{n,e}$ per Octave Band (Hz)								$D_{n,e,w}$ (dB)	Typical Construction
		63	125	250	500	1k	2k	4k	8k		
	Bedrooms	32	32	37	37	36	36	35	40	37	Trickle Ventilation, Titon – Trimvent 4000 (Open)
	Living Rooms	30	35	35	36	34	29	33	34	32	Trickle Ventilation, Titon - XS13 4400 EA+XC13 412 Canopy (Open)
	Bedrooms										
	Living Rooms										

The ventilation supplier should confirm the above performance is achievable when tested to the current British Standards.

6.3.6. **Effect of Mitigation Measures**

With the noted building fabric construction, and suitable ventilation provisions, the predicted internal noise levels within the proposed dwellings are within the criteria of British Standard 8233:2014 of 35 dB $L_{Aeq\ (16\ hour)}$ in the daytime rooms, and 30 dB $L_{Aeq\ (8\ hour)}$ and 45 dB $L_{Amax(F)}$ in the night-time rooms.

Calculations for the worst-case rooms (blue mark-up) is provided below:

Free Field Level at Façade

Octave Band	63	125	250	500	1000	2000	4000	8000	dBA
Day, $L_{eq,16hour}$	66	59	56	56	57	52	45	38	60
Night $L_{eq,8hour}$	58	51	48	48	49	44	37	30	52
Night-time $L_{max(Fast)}$	73	78	72	70	67	61	67	65	74

Building Façade Construction

External Element		63	125	250	500	1000	2000	4000	8000
Trimvent 4000 - 37 Dnew	D_{ne}	32	32	37	37	36	36	35	40
	Number of	1							
		0	0	0	0	0	0	0	0
Wall: User Defined		15	33	42	48	53	55	55	50
	Area	8							
		0	0	0	0	0	0	0	0
Double Glazed: 4/12/4 - 31 Rw		20	24	20	25	35	38	35	36
	Area	2							
		0	0	0	0	0	0	0	0
Pitched Roof - 56 Rw		25	39	47	53	58	56	60	55
	Area	12							
		0	0	0	0	0	0	0	0

Calculations to BS EN 12354

	63	125	250	500	1000	2000	4000	8000
Sum	0.01464	0.000826459	0.000832835	0.000318601	0.000130779	0.000127231	0.000177003	6.81929E-05
10log sum	-18.3453133	-30.8277884	-30.79441223	-34.96752972	-38.83462328	-38.95405419	-37.52019087	-41.66260581
10log S/A	3.69911285	3.699112851	3.699112851	3.699112851	3.699112851	3.699112851	3.699112851	3.699112851
correction factor +3	3	3	3	3	3	3	3	3

Octave Band	63	125	250	500	1000	2000	4000	8000	dBA
Day, $L_{eq,16hour}$	54	35	32	28	25	20	14	3	32
Night $L_{eq,8hour}$	46	27	24	20	17	12	6	-5	24
Night-time $L_{max(Fast)}$	61	54	48	42	35	29	36	30	45

6.4. External Amenity Spaces

The daytime noise map above (Figure 5) shows noise levels across external amenity areas including garden boundary fencing walls of 1.8m height. It can be seen that predicted road traffic noise levels at the amenity space are likely to be below/ within the BS8233:2014/ WHO recommended amenity level of 50-55dB $L_{Aeq,\ 16\ hours}$ across the majority of the site.

Therefore, we would consider predicted amenity levels based on the parameters above to be acceptable and within recommendations stated in BS8233:2014/WHO.

The noise control barriers indicated in noise maps in light green colour should be 1.8 metres in height and be constructed with a minimum superficial mass of at least 10 kg/m^2. The barrier could be formed from timber fence. Where timber is used, it should meet the weight requirement specified above excluding the weight of supports and rails. In addition, a timber fence is only likely to provide an effective barrier where boarding is lapped, or double sheeted is used. The barrier should be continuous from ground level to the full specified height and be imperforate. Alternatively, masonry walls can be used.

As such, we would consider external noise is suitably controlled within the amenity areas.

7. Summary & Conclusions

Aqua Construction appointed Acoustic Consultants Limited to carry out an environmental noise assessment and provide noise assessment and advice for the proposed residential development at the Former Robinswood Inn, Gloucester.

