



# Flood Risk Assessment

LAND SOUTH OF LONGSIGHT ROAD, LANGHO

HALLAM LAND MANAGEMENT LTD

26/02/2025

**FLOOD RISK ASSESSMENT**  
**LAND SOUTH OF LONGSIGHT ROAD, LANHGO**  
**FOR**  
**HALLAM LAND MANAGEMENT LTD**



**49343-ECE-XX-XX-RP-C-0001**

**26 February 2025**

Eastwood Consulting Engineers is a trading name of Eastwood and Partners (Consulting Engineers) Limited  
Registered Office: St Andrew's House, 23 Kingfield Road, Sheffield, S11 9AS, Company No: 1835021, VAT Registration No: 738 2114 44

**Directors:** S R Ellis BEng CEng MStructE MICE | S J English BEng CEng MStructE | C A Topliss BSc CEnv CSci CGeol SiLC FICE FGS  
A R Priest BEng | A G Marshall BEng CEng MStructE

**Technical Directors:** A Allison BEng | M P Chappell BEng IEng AMStructE | K Edwards MSc CGeol FGS  
C Hodge EngTech MICE | A J Kerslake BEng FGS

**Senior Associates:** C A Wood BSc CEng MStructE MICE

**Associates/Principals:** A M Cross MEng CEng MICE | A Lavelle MEng CEng MICE | R A Noble BSc FGS | C L Capes BSc FGS | R Wall BSc CGeol FGS  
W T Chidawanyika BSc CEng MIEI MICE | A J Cartlidge MEng | C J Burgoyne BSc IEng MICE | G C Burgin BSc MSc FGS

**Consultants:** P Richardson BSc CEng MICE FStructE | S D Preston BEng CEng FICE FStructE | K R Pursall BEng CEng MStructE

**FLOOD RISK ASSESSMENT**  
**LAND SOUTH OF LONGSIGHT ROAD, LANHGO**  
**FOR**  
**HALLAM LAND MANAGEMENT LTD**

Job No. : 49343  
Report Status : Issue 3  
Document Date : 26.02.2025  
Approved :



**Chris Hodge**

**CONTENTS**

**EXECUTIVE SUMMARY ..... 5**

**1.0 THE DEVELOPMENT ..... 7**

    1.1 Introduction ..... 7

    1.2 Site Location and Description..... 7

    1.3 Environment Agency - Flood Map for Planning ..... 8

    1.4 Surface Water ..... 9

    1.5 Ribble Valley Borough Council Strategic Flood Risk Assessment ..... 10

**2.0 FLOOD RISK ..... 11**

    2.1 Potential Sources of Flooding ..... 11

        2.1.1 Fluvial and Tidal ..... 11

        2.1.2 Surface Water (depths and flow paths) ..... 11

        2.1.3 Reservoir ..... 12

        2.1.4 Groundwater ..... 12

        2.1.5 Sewerage ..... 13

    2.2 Historic Flooding ..... 13

    2.3 Residual Flood Risk ..... 13

    2.4 Flood Mitigation Measures ..... 14

**3.0 NATIONAL PLANNING POLICY FRAMEWORK ..... 15**

    3.1 Sequential Test ..... 15

    3.2 Climate Change ..... 15

**4.0 DRAINAGE STRATEGY ..... 16**

    4.1 Proposals for surface water disposal..... 16

    4.2 Proposals for foul water disposal..... 17

    4.3 Residual flood risk..... 17

    4.4 Mitigation measures ..... 17

**5.0 CONCLUSIONS ..... 18**



## APPENDICES

Appendix 1 – Hallam Land Management	Location plan
Appendix 2 – Powers & Tiltman Ltd	Topographical survey
Appendix 3 – Stantec	Illustrative Masterplan
Appendix 4 - Environment Agency	Online flood mapping
Appendix 5 – Ribble Valley Borough Council	SFRA maps
Appendix 6 – United Utilities	Sewer assets plan
Appendix 7 - Eastwood CE	Surface water flood overlay plan
	Attenuation calculations

*Issue 1: 03 December 2024*

*Issue 2: 14 February 2025*

*Updated with new layout and associated drainage strategy text changes. Inclusion of new EA surface water flood maps and NPPF reference*

*Issue 3: 26 February 2025*

*Updated with new layout, location plan and minor text changes.*

## EXECUTIVE SUMMARY

The project comprises the proposed development of a 20.01 hectare greenfield site for residential use.

The Environment Agency's Flood Map for Planning shows the site to lie within Flood Zone 1.

For both the present day and climate change (2040-2060s) scenario there are four low to high risk surface water flow routes noted to cross the site with a south to north orientation: two are unnamed watercourses; one lining the woodland in the north and another crossing the centre of the site. There are two overland flow routes in the west of the site; one generated from greenfield runoff within the site boundary, the other originating from off-site runoff. The small isolated areas at low to high risk of surface water ponding are associated with topographic depressions.

The site is recorded to lie within Flood Zone 1 and is not at risk of fluvial flooding, however there are surface water overland flow paths crossing the site, therefore a sequential test should be considered for the site location in line with National Planning Policy Framework (February 2025). A Sequential Test has been undertaken by NJL Consulting and has been submitted in support of this application. The scope of the Sequential Test was agreed with Ribble Valley Borough Council.

The surface water flow routes corresponding with the unnamed watercourses crossing the site (on the north-eastern boundary and in the centre of the site) should be maintained by routing through or around the site. The proposed surface water drainage system will be designed to accommodate surface water flooding that is generated from greenfield runoff within the site boundary (central-western flow route).

Ground levels will be altered to raise topographic depressions to match the remaining areas of the site. The raising of levels and presence of surface water drainage features will remove any surface water ponding and will lower the modelled flood depth.

Surface water disposal is considered in accordance with the drainage hierarchy in Building Regulations Part H 2015 and Planning Practice Guidance 'Reducing the causes and impacts of flooding', paragraph 80.

