FLOOD RISK ASSESSMENT

LOCATION:
Land off Hothersall Lane, Hothersall

CLIENT:
John Eccles

DOCUMENT REF:
26170-FRA-001

DATE:
02.03.26

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CONTENTS & AMENDMENT HISTORY

Revision	Description	Date	Author	Checked
A	First Issue	March 2026	H Dyson	A Dyson

1.0 INTRODUCTION

This Flood Risk Assessment (FRA) has been prepared in support of a planning application and accords with the requirements of the National Planning Policy Framework (NPPF), the Planning Practice Guidance (PPG), and relevant local and national flood risk policy.
The purpose of this FRA is to demonstrate that the proposed development will be safe for its lifetime, will not increase flood risk elsewhere, and where possible will reduce flood risk overall, taking account of all sources of flooding including fluvial, pluvial, groundwater, sewer, and artificial sources.

The assessment has been undertaken using a proportionate and risk-based approach appropriate to the scale, nature and flood risk vulnerability classification of the proposed development.

Site Name	Land off Hothersall Lane
Location	Hothersall Lane, Hothersall PR3 2XB
Application Site Area (ha)	0.325 ha
Development Type	Commercial
NPPF Vulnerability	Less Vulnerable
EA Flood Zone	Flood Zone 1
EA Office	Lancashire
Local Planning Authority	Lancashire County Council

Table 1.1 - Site Summary

1.1 SOURCES OF DATA

The report is based on the following information:

i. Site Location Plan (Appendix A)
ii. Proposed Site Plan (Appendix B)
iii. Construction Model (Appendix C)
iv. Topographical Survey (Appendix D)
v. Environment Agency Flood Map for Planning (Rivers and Sea)
vi. Environment Agency Risk of Flooding from Surface Water Mapping
vii. Environment Agency Reservoir Flood Risk Mapping
viii. Published Strategic Flood Risk Assessment (SFRA) for the Local Planning Authority area
ix. Ordnance Survey mapping
x. Professional judgement informed by similar developments in comparable flood risk settings

1.2 EXISTING SITE

The site is located to the eastern edge of the village of Hothersall. The site is approximately 0.325 ha in size and is bounded by Hothersall Lane to the east and greenfields to the north and south.

There are no significant waterbodies or main rivers located in close proximity to the site. An ordinary watercourse is present to the western boundary; however, due to local topography and the site's elevated position relative to this feature, it does not materially increase fluvial flood risk to the site.

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The site is previously developed (brownfield) land and currently benefits from an established drainage network associated with the existing agricultural building and access track. There is no evidence of historic fluvial flooding affecting the site. Surface water flow paths generally follow local topography and do not preferentially route toward the existing building footprint.

Figure 1.2 - Site Location

1.3 PROPOSED DEVELOPMENT

The proposed development comprises the change of use of an existing agricultural building to commercial livery stables together with the formation of a sand paddock and associated parking and turning areas.

The development represents a modest change of use of an existing building and does not introduce a more vulnerable land use within an area of increased flood risk. No basements are proposed and the development will not result in land raising within areas susceptible

to flooding. As such, the proposals will not materially alter site hydrology or floodplain storage

1.4 FLOOD RISK PLANNING POLICY

National Planning Policy Framework

The NPPF requires development to be directed away from areas at highest risk of flooding through application of the Sequential Test and, where necessary, the Exception Test.

The PPG classifies flood risk vulnerability and confirms that development within Flood Zone 1 is appropriate for all land uses, subject to consideration of other sources of flooding and surface water management.

This FRA confirms that the Sequential Test is satisfied as the site lies entirely within Flood Zone 1, and that no Exception Test is required.

Flood Zones

The Flood Zone Map for Planning has been prepared by the Environment Agency. This identifies areas potentially at risk of flooding from fluvial or tidal sources. An extract from the mapping is included as Figure 1.4.

Figure 1.4 - Environment Agency Flood Zone Mapping

The site is shown to be located entirely within Flood Zone 1 (Low Probability) therefore the site is considered to be low risk of flooding. Flood Zone 1 is defined as land assessed as having less than a 0.1% annual probability of flooding from fluvial and tidal sources.

Table 2 of the Planning Practice Guidance classifies land use. Under these classifications the proposed commercial development is considered to be 'Less Vulnerable' to the potential impacts of flooding.

Table 3 of the Planning Practice Guidance identifies that any development is considered appropriate within Flood Zone 1.

Flood Risk Vulnerability Classification	Essential Infrastructure	Water Compatible	Highly Vulnerable	More Vulnerable
Flood Zone 1	✓	✓	✓	✓
Flood Zone 2	✓	✓	Exception test required	✓
Flood Zone 3a	Exception test required	✓	**x**	Exception test required
Flood Zone 3b	Exception test required	✓	**x**	**x**

1.5 OTHER RELEVANT POLICY AND GUIDANCE

Strategic Flood Risk Assessment

The Lancashire County Council Strategic Flood Risk Assessment (SFRA) was prepared to review flood risks on a much wider scale to assess the potential for new development within the study area. The SFRA was used as an evidence base for Local Development Frameworks for each Local Planning Authority.