The assessment considers the impact of road traffic noise from Matson Avenue and distant road traffic along the M5 to the west and south east respectively. Hill Hay Road running along the southern boundary of the site was considered to have minimal impact and therefore has not been considered in this report. Most road traffic affecting the development has been determined to be from Matson Avenue and distant road traffic along the M5.

With the noted building fabric construction, and suitable ventilation provisions as stated above in this report, the predicted internal noise levels within the proposed dwellings from road traffic noise are within the criteria of WHO / British Standard 8233:2014 of 35 dB $L_{Aeq\ (16\ hour)}$ in the daytime rooms, and 30 dB $L_{Aeq\ (8\ hour)}$ and 45 dB $L_{Amax(F)}$ in the night-time rooms.

As such, we would consider external noise to be suitably controlled within the habitable rooms of the proposed residential development and good internal conditions can be achieved.

In addition, predicted external noise levels within the proposed external amenity communal areas are also considered to be acceptable and within recommendations stated in BS8233:2014/WHO.

As such, we would consider that noise is suitably controlled and below the LOAEL of the NPPG internally to the dwellings.

8. Appendix 1 – Glossary of Acoustic Terminology

A-weighted sound pressure pA – value of overall sound pressure, measured in pascals (Pa), after the electrical signal derived from a microphone has been passed through an A-weighting network.

A-weighted sound pressure level, L_{pA} - quantity of A-weighted sound pressure given by the following formula in decibels (dBA)

$L_{pA} = 10 \log_{10} (p_A/p_0)^2$

where:

p_A is the A-weighted sound pressure in pascals (Pa);
p_0 is the reference sound pressure (20 µPa)

Background sound level, $L_{A90,T}$– A-weighted sound pressure level that is exceeded by the residual sound assessment location for 90% of a given time interval, T, measured using weighting F and quoted to the nearest whole number of decibels.

Break-in - noise transmission into a structure from outside.

Decibel (dB) – The decibel is the unit used to quantify sound pressure levels. The human ear has an approximately logarithmic response to acoustic pressure over a very large dynamic range (typically 20 micro-Pascals to 100 Pascals). Therefore, a logarithmic scale is used to describe sound pressure levels and also sound intensity and power levels. The logarithms are taken to base 10. Hence an increase of 10 dB in sound pressure level is equivalent to an increase by a factor of 10 in the sound pressure level (measured in Pascals). Subjectively, this increase would correspond to a doubling of the perceived loudness of sound.

Equivalent continuous A-weighted sound pressure level, $L_{Aeq,T}$ – value of the A-weighted sound pressure level in decibels of continuous steady sound that, within a specified time interval, T = t2 – t1, has the same mean-squared sound pressure as a sound that varies with time, and is given by the following equation:

$$L_{AeqT} = 10\lg_{10}\left\{(1/T)\int_{t1}^{t2}[p_A(t)^2/p_0^2]dt\right\} \quad (1)$$

where:

p_0 is the reference sound pressure (20 µPa); and
$p_A(t)$ is the instantaneous A-weighted sound pressure (Pa) at time t

NOTE The equivalent continuous A-weighted sound pressure level is quoted to the nearest whole number of decibels.

Facade level – sound pressure level 1 m in front of the façade. Facade level measurements of L_{pA} are typically 1 dB to 3 dB higher than corresponding free-field measurements because of the reflection from the facade.

Free-field level – sound pressure level away from reflecting surfaces. Measurements made 1.2 m to 1.5 m above the ground and at least 3.5 m away from other reflecting surfaces are usually regarded as free-field. To minimize the effect of reflections the measuring position has to be at least 3.5 m to the side of the reflecting surface (i.e. not 3.5 m from the reflecting surface in the direction of the source).

Octave and Third Octave Bands – The human ear is sensitive to sound over a range of frequencies between approximately 20 Hz to 20 kHz and is generally more sensitive to medium and high frequencies than to low frequencies within the range. There are many methods of describing the frequency content of a noise. The most common methods split the frequency range into defined bands, in which the mid-frequency is used as the band descriptor and in the case of octave bands is double that of the band lower. For example, two adjacent octave bands are 250 Hz and 500 Hz. Third octave bands provide a fine resolution by dividing each octave band into three bands. For example, third octave bands would be 160 Hz, 250 Hz, 315 Hz for the same 250 Hz octave band.

Sound pressure level – Sound pressure level is stated on many of the charts. It is the amplitude of the acoustic pressure fluctuations in a sound wave, fundamentally measured in Pascals (Pa), typically from 20 micro-Pascals to 100 Pascals, but commonly simplified onto the decibel scale.