Infiltration type SuDS such as soakaways will not be viable due to the impermeable ground conditions (clay and silt) on the site. Soakaway testing was conducted by Lithos Consulting (Ref:

008/5200/REG/dw), however infiltration rates were not calculated as the water level did not fall to the 25% effective depth.

Surface water disposal will likely be via gravity to attenuation basins in the northern portions of the site before discharging via gravity to the central watercourse. This is subject to approval from the Lead Local Flood Authority and ordinary watercourse consent will also likely be required.

Surface water discharge will likely be restricted to the greenfield runoff rate of the developable catchment area of the central watercourse. The greenfield runoff rate has been proportionally split for the proposed west and east development areas to determine the proposed discharge rates, equating to 33.7 l/s and 18.3 l/s, subject to approval from the Lead Local Flood Authority.

Attenuation storage will be provided for rainfall events up to the return period of 1 in 100 year plus 50% climate change. The total estimated storage volume is approximately 2820 m<sup>3</sup> and 2040 m<sup>3</sup> for the central and eastern drainage networks respectively, subject to detailed design.

Source control SuDS features such as permeable paving (Type C) may be suitable, subject to site conditions, to provide source control water treatment and attenuation.

Foul effluent will likely discharge via gravity to the site low point before being pumped to the 300 mm public foul water sewer within the south-eastern boundary of the site, subject to approval from United Utilities.

Both the surface and foul water drainage systems will be offered for adoption by United Utilities or a NAV (New Appointments and Variations).

## 1.0 THE DEVELOPMENT

### 1.1 Introduction

This Flood Risk Assessment has been prepared in accordance with current National Planning Policy Framework<sup>1</sup> and Planning Practice Guidance 'Flood Risk and Coastal Change'<sup>2</sup> on the instruction of Hallam Land Management Ltd. Any other parties using the information in this report do so at their own risk, unless previously approved in writing. This report only outlines a general drainage strategy for the proposed development. Detailing of the drainage strategy should be provided within, and referenced from, the site specific Drainage Assessment Report (Ref: 49343-ECE-XX-XX-RP-C-0002) and associated plans.

The project comprises the proposed development of a 20.01 hectare greenfield site for residential use.

### 1.2 Site Location and Description

The site is located north of Langho, to the north of Blackburn, and is centred on coordinates 370282E, 434509N (Appendix 1).

The site is bounded by Longsight Road to the north, woodland and residential properties to the east, a railway line to the south, Whitehalgh Lane along the western border and a row of private residential dwellings on the north-western boundary.

The site is currently occupied by grassed farmland boarded by mature trees, hedgerows and wooden fences. An unnamed watercourse lines the woodland on the north-eastern border with a second passing through the south-north centreline of the site. There is also a public right of way crossing the eastern portion of the site.

The area east of the central watercourse falls from approximately 98.80 mAOD in the south to 77.00 mAOD in the north-west at an average gradient of 1 in 16. The area west of the central watercourse falls from approximately 102.33 mAOD in the south to 78.60 mAOD in the north at an average gradient of 1 in 17 (Appendix 2).

---

<sup>1</sup> <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

<sup>2</sup> <https://www.gov.uk/guidance/flood-risk-and-coastal-change>

Proposals are for the development of up to 300 household properties with access from Longsight Road to the north (Appendix 3).

### 1.3 Environment Agency - Flood Map for Planning

The Environment Agency's Flood Map for Planning (Figure 1 and Appendix 4) shows that the site lies within Flood Zone 1 (low risk); land having a less than 1 in 1,000 annual probability of flooding from rivers or sea.