The SFRA therefore aims to bring together all available flood risk information for a variety of sources to provide a robust assessment. The SFRA therefore is useful for this site-specific FRA by highlighting available data and instances of known flooding in the area. Although written under the guidance of Planning Policy Statement 25, the SFRA is still considered to include relevant information.

Regard has also been had to the Local Planning Authority's Strategic Flood Risk Assessment (SFRA), which provides locally specific evidence relating to surface water, groundwater, and historic flooding.

Where relevant, this FRA also aligns with the National Standards for Sustainable Drainage Systems (June 2025), particularly in respect of ensuring that surface water is managed as close to source as reasonably practicable and that exceedance is safely routed.

2.0 POTENTIAL SOURCES OF FLOOD RISK

Each potential source of flooding has been assessed independently in accordance with PPG guidance. Both the risk to the site and the potential for the development to affect flood risk elsewhere have been considered.

The table below identifies the potential sources of flood risk to the site, and the impacts which the development could have in the wider catchment prior to mitigation. These are discussed in greater detail in the forthcoming section. The mitigation measures proposed to address flood risk issues and ensure the development is appropriate for its location are discussed within Section 3.0.

Flood Source	Potential Risk				Description
	High	Medium	Low	None	
Fluvial			X		The site is located in flood zone 1.
Tidal				X	There are no tidal influences effecting the site.
Canals				X	None present.
Groundwater			X		Ground conditions are not conducive to fluctuating groundwater levels.
Reservoirs and waterbodies				X	The site is shown to fall outside of the catchment for reservoir and waterbodies flooding.
Sewers			X		The site in question is higher than the surrounding sewers therefore there is a very low risk.
Pluvial runoff		X			A small area of the access track is at risk of surface water flooding.
Effect of Development on Wider Catchment				X	The impermeable area of the site is being altered.

Table 2.1 - Pre-Mitigation Sources of Flood Risk

2.1 FLUVIAL FLOOD RISK

The Environment Agency Flood Map for Planning confirms that the site lies wholly within Flood Zone 1, defined as land having a less than 0.1% annual probability of flooding from rivers or the sea.

No part of the site is affected by the 1 in 100 year or 1 in 100 year plus climate change fluvial flood extents. The nearest watercourses are located at lower elevations and are hydraulically disconnected from the site.

On this basis, fluvial flood risk to the proposed development is considered to be low.

2.2 GROUNDWATER FLOOD RISK

The Environment Agency mapping indicates that the site is not located within an area at significant risk of groundwater flooding.

While no site-specific groundwater monitoring data is available, the local geology and absence of recorded historic groundwater flooding suggest that groundwater emergence at the surface is unlikely.

Groundwater flood risk is therefore considered to be low and does not constrain the proposed development.

2.3 FLOOD RISK FROM RESERVOIRS & LARGE WATERBODIES

Reservoir failure flood risk mapping has been prepared by the Environment Agency, this shows the largest area that might be flooded if a reservoir were to fail and release the water it holds. The map displays a worst-case scenario and is only intended as a guide. An extract from the mapping is included as Figure 2.3.

Figure 2.3 - Environment Agency Reservoir Failure Flood Risk Map

Reservoir flood risk mapping indicates that the site is outside any mapped reservoir inundation extents. Access and egress routes are similarly unaffected.
Given the residual and extreme nature of reservoir failure scenarios, no specific mitigation is required.

As such, there is considered to be no risk from reservoir flooding.

2.4 FLOOD RISK FROM SEWERS

Flooding from public sewers typically occurs during extreme rainfall events when capacity is exceeded.

The site is not located within a known sewer flooding hotspot, and local topography indicates that the site sits above surrounding carriageways and drainage corridors.

The risk of flooding from sewers is therefore considered low.

2.5 PLUVIAL FLOOD RISK

Risk of flooding from surface water mapping has been prepared by the Environment Agency, this shows the potential flooding which could occur when rainwater does not drain away through the normal drainage systems or soak into the ground but lies on or flows over the ground instead. An extract from the mapping is included as Figure 2.5