Sound reduction index, R – laboratory measure of the sound insulating properties of a material or building element in a stated frequency band.

Specific sound level, $L_s = L_{Aeq,\ Tr}$ – equivalent continuous A-weighted sound pressure level produced by the specific sound source at the assessment location over a given reference time interval, T_r.

Structure-borne noise – audible noise caused by the vibration of elements of a structure, the source of which is within a building or structure with common elements

Rating level, $L_{Ar,\ Tr}$ – Specific sound level plus any adjustment for the characteristic features of the sound.

Reverberation Time, T – The reverberation time is defined as the time taken for a noise level in an enclosed space to decay by 60 dB from a steady level, once the noise source has stopped. It is measured in seconds. Often a 60-dB decay cannot be measured so the reverberation time is measured over a lesser range and corrected back to the time for a 60-dB drop assuming a constant decay rate. Common parameters are T20 (time taken for a 20-dB decay multiplied by three) and T30 (time taken for a 30-dB decay multiplied by two).

Vibration Dose Value, VDV – measure of the total vibration experienced over a specified period of time.

Estimated Vibration Dose Value, eVDV – estimation of the total vibration experienced over a specified period of time. This is usually based on the number of events and shortened measurement data.

Weighted sound reduction index, R_w – Single-number quantity which characterizes the airborne sound insulating properties of a material or building element over a range of frequencies. The weighted sound reduction index is used to characterize the insulation of a material or product that has been measured in a laboratory (see BS EN ISO 717-1).

Weighted standardized impact sound pressure level, $L'_{nT,\ w}$ - single-number quantity used to characterize the impact sound insulation of floors over a range of frequencies. NOTE weighted standardized impact sound pressure level is used to characterize the insulation of floors in buildings (see Annex C and BS EN ISO 717-2).

Weighted standardized level difference, $D_{nT,\ w}$ – single-number quantity that characterizes the airborne sound insulation between rooms. NOTE Weighted standardized level difference is used to characterize the insulation between rooms in a building (see Annex C and BS EN ISO 717-1).

Head Office: 194 West Street, Bedminster, Bristol, BS3 3NB
T: 0117 986 2956

www.acoustic-ltd.co.uk

Registered Office: 194 West St, Bristol, BS3 3NB Registered No: 8544901

Key

- Site boundary
- Road
- Footpath
- Paving
- Block Paving
- Parking space
- Brick wall 1800mm
- Close board timber fencing 1800mm
- Metal railing 900mm
- Knee Rail
- Possible retaining feature

www.quattrodesign.co.uk

NOTES

REVISIONS

REV. DATE - DRAWN - CHECKED: NOTES

-: 18.02.22 - DC - RF:
Drawing created.

DRAWING TITLE

Hard Landscaping Plan

PROJECT

Robinswood Inn,
Matson Avenue, Matson

CLIENT

Aqua Construction

SCALE	1:200@A3
DATE	Feb 2022

Quattro designarchitects

DRAWING NO.	**REV**
6447-P-15	-

Matthews Warehouse, High Orchard Street
Gloucester Quays, GL2 5QY

www.quattrodesign.co.uk

NOTES

REVISIONS

REV. DATE - DRAWN - CHECKED: NOTES

-: 21.02.22 - DC - KDCG:
Drawing created

Planting Key:

(Refer to Planting Schedule 6447-P-3500 For Further information)

Typical species would include:

Bc - Bergenia cordifolia 'Elephant Ears'
Ctr - Ceanothus thyrsiflorus repens
Efg - Euonymus fortunei 'Emerald Gaiety'
Hc - Hypericum calycinum
Hp - Hebe pinguifolia 'Sutherlandii"
Lam - Lavandula angustifolia 'Munstead'
Lp - Lonicera pileata
Pfa - Potentilla fruiticosa 'Abbotswood'
Phf - Photinia 'Red Robin'

Tree Key:
T1 - Acer Campestre 'Streetwise'
T2 - Prunus avium 'Plena'

