



HILL END FARM,
MAPPLEWELL

PERCOLATION TEST
REPORT

APRIL 2023

HILL END FARM, MAPPLEWELL

PERCOLATION TEST REPORT

Mr Paul Needham

Percolation Test Report

CONFIDENTIAL

Project no: 21889-PTR-001

Date: April 2023

Andrew Moseley Associates

15 St Paul's Street

Leeds, LS1 2JG

www.amatp.co.uk

Q U A L I T Y M A N A G E M E N T

ISSUE/REVISION	FIRST ISSUE	REVISION 1	REVISION 2	REVISION 3
Remarks	Planning			
Date	April 2023			
Prepared by	AY			
Checked by	GS			
Authorised by	GS			

P R O D U C T I O N T E A M

Associate Gavin Shepherd

Consultant Aaron Yesudian

Graduate Jasmine Ellenor

TABLE OF CONTENTS

1	TESTING METHODOLOGY.....	1
1.1	BRE 365 Infiltration test.....	1
2	INTRODUCTION.....	2
2.1	Introduction.....	2
2.2	Development and Site Description	2
2.3	Geology	3
2.4	Hydrogeology.....	3
2.5	Weather Conditions	4
2.6	Dimensions and Properties of the Pit.....	4
2.7	Results	5
2.8	Summary	6
	APPENDICES	7

TABLES

Table 2-1. Site Context	2
Table 2-2. Test Results.....	5

FIGURES

Figure 1. Site Location

Figure 2. Test Pit Location

APPENDICES

Appendix A – Site Layout Plan

Appendix B – Site Photographs

1 TESTING METHODOLOGY

1.1 BRE 365 INFILTRATION TEST

1.1.1 All tests undertaken at the site were excavated following the below instruction as outlined in BRE 365 Digest.

- ▶ Excavate a soakage trial pit to the required depth (typically 1.0m - 2.0m deep) using minimum width (0.3m) and length (1.0m). Carefully trim sides and bottom.
- ▶ Carefully measure size of pit and note sizes below.
- ▶ Fill soakage hole briskly with water (from bowser) to at least three quarters full. Being careful not to wash away the sides. (Note: a 0.3m wide, 1m long, 1.5m deep trench needs at least 350 litres (80 gallons) of water)
- ▶ Place straight edge over top of soakage pit and measure (dip) to the top of the water.
- ▶ Record time versus dips in table below. Dip every 5 minutes for the first hour and every hour until pit is one quarter full. Repeat test 3 times in total on the same or consecutive days.

2 INTRODUCTION

2.1 INTRODUCTION

2.1.1 This infiltration test report has been prepared by Andrew Moseley Associates (AMA) in relation to the drainage design associated with barn conversion located at Hill End Farm, Hill End Road, Mapplewell, Barnsley, S75 6DU. The purpose of this document is to supplement the AMA Drainage Strategy for the site.

- ▶ Development and site description
- ▶ Weather conditions
- ▶ Dimensions and properties of the pit
- ▶ Results
- ▶ Summary

2.2 DEVELOPMENT AND SITE DESCRIPTION

2.2.1 Andrew Moseley Associates (AMA) was appointed by Mr Paul Needham to provide a Percolation Test Report in support of barn conversion located at Hill End Farm, Mapplewell. A site layout plan can be found in **Appendix A**.

2.2.2 The site is referenced in **Table 2-1** and **Figure 1** below.

Table 2-1. Site Context

Site Name	Hill End Farm
Location	Mapplewell
NGR (approx.)	SE 33353 09288
Application Site Area (ha)	0.3
General Locality	The site is located on partially undeveloped greenfield land with a dwelling situated in the northeast of the site. The site borders greenfield land to the south, east and west with Hill End Road to the north of the site. Pedestrian and vehicular access to the site is provided via Hill End Road to the north of the site
Local Planning Authority	Barnsley Metropolitan Borough Council.