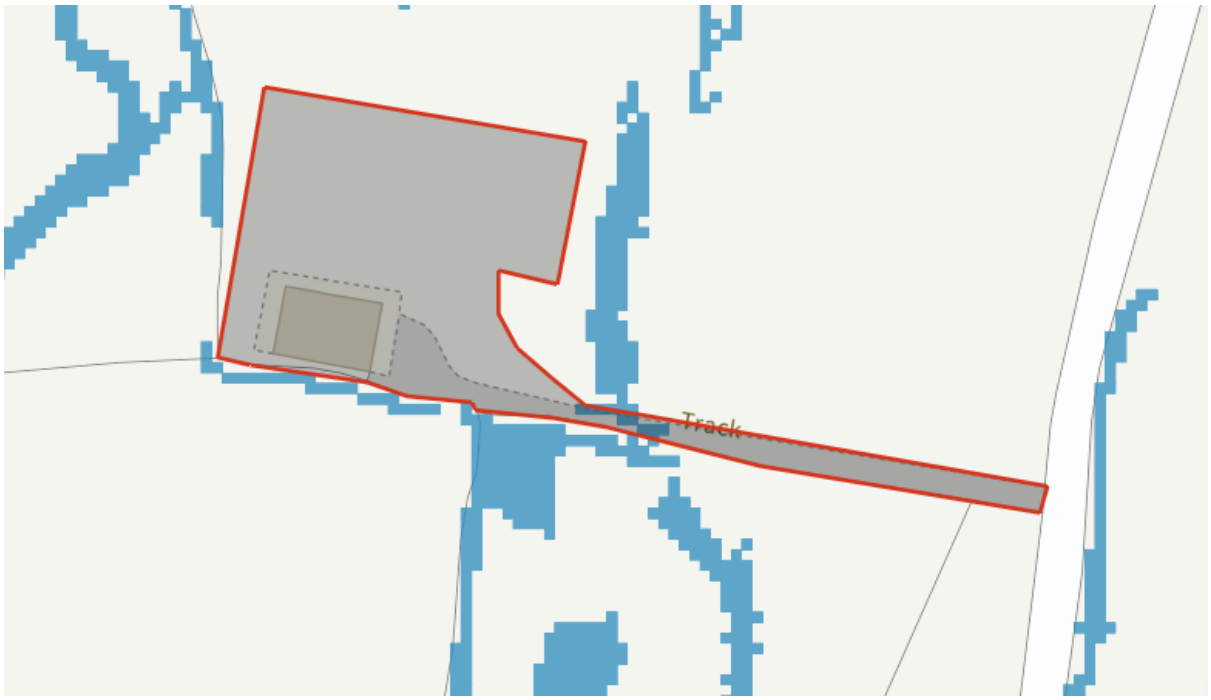


Figure 2.5 - Risk of Flooding from Surface Water Mapping

Environment Agency Risk of Flooding from Surface Water mapping indicates that a small section of the site access track may be affected by shallow surface water ponding during extreme rainfall events.

The area is confined to external parts of the site and does not encroach upon the existing or proposed building footprints. Surface water depths are shallow and velocities low.

Finished floor levels remain above surrounding ground levels, and exceedance flows are able to route safely around buildings without posing a hazard to occupants.

Surface water flood risk is therefore considered limited and manageable through appropriate site layout and drainage design and does not preclude the proposed development.

2.6 EFFECT OF DEVELOPMENT ON WIDER CATCHMENT

2.6.1 Development Drainage

The proposed development will introduce some additional impermeable areas associated with the paddock construction and parking areas. Surface water generated by the development will be managed through a sustainable drainage approach designed in accordance with current SuDS guidance.

The drainage strategy will ensure that surface water runoff rates and volumes are appropriately managed so that the development does not increase flood risk elsewhere.

2.7 CLIMATE CHANGE CONSIDERATIONS

In accordance with the National Planning Policy Framework and Planning Practice Guidance, the potential impacts of climate change on flood risk have been considered over the lifetime of the development.

Climate change is expected to increase the frequency and intensity of extreme rainfall events, which primarily affects surface water flood risk. The proposed development has been assessed with regard to these potential changes.

The site lies wholly within Flood Zone 1 and is not affected by fluvial flood extents, including the 1 in 100 year plus climate change event. Surface water flood risk mapping already represents extreme rainfall scenarios and therefore provides an appropriate basis for assessing climate change impacts.

Finished floor levels, site layout and surface water exceedance routing ensure that the development will remain safe for its lifetime, taking account of climate change, and will not increase flood risk elsewhere.

3.0 FLOOD RISK MITIGATION

Although the site is at low risk of flooding, proportionate mitigation measures have been considered to address residual risks and to ensure compliance with national and local policy.

Section 2.0 has identified the sources of flooding which could potentially pose a risk to the site and the proposed development. This section of the FRA sets out the mitigation measures which are to be considered within the proposed development detail design to address and reduce the risk of flooding to within acceptable levels.

3.1 SITE ARRANGEMENTS

3.1.1 Sequential Arrangement

Although the site lies entirely within Flood Zone 1, consideration has been given to the arrangement of the site to ensure that areas potentially affected by surface water ponding are avoided where reasonably practicable.

Surface water runoff will be managed through the implementation of a drainage system designed in accordance with sustainable drainage principles. Any exceedance flows will be directed away from buildings and towards external areas of the site where temporary ponding can occur without posing a risk to users.

3.1.2 Finished Levels

Finished floor levels will be set to match or exceed existing ground levels and will remain above surrounding surface water flow paths.

This ensures resilience against extreme rainfall events and provides additional freeboard above any shallow surface water ponding.

3.2 SAFE ACCESS & EGRESS

Safe access and egress to and from the site has been considered with reference to Environment Agency guidance and flood hazard principles.

The site is accessed via Hothersall Lane which lies entirely outside mapped fluvial flood extents. Environment Agency surface water flood mapping indicates only limited shallow ponding along sections of the access track during extreme rainfall events.

Flood depths and velocities are anticipated to be low and would not pose a significant hazard to vehicles or pedestrians. As such, safe access and egress can be maintained during extreme rainfall events and emergency vehicle access would not be impeded.

3.3 FLOOD WARNING & EMERGENCY PLANNING

The site is not located within an area benefitting from Environment Agency Flood Warning or Flood Alert services, as it lies outside fluvial flood risk areas.

Given the low probability of flooding and absence of deep or fast-flowing floodwater, a site-specific Flood Emergency Plan is not considered necessary.