DRAWING TITLE

Soft Landscaping Plan

PROJECT

Robinswood Inn,
Matson Avenue, Matson

CLIENT

Aqua Construction

SCALE 1:200@A3

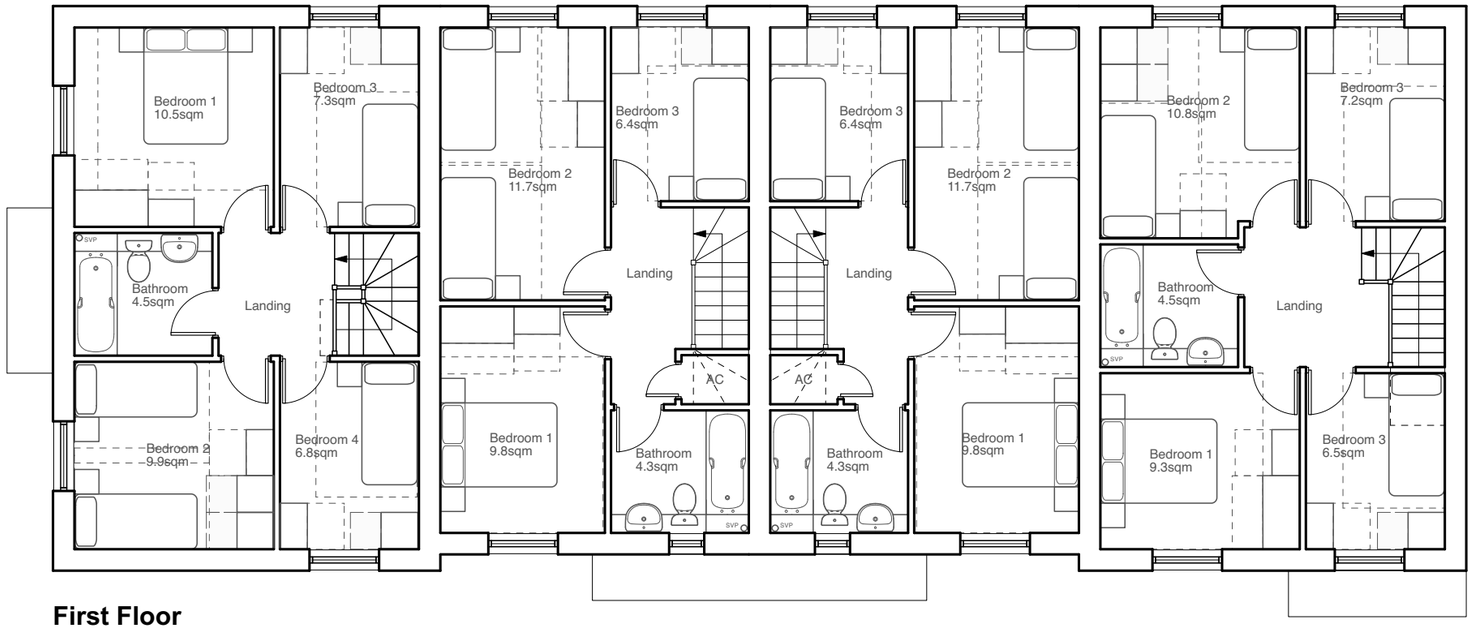
DATE Feb 2022

Quattro designarchitects

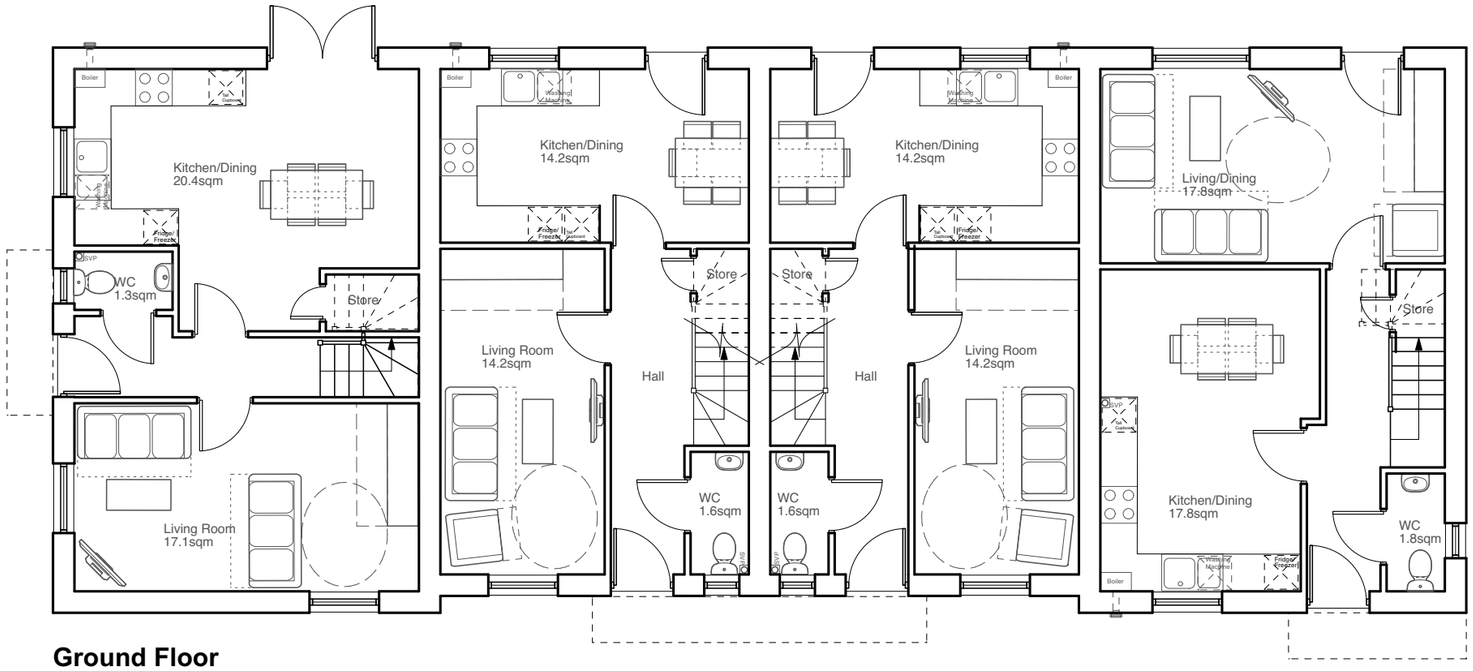
DRAWING NO. **REV**

6447-P-16 **-**

Matthews Warehouse, High Orchard Street
Gloucester Quays, GL2 5QY [redacted]



First Floor



Ground Floor

Plot 4
@ 95sqm

Plot 3
@ 82sqm

Plot 2
@ 82sqm

Plot 1
@ 95sqm

www.quattrodesign.co.uk

NOTES

REVISIONS

REV. DATE - DRAWN - CHECKED: NOTES

-: 21.05.21 - DC - RJF:
Drawing created.
A: 12.08.21 - DC - RJF:
Plots 1 and 4 revised to 4Bed Houses
B: 29.11.21 - DC:
Floor plans updated in line with elevations.
C: 20.01.22 - DC:
Plans revised in accordance with client comments recieved 18.01.22
D: 26.01.22 - DC:
Plans revised in accordance with client comments recieved 25.01.22