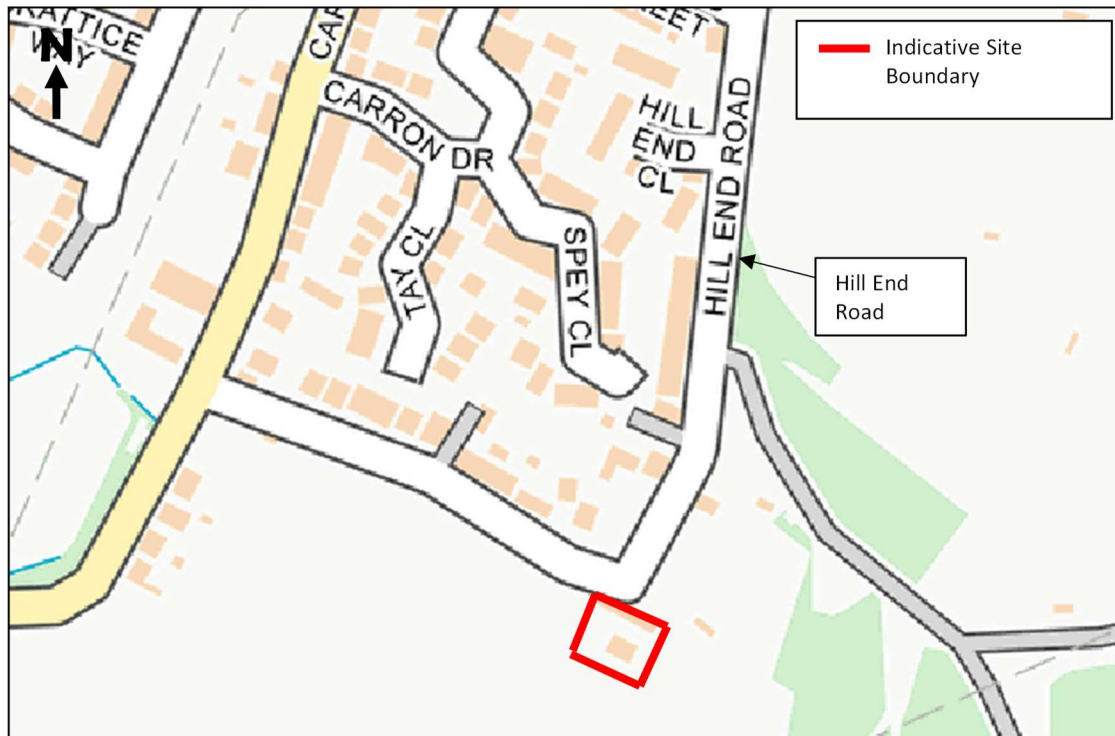


Figure 1. Site Location

2.3 GEOLOGY

- 2.3.1 British Geological Survey (BGS) Open Geoscience website¹ indicates that the entire site is underlain by Pennine Middle Coal Measures Formation - Mudstone, siltstone and sandstone.
- 2.3.2 The BGS website information indicates that there is no borehole record within close proximity to the site.
- 2.3.3 Shown in **Appendix B** is trial pit A, which shows the ground conditions to be similar to the BGS desktop review of the geology at the site. For the total depth of 1.5m the ground was formed of a combination of wet mudstone and clay.

2.4 HYDROGEOLOGY

- 2.4.1 According to the Department for Environment, Food and Rural Affairs (DEFRA) MAGIC map², the site is indicated as not being located in a Groundwater Source Protection Zone (SPZ), as defined by the Environment Agency (EA) for the protection of a potable groundwater supply.
- 2.4.2 The site is located as being in an area of medium ground water vulnerability and located above a Secondary A bedrock aquifer.

¹ Available at: <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> accessed on 15/03/2023

² Available at: <https://magic.defra.gov.uk/MagicMap.aspx?startTopic>, accessed on 15/03/2023

- 2.4.3 Information obtained from the Cranfield University's Soilscape website³ indicates that the site is located in an area classified as being Soilscape 17, which is defined as having slowly permeable seasonally wet acid loamy and clayey soils.

2.5 WEATHER CONDITIONS

- 2.5.1 The infiltration test was undertaken on the 14/03/2023, throughout the times of 8:30am to 12:30pm.
- 2.5.2 The ground at the site was wet and had experienced rainfall over night. However, the rain had eased and there was no precipitation during the entire infiltration test. Temperatures ranged from 2 degrees to 6 degrees.

2.6 DIMENSIONS AND PROPERTIES OF THE PIT

- 2.6.1 The percolation testing was carried out on the site on the 14/03/2023 to establish if infiltration methods were going to be a suitable solution for draining the site.
- 2.6.2 1 trial hole was formed with the following dimensions:
- ▶ Trial Hole 1: 0.7 m x 1.0 m x 1.5m
- 2.6.3 The water level drop was monitored and recorded.
- 2.6.4 The location of trial hole 1 can be seen in **Figure 2**.