Nevertheless, building users will benefit from standard operational procedures, including awareness of severe weather forecasts and appropriate response during extreme rainfall events.

The residual flood risk at the site is therefore considered low and can be appropriately managed through general site management and awareness of severe weather conditions.

3.4 RESIDUAL RISK & EXCEEDANCE ROUTING

Residual flood risk relates to flooding that may occur during events exceeding the design standard of drainage infrastructure.

In such exceedance scenarios, surface water would be routed along existing overland flow paths and across external areas of the site, away from buildings and access points.
Finished floor levels remain above predicted exceedance depths, ensuring no internal flooding occurs. This approach accords with good practice and the National Standards for Sustainable Drainage Systems.

4.0 CONCLUSIONS AND RECOMMENDATIONS

This Flood Risk Assessment (FRA) is compliant with the requirements set out in the National Planning Policy Framework (NPPF) and the associated Planning Practice Guidance. The FRA has been produced on behalf of John Eccles.

This Flood Risk Assessment demonstrates that the proposed development is appropriate for its location and will be safe for its lifetime, taking account of climate change.

The site lies entirely within Flood Zone 1 and is at low risk from fluvial, tidal, groundwater, sewer, and reservoir flooding. Surface water flood risk is limited, shallow, and manageable through site layout and finished floor levels.

The development will not increase flood risk elsewhere and complies with the requirements of the NPPF, PPG, and the Local Planning Authority's SFRA.

On this basis, the proposed development is considered acceptable in flood risk terms.

The identified risks and mitigation measures are summarised within Table 4.1.

Flood Source	Proposed Mitigation Measure
Fluvial	Site is shown to be in Flood Zone 1.
Impact of the Development	Strategic surface water drainage strategy prepared for wider development will ensure a sustainable approach to surface water management.

Table 4.1 - Summary of Flood Risk Assessment

The Flood Risk Assessment demonstrates full compliance with national and local flood risk policy and confirms that the development will be safe for its lifetime, without increasing flood risk elsewhere. The proposals are therefore acceptable in flood risk terms.