DRAWING TITLE

Proposed Floor Plans:
Plots 1 - 4

PROJECT

Robinswood

CLIENT

Aqua Construction

SCALE 1:100@A3

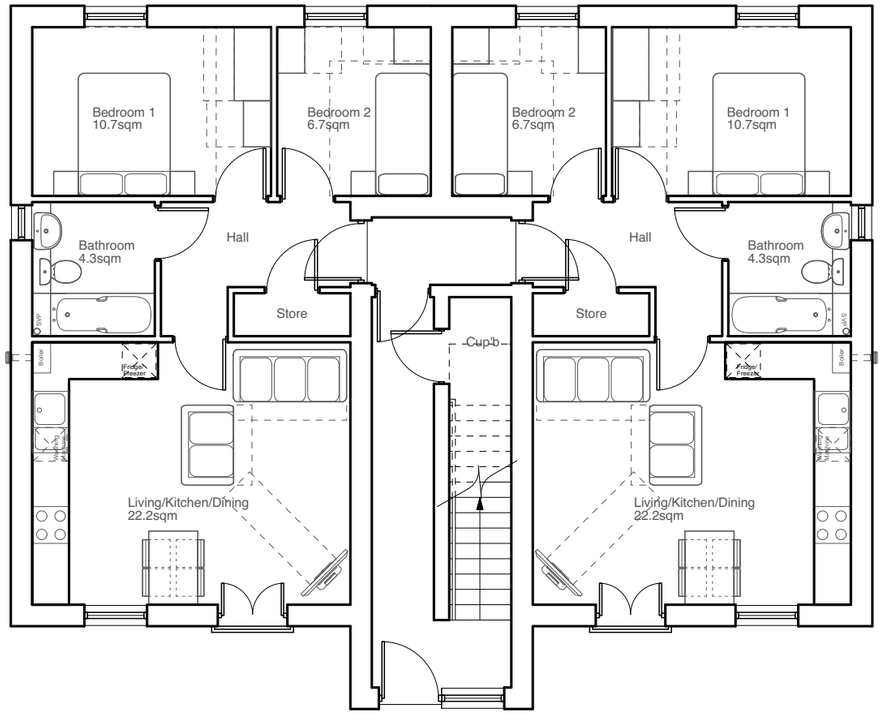
DATE May 2021

Quattro designarchitects

DRAWING NO. **REV**

6447-P-20 **D**

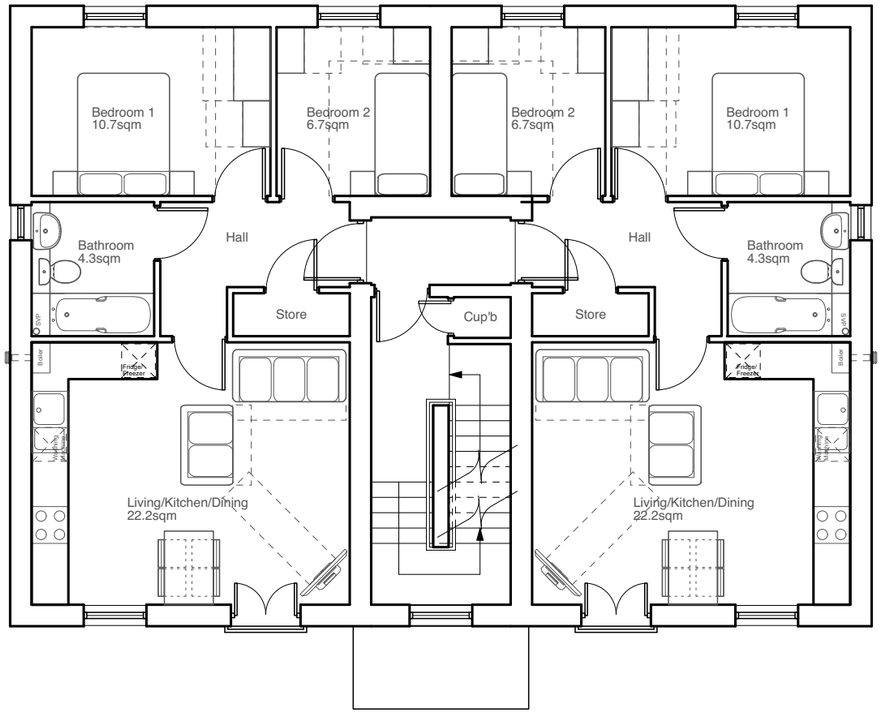
Matthews Warehouse, High Orchard Street
Gloucester Quays, GL2 5QY [redacted]



Ground Floor

Plot 6
@ 52sqm

Plot 5
@ 52sqm



First / Second Floor

Plot 8 / 10
@ 52sqm

Plot 7 / 9
@ 52sqm

www.quattrodesign.co.uk

NOTES

REVISIONS

REV. DATE - DRAWN - CHECKED: NOTES

-: 21.05.21 - DC - RJF:
Drawing created.

B: 05.01.22 - DC:
Window positions and styles amended to include doble door juliet balconies. Staircase between first and second floor looped back to make efficiencies to landing space.
C: 20.01.22 - DC:
Plans revised in accordance with client comments recieved 18.01.22
D: 26.01.22 - DC:
Plans revised in accordance with client comments recieved 25.01.22