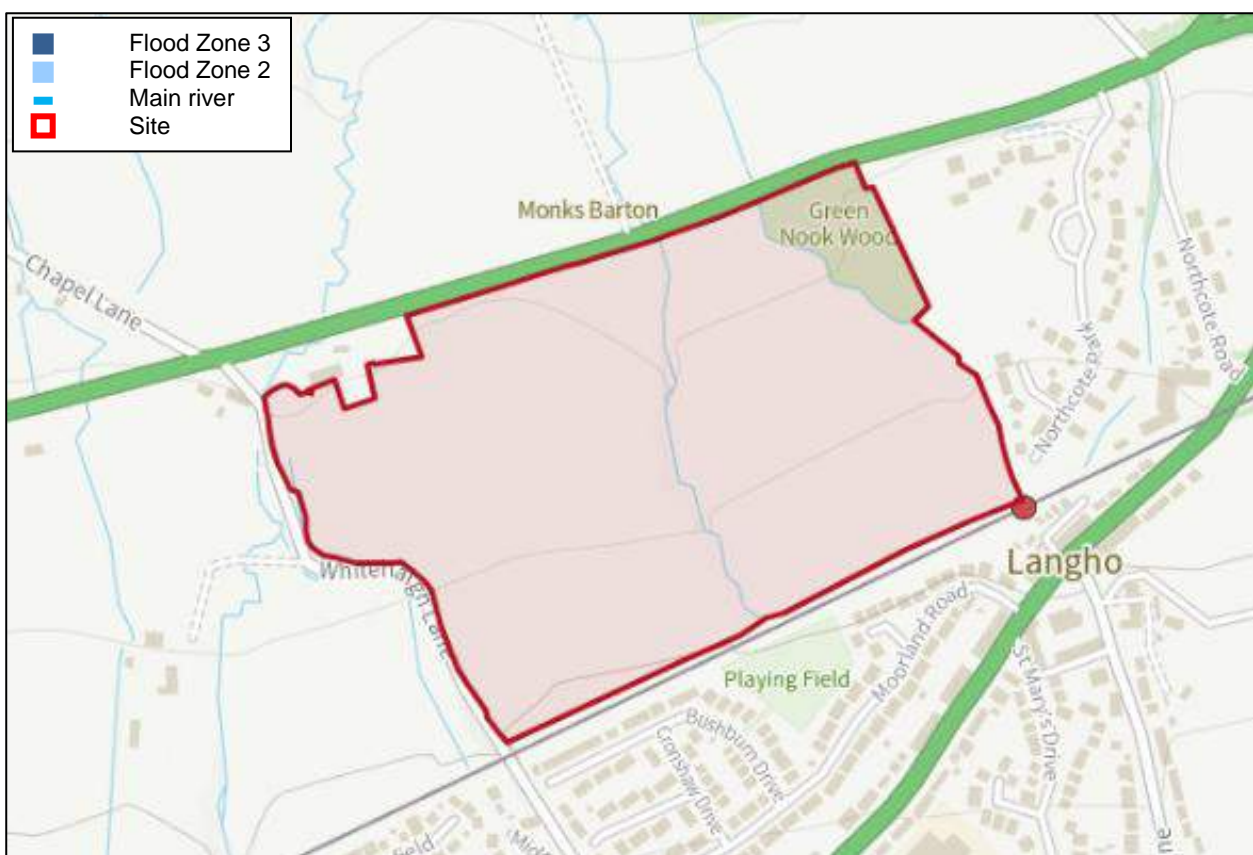


Figure 1: Environment Agency's Flood Map for Planning



## 1.4 Surface Water

The Environment Agency surface water flood risk maps for both the present day and climate change (2040-2060s) scenario (Figure 2, 3 and Appendix 3) show the majority of the site to be at very low risk of surface water flooding. There are four low to high risk surface water flow routes noted to cross the site with a south to north orientation. There are also small isolated areas at low to high risk of surface water ponding.

Very low risk refers to land having less than a 1 in 1,000 annual exceedance probability of flooding (0.1% AEP). Low risk refers to land having between a 1 in 1,000 and 1 in 100 annual exceedance probability of flooding (0.1% - 1% AEP). Medium risk refers to land having between 1 in 100 and 1 in 30 annual exceedance probability of flooding (1% - 3.33% AEP). High risk refers to land having a greater than 1 in 30 annual exceedance probability of flooding (>3.33% AEP).



Figure 2: Environment Agency – Risk of surface water flooding map (present day scenario)





Figure 3: Environment Agency – Risk of surface water flooding map (2040-2060s, climate change scenario)

### 1.5 Ribble Valley Borough Council Strategic Flood Risk Assessment

The Ribble Valley Borough Council's Strategic Flood Risk Assessment flood map is based on the Environment Agency flood map and records the site to be within Flood Zone 1 (Appendix 5).

## 2.0 FLOOD RISK

### 2.1 Potential Sources of Flooding

The Environment Agency and Strategic Flood Risk Assessment maps are intended for general guidance on flood risk and it is also necessary to consider other, more detailed, sources in relation to local factors.

#### 2.1.1 Fluvial and Tidal

There are two unnamed watercourses crossing the site; one lining the woodland in the north-east and another in the centre of the site. There is another unnamed watercourse located immediately north-west of the site. These watercourses are all tributaries of Bushburn Brook that is located approximately 510 m north of the site. These watercourses are not tidally influenced, therefore flood risk from these sources is assessed as negligible.

#### 2.1.2 Surface Water (depths and flow paths)

##### *Surface water flooding depths*

The Environment Agency surface water flood risk maps for the present day scenario and climate change scenario (2040-2060s) (Figure 3 and Appendix 4) show the surface water flooding on site to have a very low (< 0.1 %) to high (> 3.3 %) chance of depths reaching 0.3 m each year. The majority of surface water ponding is shown to have a very low (< 0.1%) chance of depths reaching 0.6 m, with a small area within the watercourse channels having a low risk (0.1%-1%). There are also isolated areas around the culvert entrance on the northern site boundary to have a medium (1% - 3.3%) to high (> 3.3%) chance of flood depths reaching 0.6 m.

##### *Surface water flow routes*

For both the present day and climate change (2040-2060s) scenario there are four low to high risk surface water flow routes crossing the site with a south to north orientation (Appendix 4). Two of the flow routes (lining the north-eastern woodland and in the centre of the site) correspond with unnamed watercourses crossing the site. One of the western flow routes is generated from greenfield runoff within the site boundary, whilst the other is generated off site to the south and joins an ordinary watercourse at a point north-west of the site.

The small isolated areas at low to high risk of surface water ponding are associated with topographic depressions.

### 2.1.3 Reservoir

The Environment Agency reservoir flood risk map (Figure 4 and Appendix 4) shows the whole site to lie outside of the maximum extent of flooding from reservoirs, even when there is flooding from rivers.



Figure 4: Environment Agency – Risk of reservoir flooding map

### 2.1.4 Groundwater

Groundwater is a potential flood risk to areas which are low lying and on permeable ground or, occasionally, to areas of higher ground in the vicinity of springs. There is no online public record of any flood risk to the site associated with groundwater.

### 2.1.5 Sewerage

The surrounding public sewer network is owned and maintained by United Utilities. There is no online public record of any flood risk to the site associated with these sewers.

## 2.2 Historic Flooding

Online mapping records the site to be outside the historical flood outline (Figure 5 and Appendix 4).



Figure 5: Environment Agency – Risk of historic flooding map

### 2.3 Residual Flood Risk

The site lies within Flood Zone 1 and is not at risk of fluvial or tidal flooding.

For both the present day and climate change (2040-2060s) scenario there are four low to high risk surface water flow routes noted crossing the site with a south to north orientation. Two unnamed



watercourses and two overland flow routes generated from greenfield runoff originating within and off site. Small isolated areas at low to high risk of surface water ponding are associated with topographic depressions.

These risks are not a development constraint and will be managed on the site within the surface water drainage strategy and by the mitigation measures in Section 2.4.

## **2.4 Flood Mitigation Measures**

The unnamed watercourses crossing the site (adjacent to the eastern woodland and in the centre of the site) should be maintained.

The western flow route originating off site should be maintained by being routed through or around the proposed development.

The proposed surface water drainage system will be designed to accommodate surface water flooding that is generated from greenfield runoff within the site boundary (central-western flow route).

The ground levels on the site will be altered to raise topographic depressions to match the remaining areas of the site. The raising of levels and presence of surface water drainage features will remove surface water ponding and will lower the modelled flood depth.