³ Available at: <http://www.landis.org.uk/soilscales/>, accessed on 15/03/2023

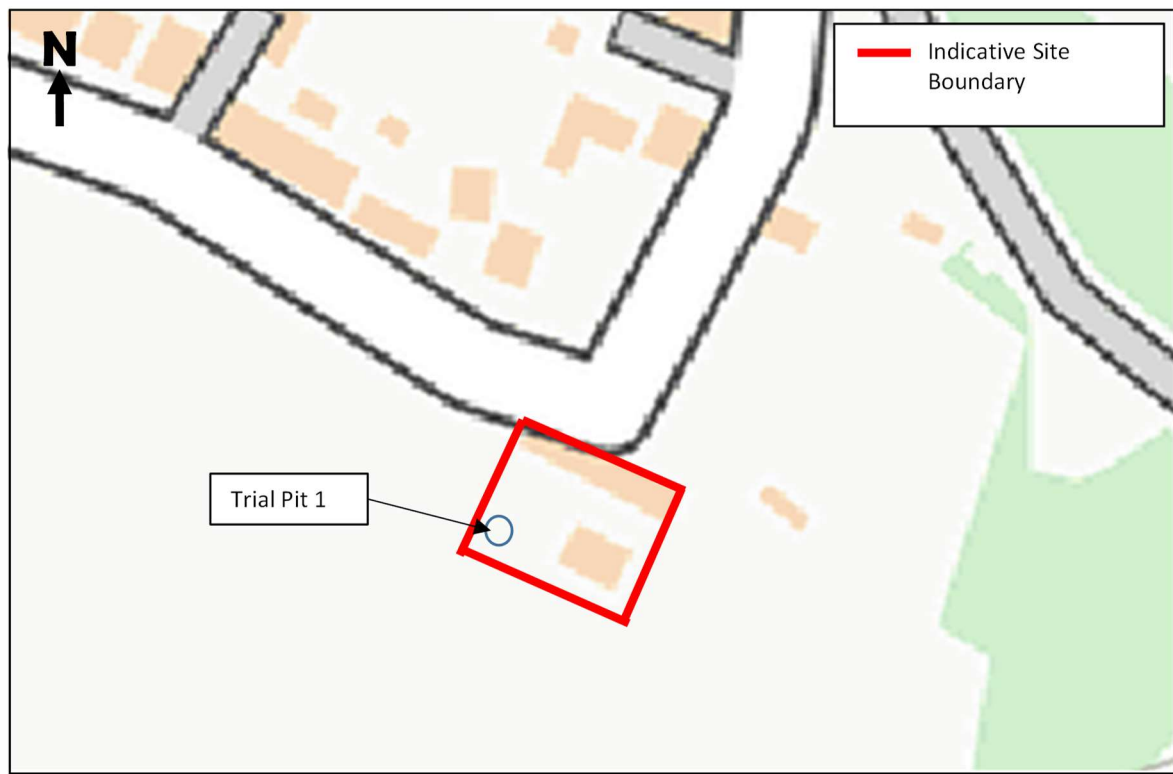


Figure 2. Test Pit Location

2.7 RESULTS

- 2.7.1 For the test completed on Test Pit 1, water was filled to a depth of 0.90m, and the water level dropped to 0.1m over a 60-minute period.
- 2.7.2 As the water level did not drop significantly during the first test, there were no other tests carried out on trial pit 1.

Table 2-2. Test Results

Test Pit 1	
Time (mins)	Dip (m)
0	0.90
5	0.88
10	0.86

15	0.86
20	0.85
25	0.85
30	0.84
40	0.83
50	0.82
60	0.80

2.8 SUMMARY

- 2.8.1 Based on the results for trial pit 1, the water level did not decrease enough to indicate that infiltration would work at the site. Therefore, the results of this test show that soakaways are not a viable drainage strategy at this location.