DRAWING TITLE

Proposed Floor Plans:
Plots 6 - 10

PROJECT

Robinswood

CLIENT

Aqua Construction

SCALE 1:100@A3

DATE May 2021

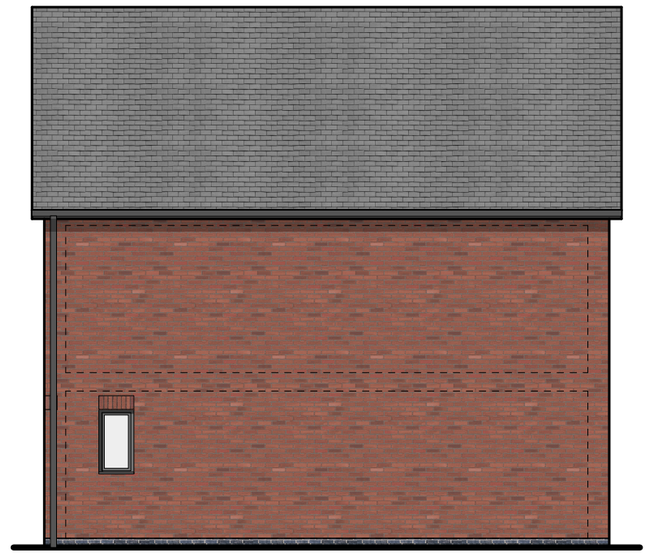
Quattro designarchitects

DRAWING NO. **REV**

6447-P-21 **D**

Matthews Warehouse, High Orchard Street
Gloucester Quays, GL2 5QY

Front Elevation
Plot 4 Plot 3 Plot 2 Plot 1



Side Elevation
Plot 1

Rear Elevation
Plot 1 Plot 2 Plot 3 Plot 4

Side Elevation
Plot 4

Red Brick
Soldier Course
Cement Fibre Slate
Dark Grey Window Frame
Black RWGs

www.quattrodesign.co.uk

NOTES

REVISIONS
REV. DATE - DRAWN - CHECKED: NOTES

-: 29.11.21 - DC:
Drawing created.
A: 20.01.22 - DC:
Elevations revised in accordance with client comments recieved 18.01.22
B: 26.01.22 - DC:
Elevations revised in accordance with client comments recieved 25.01.22

DRAWING TITLE

Proposed Elevations:
Plots 1 - 4

PROJECT

Robinswood

CLIENT

Aqua Construction

SCALE	1:100@A3
DATE	Nov 2021

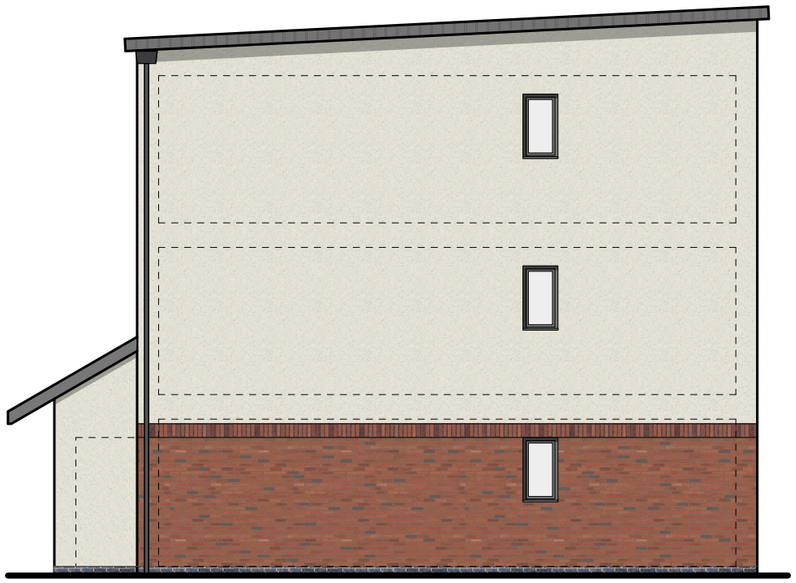
Quattro designarchitects

DRAWING NO.	**REV**
6447-P-70	**B**

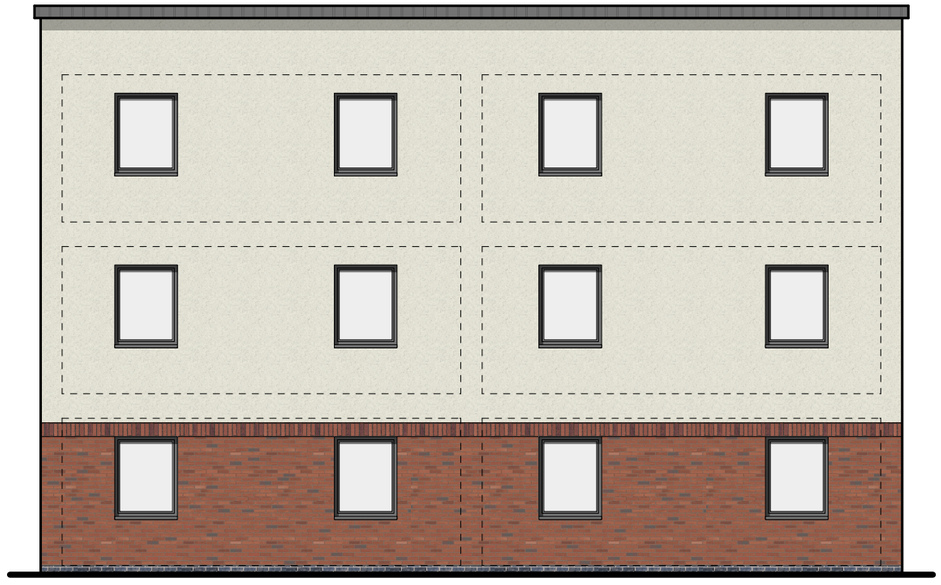
Matthews Warehouse, High Orchard Street
Gloucester Quays, GL2 5QY