### **3.0 NATIONAL PLANNING POLICY FRAMEWORK**

The National Planning Policy Framework (February 2025) sets out the principles for assessing the suitability of sites for development, in relation to flood risk, as part of the planning process.

#### **3.1 Sequential Test**

Initially a Sequential Test is applied to the allocation of land suitable for development. The test is required for any development proposals in areas at risk of flooding, taking into account all sources of flood risk.

The aim of the Sequential Test is to steer new development to areas with the lowest probability of flooding. Development should not be allocated or permitted if there are reasonably available sites, appropriate for the proposed development, in areas with a lower probability of flooding.

The site lies within Flood Zone 1 and is not at risk of fluvial flooding, however there are surface water overland flow paths crossing the site, therefore a sequential test should be considered in line with National Planning Policy Framework (February 2025). A Sequential Test has been undertaken by NJL Consulting and has been submitted in support of this application. The scope of the Sequential Test was agreed with Ribble Valley Borough Council.

#### **3.2 Climate Change**

An issue emphasised in the Planning Policy Guidance is the requirement to take account of potential climate change effects. New development is generally accepted as having a 100 year design life for flood risk purposes. Climate change allowances for peak rainfall intensity<sup>3</sup> are to be selected based on the assigned values for the relevant Management Catchment and epoch suited to the design life of the development. For the Ribble Management Catchment the Upper End Allowance of 50 % should be used to assess storage requirements.

---

<sup>3</sup> <https://environment.data.gov.uk/hydrology/climate-change-allowances/rainfall>



## 4.0 DRAINAGE STRATEGY

Detailing of the drainage strategy is provided within a separate site specific Drainage Assessment Report (Ref: 49343-ECE-XX-XX-RP-C-0002) and associated plans. A summary of the proposed drainage strategy is noted below.

### 4.1 Proposals for surface water disposal

The final disposal strategy for surface water run-off requires detailed consideration and approval during the design phase of the project. The final design will need the approval of the relevant statutory bodies but will broadly follow these principles:

- Infiltration type SuDS such as soakaways will not be viable due to the impermeable ground conditions (clay and silt) on the site. Soakaway testing was conducted by Lithos Consulting (Ref: 008/5200/REG/dw), however infiltration rates were not calculated as the water level did not fall to the 25% effective depth.
- Surface water disposal will likely be via gravity to attenuation basins in the northern portions of the site before discharging via gravity to the central watercourse. This is subject to approval from the Lead Local Flood Authority and ordinary watercourse consent will also likely be required.
- Surface water discharge will likely be restricted to the greenfield runoff rate of the developable catchment area of the central watercourse. The greenfield runoff rate has been proportionally split for the proposed western and eastern development areas to determine the proposed discharge rates, equating to 33.7 l/s and 18.3 l/s, subject to approval from the Lead Local Flood Authority.
- Attenuation storage will be provided for rainfall events up to the return period of 1 in 100 year plus 50% climate change. The total estimated storage volume is approximately 2820 m<sup>3</sup> and 2040 m<sup>3</sup> for the central and eastern drainage networks respectively, subject to detailed design. Attenuation calculations are provided in Appendix 8.
- Source control SuDS features such as permeable paving (Type C) may be suitable, subject to site conditions, to provide source control water treatment and attenuation.

- The surface water drainage system will be offered for adoption to United Utilities or a NAV (New Appointments and Variations).

## **4.2 Proposals for foul water disposal**

Foul effluent will likely discharge via gravity to the site low point before being pumped to the 300 mm public foul water sewer within the south-eastern boundary of the site (Appendix 6), subject to approval from United Utilities.

The foul water drainage system will be offered for adoption to United Utilities or a NAV (New Appointments and Variations).

## **4.3 Residual flood risk**

There is a potential flood risk to site occupiers and to others from surface water runoff as a result of the development as all surface water will now be channelled within the drainage network rather than be allowed to flow overland. The residual risk of surface water flooding caused by channelling all surface runoff into the drainage network can be managed by the general flood mitigation measures outlined in Section 4.4.

## **4.4 Mitigation measures**

The proposed surface water drainage system is designed to current best practice and to the standards laid out in the publication 'Design and Construction Guidance for foul and surface water sewers' and Building Regulations Part H 2015.

In the event of surface water exceedance during extreme rainfall events the site is laid out so that surface water runoff is directed away from buildings, including those on neighbouring streets.