5.0 APPENDICES

Appendix A – Site Location Plan

Appendix B – Proposed Site Plan

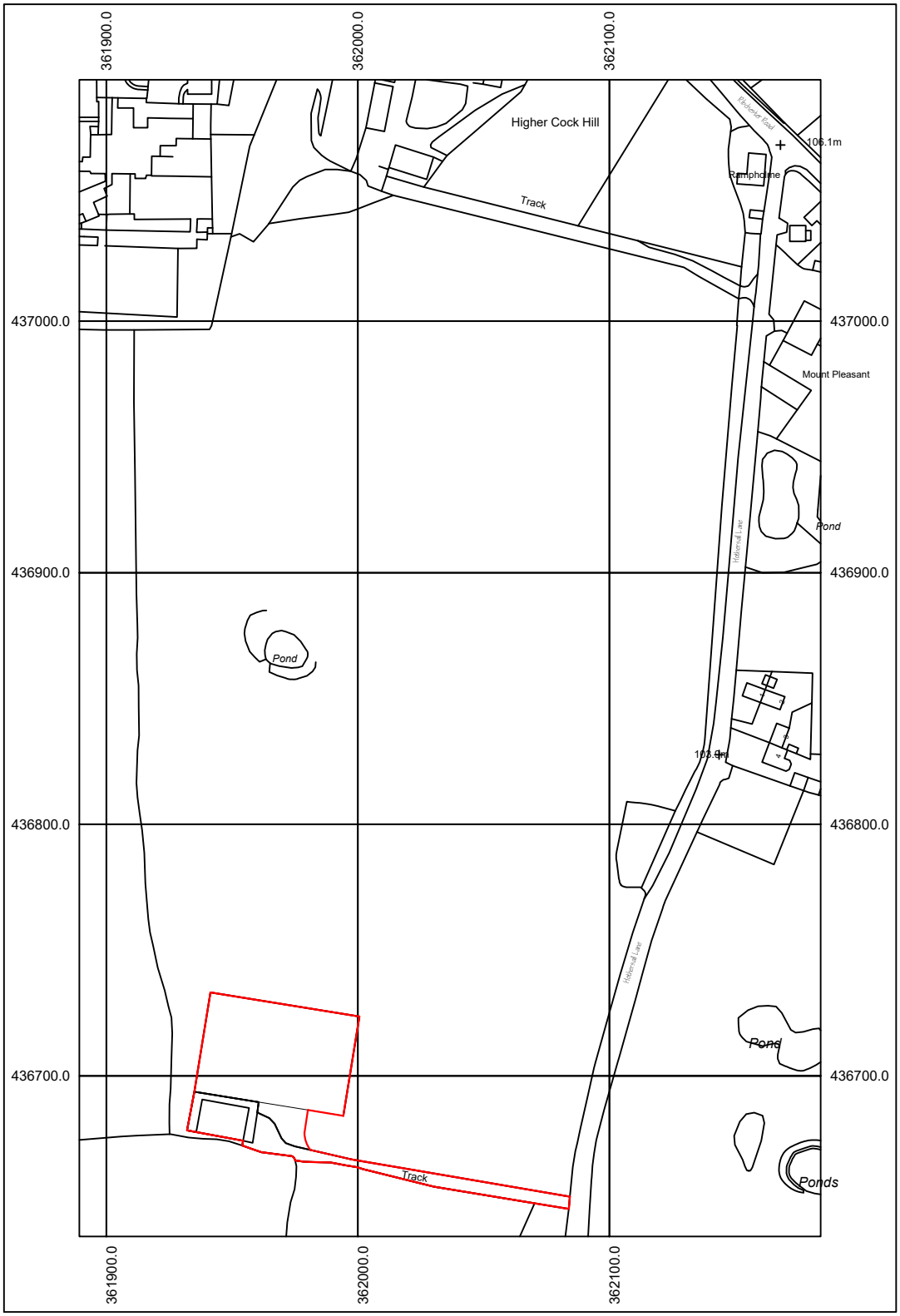
Appendix C – Construction Model

Appendix D – Topographical Survey

Appendix A

Site Location Plan

Stanfords Planning Map Data



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Metres

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Production Date: 07 August 2025

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CLIENT: MR JOHN ECCLES

PROJECT :
CHANGE OF USE OF AGRICULTURAL BUILDING TO COMMERCIAL LIVERY STABLES, AND FORMATION OF SAND PADDOCK, PARKING AND TURNING AREA.

LOCATION:
LAND AT HOTHERSALL LANE, HOTHERSALL.

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Appendix B

Proposed Site Plan

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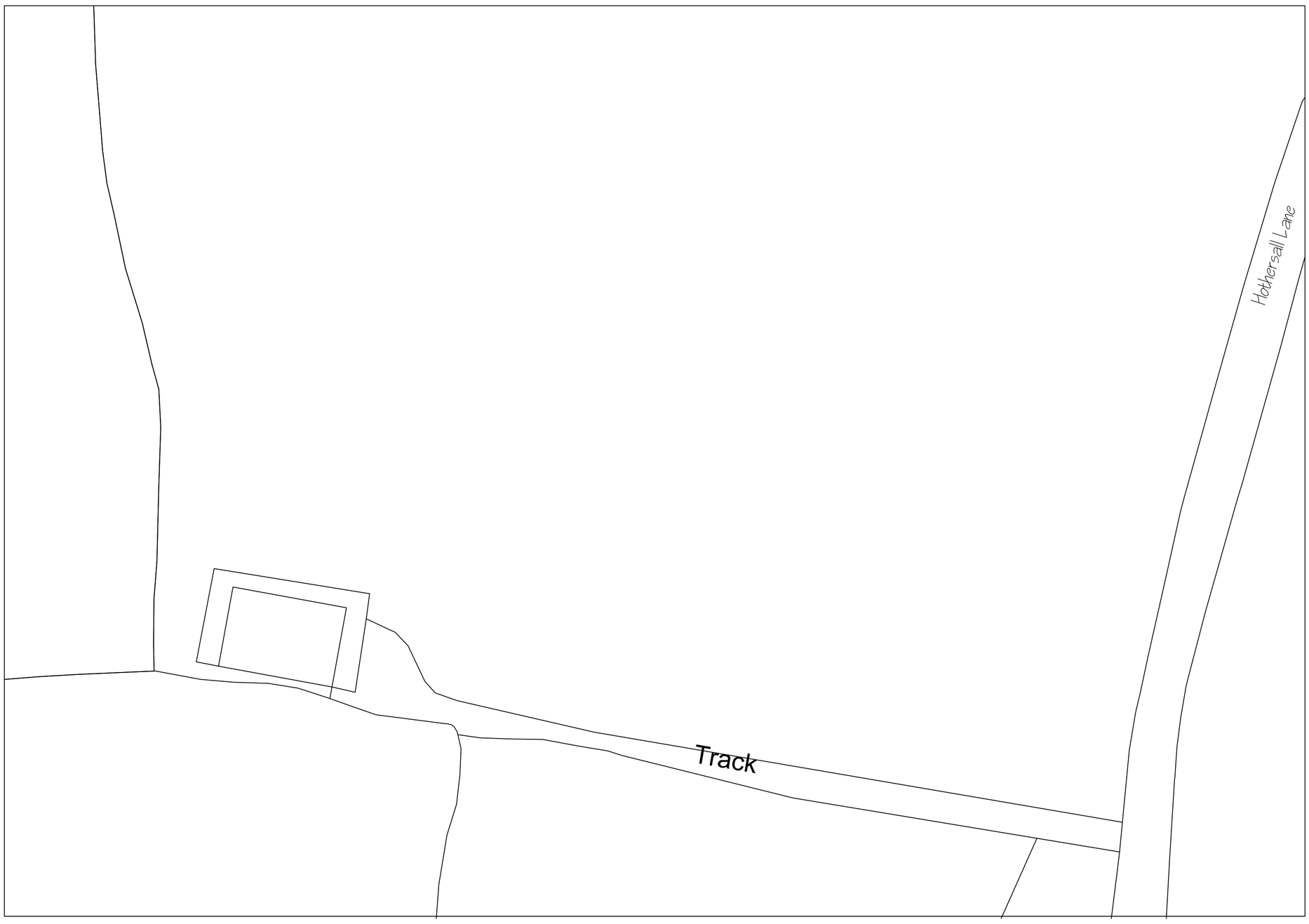
EXISTING SITE PLAN



PROPOSED SITE PLAN

Existing hardstanding/ track

Additional hardstanding/ turning area (Grasscrete)

5 4 Proposed parking area

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LOCATION:
LAND AT HOTHERSALL LANE, HOTHERSALL.