APPENDICES

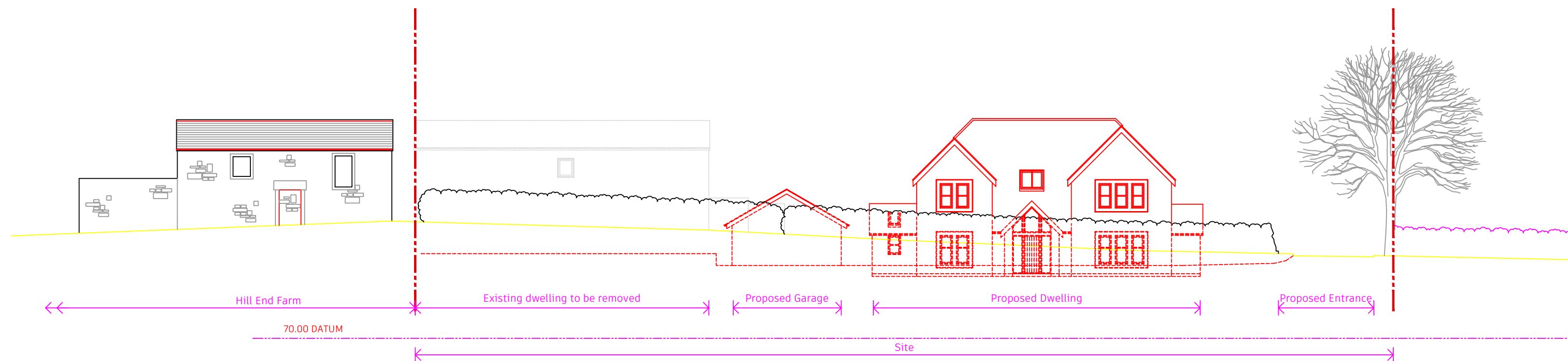
APPENDIX A – SITE LAYOUT

APPNENDIX B - SITE PHOTOGRAPHS

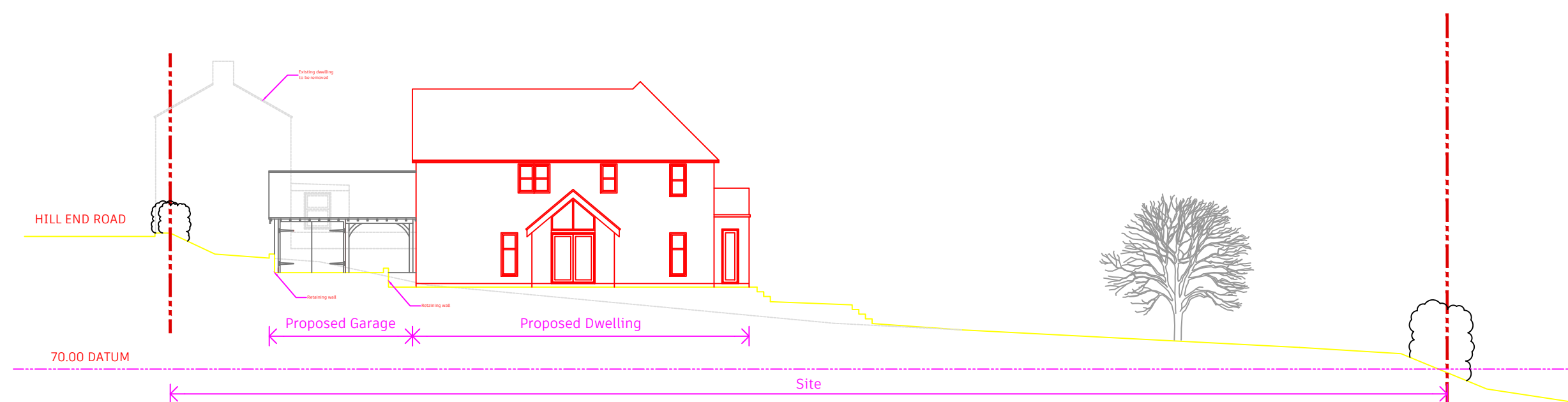
Appendix A

SITE LAYOUT PLAN

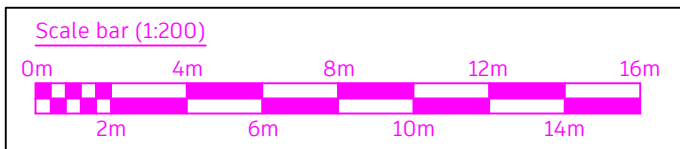
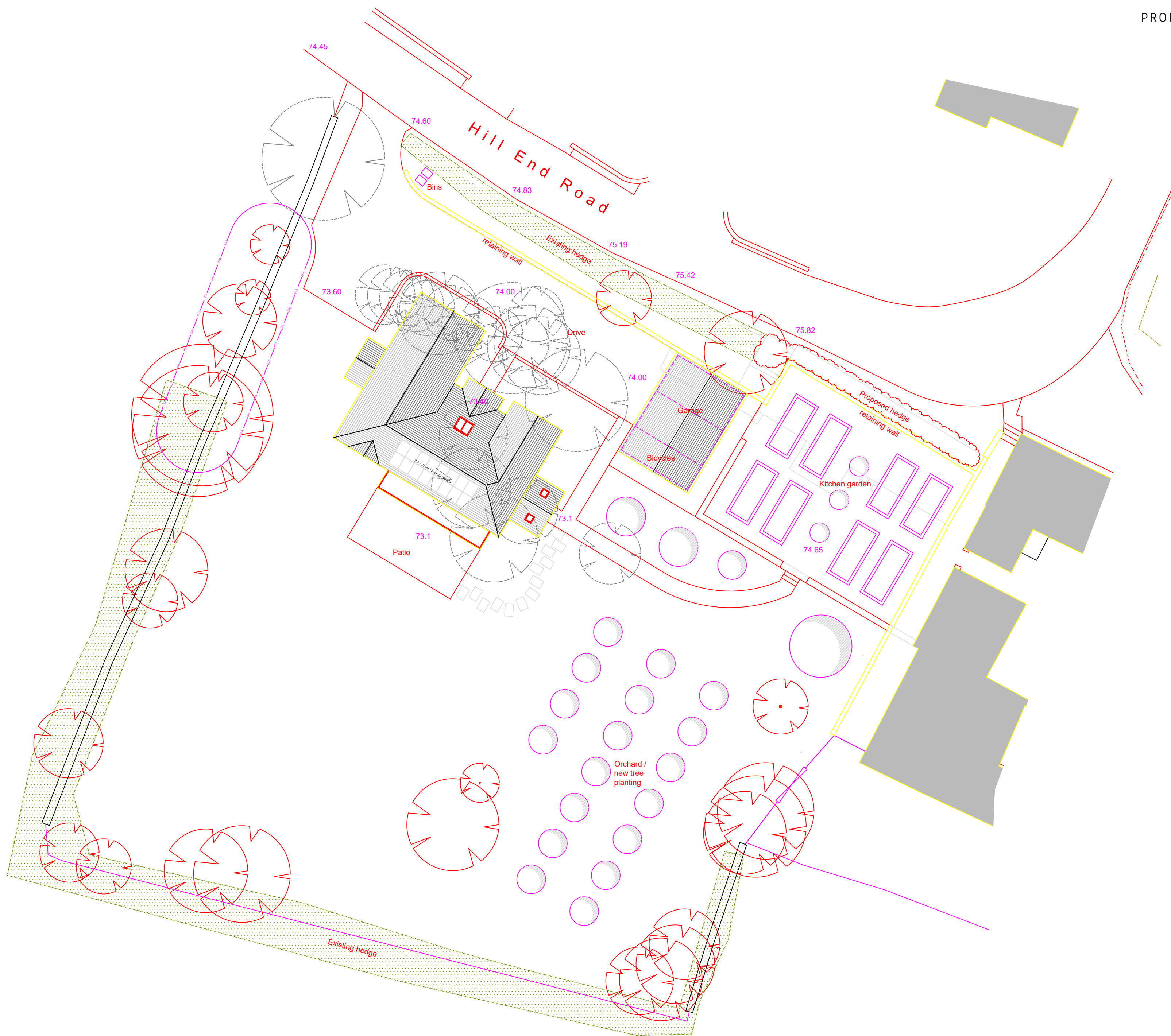
These drawings are for planning or building regulation purposes only and not to be used as construction drawings other than for guidance.
All dimensions to be checked on site prior to construction.
This drawing remains the copyright of the Architectural designer and no part should be reproduced without their permission.



PROPOSED STREET SCENE



PROPOSED SITE SECTION



	Project Address 56 Hill End Road, Mapplewell, Barnsley				
	Client Mr P Needham				
	Project Proposed New Dwelling				
	Drawing Proposed Site Block Plan and Sections				
Prism Agriculture Ltd	DRAWING NO. PRA-14-30	SCALE 1:200 @ A1	DRAWN AR	CHECK TW	DATE Oct 2022
				REVISION	---

Appendix B

SITE PHOTOGRAPHS







All rights are reserved. Copyright © 2021

Andrew Moseley Associates, 15 St Paul's Street, Leeds, LS1 2JG

www.amatp.co.uk