## 5.0 CONCLUSIONS

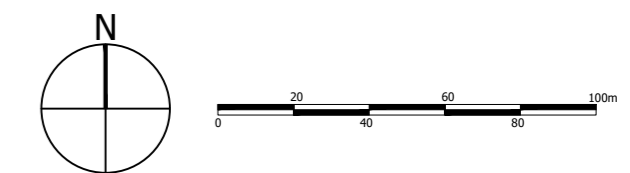
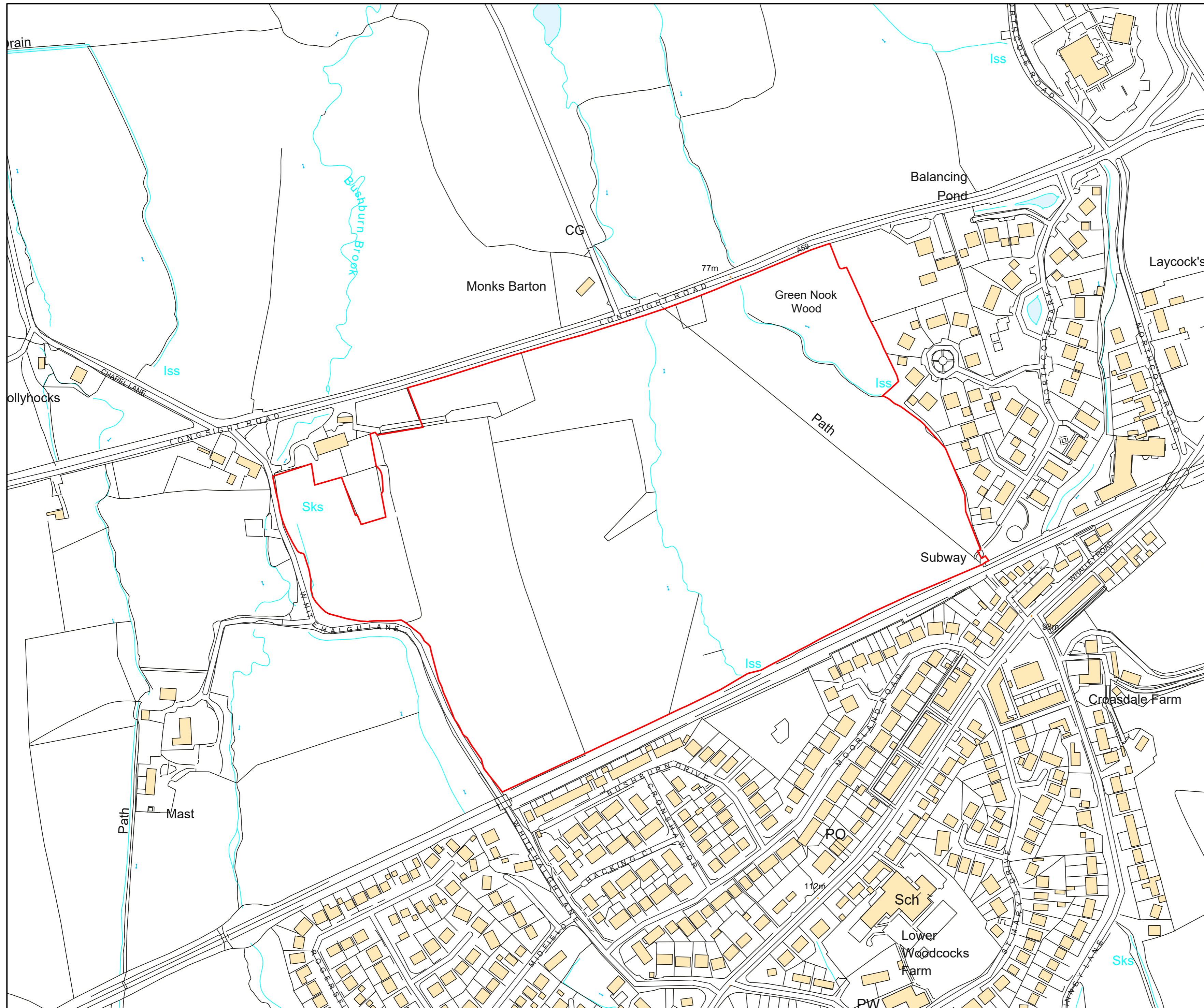
1. The site to lie within Flood Zone 1 and for the present and climate change (2040-2060s) scenario, there are four low to high risk surface water flow routes noted to cross the site with a south to north orientation: two are unnamed watercourses; one lining the woodland in the north-east and another crossing the centre of the site. There are two overland flow routes in the west of the site; one generated from greenfield runoff within the site boundary, the other originating from off-site runoff. There are also small isolated areas at low to high risk of surface water ponding associated with topographic depressions.
2. The Environment Agency's Flood Map for Planning shows the site to lie within Flood Zone 1 and is not at risk of fluvial flooding, however there are surface water overland flow paths crossing the site; therefore, a sequential test should be considered in line with National Planning Policy Framework (February 2025). A Sequential Test has been undertaken by NJL Consulting and has been submitted in support of this application. The scope of the Sequential Test was agreed with Ribble Valley Borough Council.
3. The surface water flow routes corresponding with the unnamed watercourses crossing the site (on the north-eastern boundary and in the centre of the site) should be maintained by routing through or around the site.
4. The proposed surface water drainage system will be designed to accommodate surface water flooding that is generated from greenfield runoff within the site boundary (central-western flow route).
5. Ground levels will be altered to raise topographic depressions to match the remaining areas of the site. The raising of levels and presence of surface water drainage features will remove any surface water ponding and will lower the modelled flood depth.
6. Infiltration type SuDS such as soakaways will not be viable due to the impermeable ground conditions (clay and silt) on the site. Soakaway testing was conducted by Lithos Consulting (Ref: 008/5200/REG/dw), however infiltration rates were not calculated as the water level did not fall to the 25% effective depth.

7. Surface water disposal will likely be via gravity to attenuation basins in the northern portions of the site before discharging via gravity to the central watercourse. This is subject to approval from the Lead Local Flood Authority and ordinary watercourse consent will also likely be required.
8. Surface water discharge will likely be restricted to the greenfield runoff rate of the developable catchment area of the central watercourse. The greenfield runoff rate has been proportionally split for the proposed west and east development areas to determine the proposed discharge rates, equating to 33.7 l/s and 18.3 l/s, subject to approval from the Lead Local Flood Authority.
9. Attenuation storage will be provided for rainfall events up to the return period of 1 in 100 year plus 50% climate change. The total estimated storage volume is approximately 2820 m<sup>3</sup> and 2040 m<sup>3</sup> for the central and eastern drainage networks respectively, subject to detailed design.
10. Source control SuDS features such as permeable paving (Type C) may be suitable, subject to site conditions, to provide source control water treatment and attenuation.
11. Foul effluent will likely discharge via gravity to the site low point before being pumped to the 300 mm public foul water sewer within the south-eastern boundary of the site subject to approval from United Utilities.
12. Both the surface and foul water drainage systems will be offered for adoption to United Utilities or a NAV (New Appointments and Variations).
13. The level of risk and safeguards available are considered appropriate to this class of development.