DATE: 8th August 2025

DWG NO. LM/ CW/ 5308B

SCALE: 1:500

A1

Appendix C

Proposed Building Plan and Elevations

SCALE 1:100

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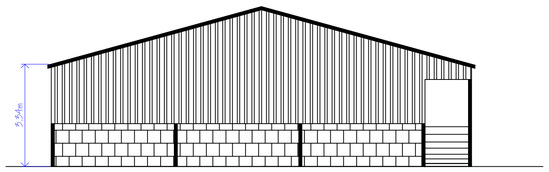
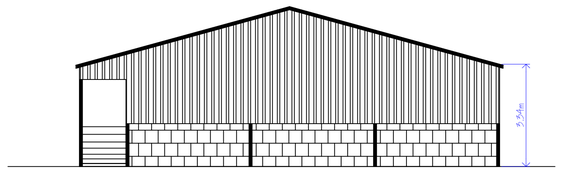
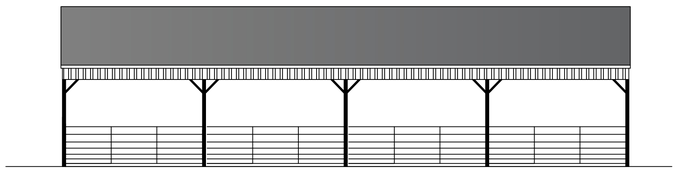
EXISTING ELEVATIONS



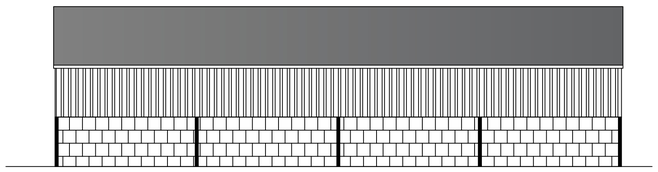
East Elevation



West Elevation

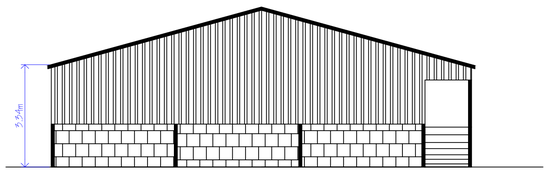


North Elevation



South Elevation

PROPOSED ELEVATIONS



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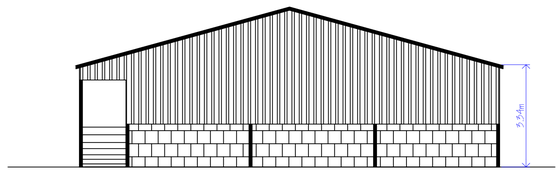
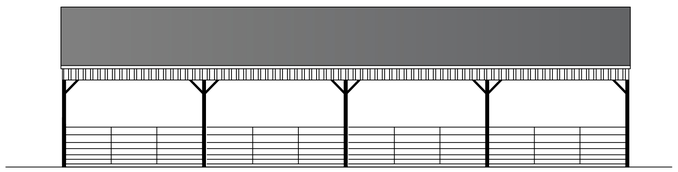
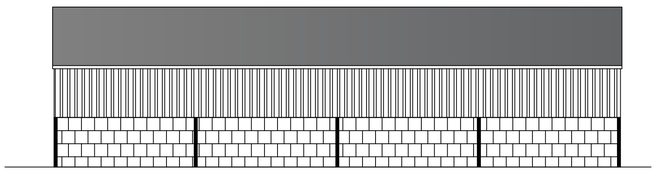