Front Elevation
Plot 10
Plot 8
Plot 6

Plot 9
Plot 7
Plot 5

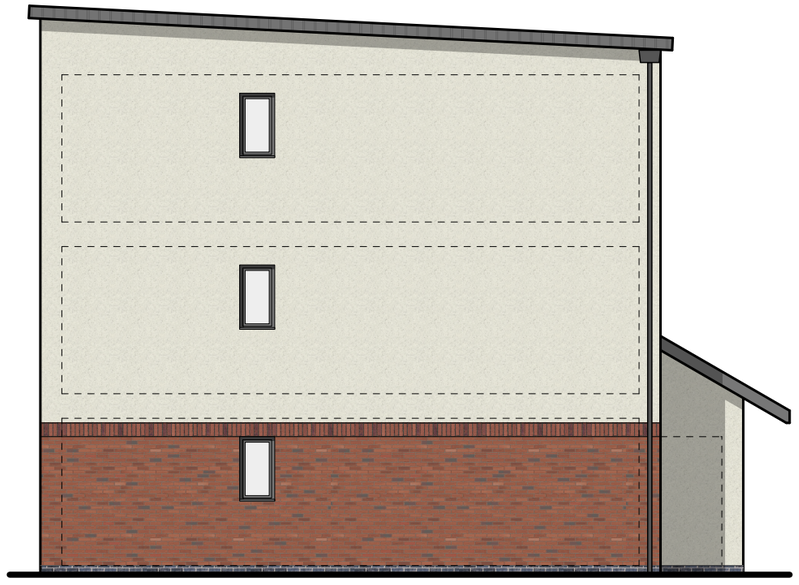


Side Elevation
Plot 9
Plot 7
Plot 5



Rear Elevation
Plot 9
Plot 7
Plot 5

Plot 10
Plot 8
Plot 6



Side Elevation
Plot 10
Plot 8
Plot 6

- Red Brick
- Soldier Course
- Eco Rend - Chalk White
- Dark Grey Render
- Greencoat PLX Steel Standing Seam
- Cement Fibre Slate
- Dark Grey Frame (GF Door Aluminium, all else uPVC)
- Black uPVC RWGs

www.quattrodesign.co.uk

NOTES

REVISIONS
REV: DATE - DRAWN - CHECKED: NOTES

-: 29.11.21 - DC:
Drawing created.

B: 05.01.22 - DC:
Window positions and styles amended to include doble door juliet balconies. Staircase between first and second floor looped back to make efficiencies to landing space.
C: 20.01.22 - DC:
Elevations revised in accordance with client comments recieved 18.01.22
D: 26.01.22 - DC:
Elevations revised in accordance with client comments recieved 25.01.22

DRAWING TITLE

Proposed Elevations:
Plots 1 - 4

PROJECT

Robinswood

CLIENT

Aqua Construction

SCALE 1:100@A3
DATE Nov 2021

Quattro designarchitects

DRAWING NO. **REV**
6447-P-70 **D**

Matthews Warehouse, High Orchard Street
Gloucester Quays, GL2 5QY

Street Scene A-A

Street Scene B-B

REVISIONS
REV: DATE - DRAWN - CHECKED: NOTES

-: 06.01.22 - DC:
Drawing created.

A: 24.01.22 - DC:
Elevations updated as per clients comments to elevations and site layout.

B: 25.01.22 - DC:
Elevations updated as per clients comments to elevations and site layout.

PROJECT
Robinswood

CLIENT
Aqua Construction

DRAWING TITLE
Indicative Street Scenes

DRAWING NO. **6447-P-75**

REV **B**

SCALE 1:200@A3

DATE Dec 2021

Gloucester | London | Cardiff
Registered Office: Matthews Warehouse, High Orchard Street, Gloucester Quays, GL2 5QY

Quattro
design architects