**APPENDICES**

**APPENDIX 1**





Project  
**LAND OFF LONGSIGHT ROAD,  
 LANGHO**  
 Drawing Title  
**SITE LOCATION PLAN**

Date 29.10.2024	Scale 1:2500 @ A2	Drawn by SN	Check by JB
Project No 333101612	Drawing No 0100	Revision -	



Stantec UK Limited  
 100 Barbirolli Square  
 Manchester  
 M2 3PW  
 T: 0161 245 8900



stantec.com\uk

**APPENDIX 2**





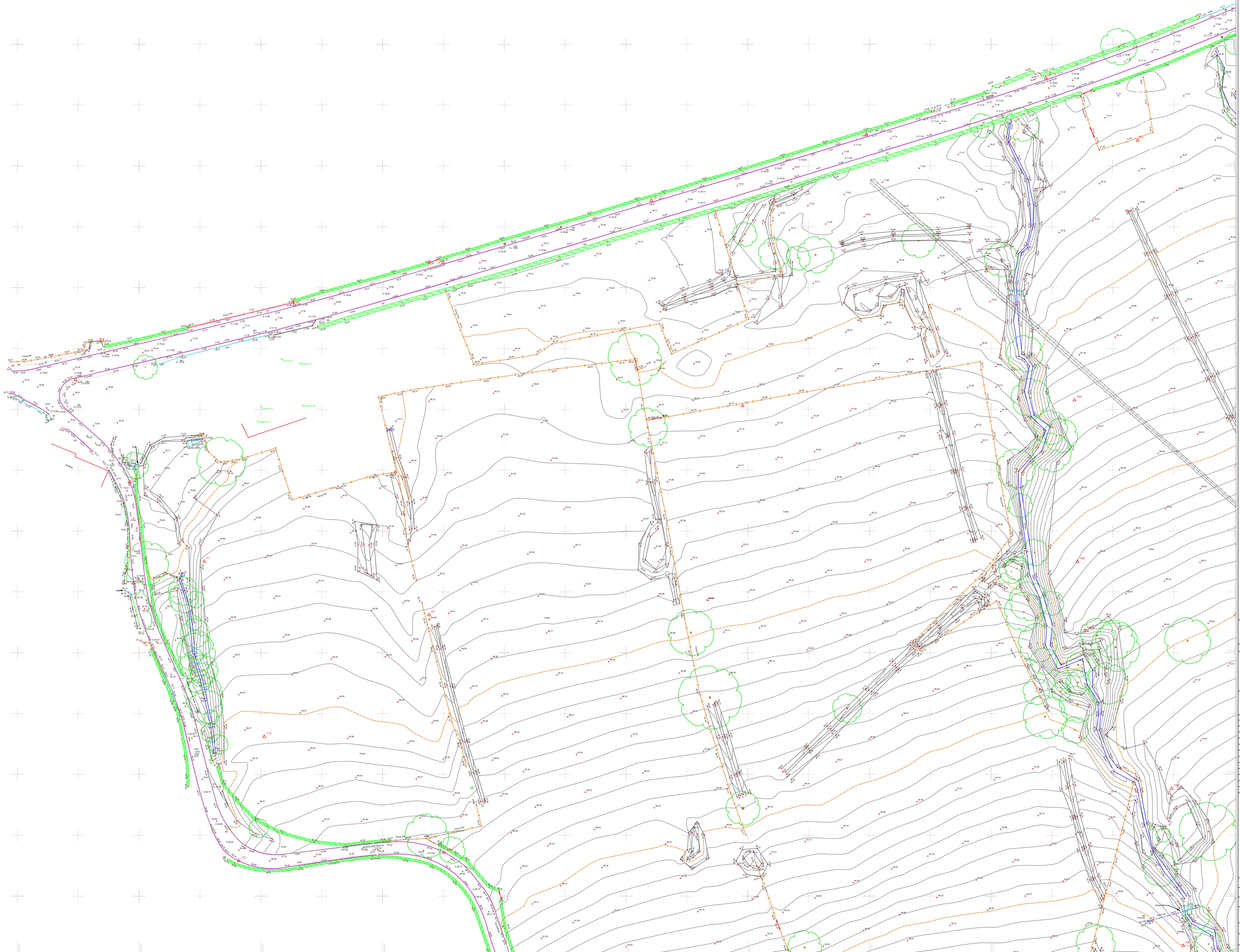


Legend

- AV Air valve
- BV Bubbler
- BOL British Telecom cover
- CATV Cable television cover
- CC Concrete kerb
- DPC Damp proof coating level
- Gambler Gambling table
- ELEC Electric cover
- EP Earthing plate
- Fence BR Iron railing fence
- Fence CB Chain link fence
- Fence CP&P Concrete post & panel fence
- Fence FFL Flat roof fence
- Fence FWS Flat roof wire fence
- Fence FWE Flat roof wire fence
- Fence FP Flat roof fence
- Fence FPP Flat roof fence
- FIB Fibre optic
- FV Flow vent
- FV1 Fibre optic vent
- G Gully
- GC4 Gas cover
- IC Inspection chamber
- IP Inspection point
- IPV Invert level
- LP Lamp post
- LT Light
- M Telecommunications cover
- MM Metal manhole
- PM Concrete kerb
- PMV Parking meter machine
- RS Road sign
- RS1 Road sign
- SB Sewer
- SB1 Sewer
- SBS Sewer
- SP Sign post
- SPS Safety lighting surface
- ST Street light
- SV Service valve
- SV1 Service valve
- TP Temporary lamp post
- TR Traffic light
- TR1 Traffic light
- TR2 Traffic light
- W Water cover
- WL Water level
- WO Wash out