West Elevation

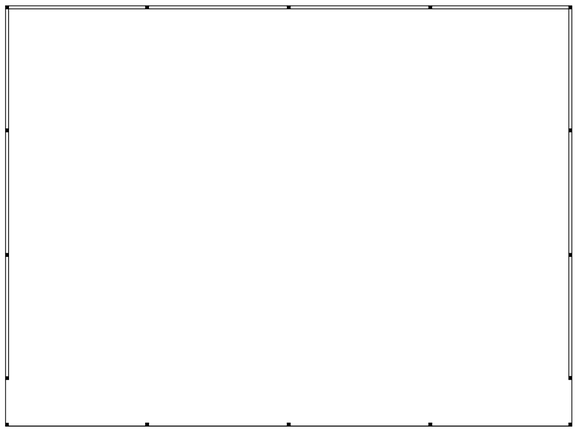


North Elevation

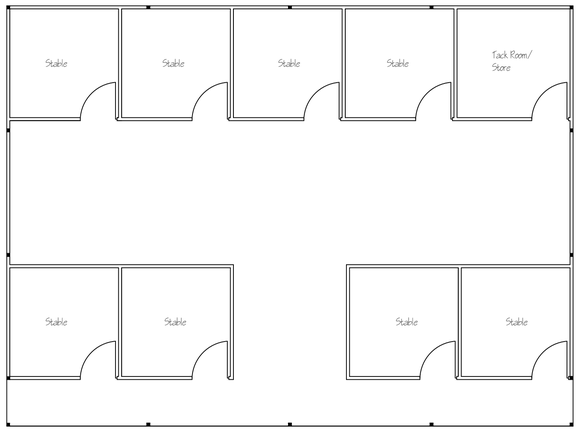


South Elevation

EXISTING FLOOR PLAN



PROPOSED FLOOR PLAN



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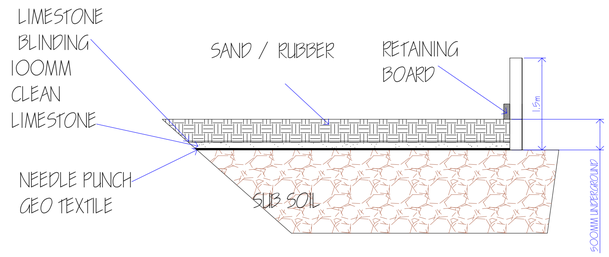
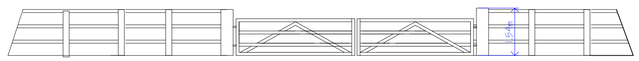
SCALE 1:50

0 1 2 3 4 5 10

DETAILS OF CONSTRUCITON OF PADDOCK



TYPICAL DETAIL OF POST AND RAIL TIMBER FENCING TO BOUNDARY OF PROPOSED SAND PADDOCK (SCALE 1:100)