Name	Grid	Northings	Height
AV1	434020.00	434020.00	82.176
AV2	434020.10	434020.10	82.176
AV3	434020.20	434020.20	82.176
AV4	434020.30	434020.30	82.176
AV5	434020.40	434020.40	82.176
AV6	434020.50	434020.50	82.176
AV7	434020.60	434020.60	82.176
AV8	434020.70	434020.70	82.176
AV9	434020.80	434020.80	82.176
AV10	434020.90	434020.90	82.176
AV11	434021.00	434021.00	82.176
AV12	434021.10	434021.10	82.176
AV13	434021.20	434021.20	82.176
AV14	434021.30	434021.30	82.176
AV15	434021.40	434021.40	82.176
AV16	434021.50	434021.50	82.176
AV17	434021.60	434021.60	82.176
AV18	434021.70	434021.70	82.176
AV19	434021.80	434021.80	82.176
AV20	434021.90	434021.90	82.176
AV21	434022.00	434022.00	82.176
AV22	434022.10	434022.10	82.176
AV23	434022.20	434022.20	82.176
AV24	434022.30	434022.30	82.176
AV25	434022.40	434022.40	82.176
AV26	434022.50	434022.50	82.176
AV27	434022.60	434022.60	82.176
AV28	434022.70	434022.70	82.176
AV29	434022.80	434022.80	82.176
AV30	434022.90	434022.90	82.176
AV31	434023.00	434023.00	82.176
AV32	434023.10	434023.10	82.176
AV33	434023.20	434023.20	82.176
AV34	434023.30	434023.30	82.176
AV35	434023.40	434023.40	82.176
AV36	434023.50	434023.50	82.176
AV37	434023.60	434023.60	82.176
AV38	434023.70	434023.70	82.176
AV39	434023.80	434023.80	82.176
AV40	434023.90	434023.90	82.176
AV41	434024.00	434024.00	82.176
AV42	434024.10	434024.10	82.176
AV43	434024.20	434024.20	82.176
AV44	434024.30	434024.30	82.176
AV45	434024.40	434024.40	82.176
AV46	434024.50	434024.50	82.176
AV47	434024.60	434024.60	82.176
AV48	434024.70	434024.70	82.176
AV49	434024.80	434024.80	82.176
AV50	434024.90	434024.90	82.176
AV51	434025.00	434025.00	82.176
AV52	434025.10	434025.10	82.176
AV53	434025.20	434025.20	82.176
AV54	434025.30	434025.30	82.176
AV55	434025.40	434025.40	82.176
AV56	434025.50	434025.50	82.176
AV57	434025.60	434025.60	82.176
AV58	434025.70	434025.70	82.176
AV59	434025.80	434025.80	82.176
AV60	434025.90	434025.90	82.176
AV61	434026.00	434026.00	82.176
AV62	434026.10	434026.10	82.176
AV63	434026.20	434026.20	82.176
AV64	434026.30	434026.30	82.176
AV65	434026.40	434026.40	82.176
AV66	434026.50	434026.50	82.176
AV67	434026.60	434026.60	82.176
AV68	434026.70	434026.70	82.176
AV69	434026.80	434026.80	82.176
AV70	434026.90	434026.90	82.176
AV71	434027.00	434027.00	82.176
AV72	434027.10	434027.10	82.176
AV73	434027.20	434027.20	82.176
AV74	434027.30	434027.30	82.176
AV75	434027.40	434027.40	82.176
AV76	434027.50	434027.50	82.176
AV77	434027.60	434027.60	82.176
AV78	434027.70	434027.70	82.176
AV79	434027.80	434027.80	82.176
AV80	434027.90	434027.90	82.176
AV81	434028.00	434028.00	82.176
AV82	434028.10	434028.10	82.176
AV83	434028.20	434028.20	82.176
AV84	434028.30	434028.30	82.176
AV85	434028.40	434028.40	82.176
AV86	434028.50	434028.50	82.176
AV87	434028.60	434028.60	82.176
AV88	434028.70	434028.70	82.176
AV89	434028.80	434028.80	82.176
AV90	434028.90	434028.90	82.176
AV91	434029.00	434029.00	82.176
AV92	434029.10	434029.10	82.176
AV93	434029.20	434029.20	82.176
AV94	434029.30	434029.30	82.176
AV95	434029.40	434029.40	82.176
AV96	434029.50	434029.50	82.176
AV97	434029.60	434029.60	82.176
AV98	434029.70	434029.70	82.176
AV99	434029.80	434029.80	82.176
AV100	434029.90	434029.90	82.176
AV101	434030.00	434030.00	82.176
AV102	434030.10	434030.10	82.176
AV103	434030.20	434030.20	82.176
AV104	434030.30	434030.30	82.176
AV105	434030.40	434030.40	82.176
AV106	434030.50	434030.50	82.176
AV107	434030.60	434030.60	82.176
AV108	434030.70	434030.70	82.176
AV109	434030.80	434030.80	82.176
AV110	434030.90	434030.90	82.176
AV111	434031.00	434031.00	82.176
AV112	434031.10	434031.10	82.176
AV113	434031.20	434031.20	82.176
AV114	434031.30	434031.30	82.176
AV115	434031.40	434031.40	82.176
AV116	434031.50	434031.50	82.176
AV117	434031.60	434031.60	82.176
AV118	434031.70	434031.70	82.176
AV119	434031.80	434031.80	82.176
AV120	434031.90	434031.90	82.176
AV121	434032.00	434032.00	82.176
AV122	434032.10	434032.10	82.176
AV123	434032.20	434032.20	82.176
AV124	434032.30	434032.30	82.176
AV125	434032.40	434032.40	82.176
AV126	434032.50	434032.50	82.176
AV127	434032.60	434032.60	82.176
AV128	434032.70	434032.70	82.176
AV129	434032.80	434032.80	82.176
AV130	434032.90	434032.90	82.176
AV131	434033.00	434033.00	82.176
AV132	434033.10	434033.10	82.176
AV133	434033.20	434033.20	82.176
AV134	434033.30	434033.30	82.176
AV135	434033.40	434033.40	82.176
AV136	434033.50	434033.50	82.176
AV137	434033.60	434033.60	82.176
AV138	434033.70	434033.70	82.176
AV139	434033.80	434033.80	82.176
AV140	434033.90	434033.90	82.176
AV141	434034.00	434034.00	82.176
AV142	434034.10	434034.10	82.176
AV143	434034.20	434034.20	82.176
AV144	434034.30	434034.30	82.176
AV145	434034.40	434034.40	82.176
AV146	434034.50	434034.50	82.176
AV147	434034.60	434034.60	82.176
AV148	434034.70	434034.70	82.176
AV149	434034.80	434034.80	82.176
AV150	434034.90	434034.90	82.176
AV151	434035.00	434035.00	82.176
AV152	434035.10	434035.10	82.176
AV153	434035.20	434035.20	82.176
AV154	434035.30	434035.30	82.176
AV155	434035.40	434035.40	82.176
AV156	434035.50	434035.50	82.176
AV157	434035.60	434035.60	82.176
AV158	434035.70	434035.70	82.176
AV159	434035.80	434035.80	82.176
AV160	434035.90	434035.90	82.176
AV161	434036.00	434036.00	82.176
AV162	434036.10	434036.10	82.176
AV163	434036.20	434036.20	82.176
AV164	434036.30	434036.30	82.176
AV165	434036.40	434036.40	82.176
AV166	434036.50	434036.50	82.176
AV167	434036.60	434036.60	82.176
AV168	434036.70	434036.70	82.176
AV169	434036.80	434036.80	82.176
AV170	434036.90	434036.90	82.176
AV171	434037.00	434037.00	82.176
AV172	434037.10	434037.10	82.176
AV173	434037.20	434037.20	82.176
AV174	434037.30	434037.30	82.176
AV175	434037.40	434037.40	82.176
AV176	434037.50	434037.50	82.176
AV177	434037.60	434037.60	82.176
AV178	434037.70	434037.70	82.176
AV179	434037.80	434037.80	82.176
AV180	434037.90	434037.90	82.176
AV181	434038.00	434038.00	82.176
AV182	434038.10	434038.10	82.176
AV183	434038.20	434038.20	82.176
AV184	434038.30	434038.30	82.176
AV185	434038.40	434038.40	82.176
AV186	434038.50	434038.50	82.176
AV187	434038.60	434038.60	82.176
AV188	434038.70	434038.70	82.176
AV189	434038.80	434038.80	82.176
AV190	434038.90	434038.90	82.176
AV191	434039.00	434039.00	82.176
AV192	434039.10	434039.10	82.176
AV193	434039.20	434039.20	82.176
AV194	434039.30	434039.30	82.176
AV195	434039.40	434039.40	82.176
AV196	434039.50	434039.50	82.176
AV197	434039.60	434039.60	82.176
AV198	434039.70	434039.70	82.176
AV199	434039.80	434039.80	82.176
AV200	434039.90	434039.90	82.176
AV201	434040.00	434040.00	82.176
AV202	434040.10	434040.10	82.176
AV203	434040.20	434040.20	82.176
AV204	434040.30	434040.30	82.176
AV205	434040.40	434040.40	82.176
AV206	434040.50	434040.50	82.176
AV207	434040.60	434040.60	82.176
AV208	434040.70	434040.70	82.176
AV209	434040.80	434040.80	82.176
AV210	434040.90	434040.90	82.176
AV211	434041.00	434041.00	82.176
AV212	434041.10	434041.10	82.176
AV213	434041.20	434041.20	82.176
AV214	434041.30	434041.30	82.176
AV215	434041.40	434041.40	82.176
AV216	434041.50	434041.50	82.176
AV217	434041.60	434041.60	82.176
AV218	434041.70	434041.70	82.176
AV219	434041.80	434041.80	82.176
AV220	434041.90	434041.90	82.176
AV221	434042.00	434042.00	82.176
AV222	434042.10	434042.10	





Legend	
AV	As value
BR	Boundary
BOL	Bolted
BT	Brown Telecom cover
CATV	Cable telecom cover
CL	Concrete
DPC	Damp proof coating level
EASER	Earthed
ELEC	Electric cover
EP	Electric pole
Fence BR	Iron railing fence
Fence CB	Chainlink fence
Fence CP&P	Concrete post & rail fence
Fence FP	Fieldstone fence
Fence FM	Post and rail fence
Fence PP	Post and panel fence
Fence PR	Flax and rail fence
FB	Fence foot
FH	Fire hydrant
G	Gully
GA	Gully cover
IC	Inspection chamber
IL	Iron level
IP	Iron post
IR	Iron
LI	Light
LT	Light pole
MT	Metric
N	Natural
NUT	Telecommunications cover
OSM	Ordnance Survey Bench Mark
PM	Parking
PL	Plotting line
RS	Road sign
RSW	Road sign wall
SB	Switch box
SD	Signpost
SPT	Safety stopping surface
ST	Stop sign
SU	Service valve
TM	Telecom Bench Mark
TP	Telegraph pole
W	Water cover
WL	Water level
WO	Wash out

Point	Easting	Northing	Height
P1	370000.00	434000.00	62.75
P2	370000.00	434000.00	62.75
P3	370000.00	434000.00	62.75
P4	370000.00	434000.00	62.75
P5	370000.00	434000.00	62.75
P6	370000.00	434000.00	62.75
P7	370000.00	434000.00	62.75
P8	370000.00	434000.00	62.75
P9	370000.00	434000.00	62.75
P10	370000.00	434000.00	62.75
P11	370000.00	434000.00	62.75
P12	370000.00	434000.00	62.75
P13	370000.00	434000.00	62.75
P14	370000.00	434000.00	62.75
P15	370000.00	434000.00	62.75
P16	370000.00	434000.00	62.75
P17	370000.00	434000.00	62.75
P18	370000.00	434000.00	62.75
P19	370000.00	434000.00	62.75
P20	370000.00	434000.00	62.75

KEY DIMENSIONS SHOULD BE CHECKED ON SITE BEFORE COMMENCEMENT OF ANY WORKS

NOTE  
 Grid and Levels related to OS using GPS active network

Amendments		
Date	Surveyor	Description of work

  
**Powers & Tiltman Ltd**  
 Land Surveyors

Meridian House  
 58-60 Hillside Road, Frodsham, Cheshire WA6 6AG  
 Tel: 01928 734473 Fax: 01928 735573  
 Email: mail@powersiltman.co.uk  
 www.powersiltman.co.uk

**Land off Longsight Road**  
**Langho**  
**Topographical Survey**  
 Client : **Hallam Land Management**

Surveyed By : NS Date : 25/02/2014 Scale  
 Drawn By : NS Drawing No : 6886/01 Sheet 3 1:500  
 Checked By : MP Amendment :