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DATE: 8th August 2025

DWG NO: LM/ CW/ 9308A

SCALE: 1:100, 1:50, 1:200

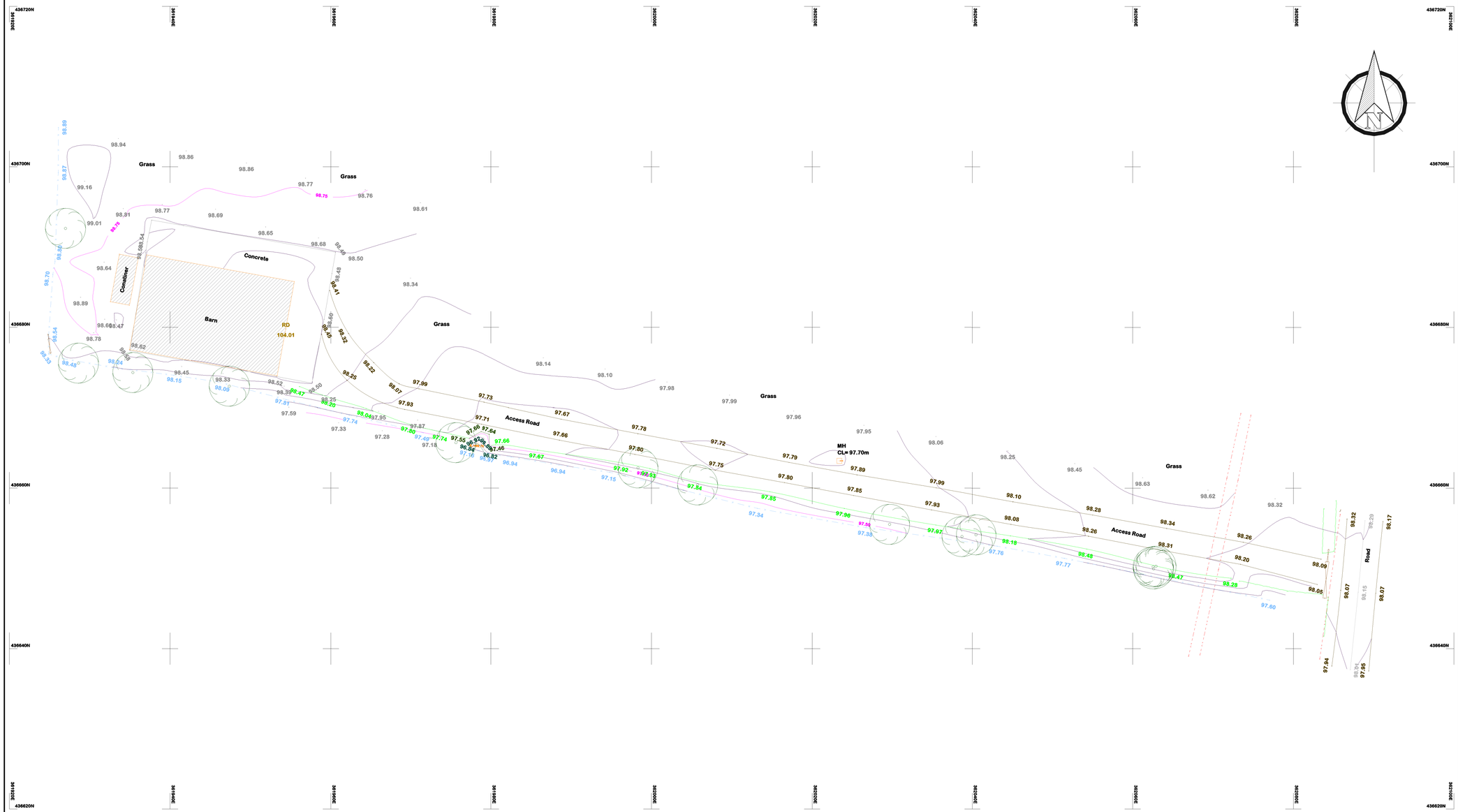
A1

Appendix D

Topographical Survey

Status

No.	Revision	Date	Drwn



Topographical Legend

AV	Air valve
Bo	Bollard
BB	Belisha beacon
BH	Borehole
Bin	Rubbish bin
BP	Brick paved
BT	British telecom
Bus	Bus stop
CPS	Concrete paving slabs
CTV	Cable tv
CL:	Cover level
CCTV	Closed circuit tv
CR	Cable Riser
DP	Down pipe
EP	Electricity post
E	Electric feature
Elec	Electric socket
Elec Cab	Electric cabinet
ER	Earth rod
FH	Fire hydrant
FBW	Fence Barbed Wire
FCB	Fence Closed Board
FCL	Fence Chain Link
FEL	Fence Electric
FMP	Fence Metal Panel
FMR	Fence Metal Railing
FOB	Fence Open Board
FPW	Fence Post & Wire
FSP	Fence Steel Palisade
FWM	Fence Wire Mesh
Gy	Gully
Gas	Gas unidentified
GM	Gas meter
GV	Gas valve
IL:	Invert level
IFL	Internal floor level
ISP	Illuminated sign post
IBol	Illuminated bollard
KI	Kerb Inlet
O/H	Overhead cable
TOW	Top of wall
TOT	Top of tree
TOF	Top of feance
TOV	Top of vegetation
LC	Lighting
Lbox	Letter box
Ldr	Ladder
MkrD	Marker post drainage
MkrE	Marker post electric
MkrG	Marker post gas
MkrOF	Marker post oil/fuel
MkrT	Marker post telecom
MkrU	Marker unidentified
MkrW	Marker post water
PE	Pipe riser
Pinv	Pipe invert
PM	Parking meter
RWP	Rain water pipe
Re	Rodding eye
Sag	Overhead sag level
SV	Stop valve
ST	Stop tap
SP	Sign post
Sof	Soffit
Sty	Stile
SY	Stay
TT	Tactile
TL	Traffic light
TP	Telegraph post
Tap	Water tap
THL	Threshold level
TH	Trialhole
U	Unidentified feature
UP	Unidentified point
UCab	Unidentified cabinet
UTL	Unable to lift
VP	Vent pipe
WL	Water level
WM	Water meter
WO	Wash out
WSill	Window sill level
WHead	Window head level
R/Wall	Retaining wall
RD	Ridge height
EV	Eave heigh
MH	Manhole
TOH	Top of hedge
GUT	Gutter level
RF	Roof level

Concrete
Tree Canopy Line
Change surface
Kerb Channel
Kerb Top
Manhole Circular
Manhole Diagonal
Manhole Rectangular
Manhole Square
Manhole Triangular
Road Gully
Road
Slope Indicator
Ditch Base
Ditch Top
Drain
Tree
Contours
Centreline
Edge of Redge
Wall
Edge of water
Vegetation line
Edge of roof
Boundary polygon
Top of Bank
Track
Verge
Building Line
Bottom of bank
British Telecom overhead cable
Electricity Overhead Cable
Road Channel
Edge of Grass
Metal Fence
Timber Fence
Fence C/L
Fence P/R
Gate
Building position
Ground level
Spot level
RD-RIDGE
RF-ROOF
GUT-GUTTER
EAVES

ALL SURVEY DATA TO ORDNANCE SURVEY COORDINATES

ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.

ANY CRITICAL DIMENSIONS AND MEASUREMENTS SHOULD BE BASED ON THE ORIGINAL DIGITAL DATA AND CONFIRMED WITH DART ENGINEERS.
ANY ERRORS SHOULD BE NOTIFIED TO DART ENGINEERS.

NO ATTEMPT HAS BEEN MADE TO ENTER ANY CONFINED SPACES ON THIS SITE. WE HAVE MEASURED INVERT DEPTHS, ESTIMATED PIPE SIZES AND SHOWN THE DIRECTION OF FLOW ONLY WHERE DRAIN RUNS ARE ACTIVE AT THE TIME OF SURVEY. INSPECTION COVERS WHICH WE WERE UNABLE TO LIFT BY MANUAL METHODS ARE DENOTED AS MH (UTL). WE DID NOT QUOTE FOR THE USE OF HYDRAULIC LIFTING EQUIPMENT.

DRAINAGE RUNS BETWEEN INSPECTION COVERS HAVE NOT BEEN INVESTIGATED. ANY SHOWN ARE ESTIMATED AND NOT CONFIRMED. ALL DRAINAGE RUNS SHOULD BE PROVED BY DYE TRACING AND IF NECESSARY BY RADIO DETECTION METHODS PRIOR TO ANY DESIGN WORK. ALL PIPE SIZES AND CONNECTIONS SHOULD ALSO BE CONFIRMED WITH YOUR LOCAL DRAINAGE AUTHORITY PRIOR TO ANY DESIGN WORK.

THERE MAY BE INSPECTION COVERS ON SITE WHICH WERE NOT VISIBLE AT THE TIME OF SURVEY. THEY MAY HAVE BEEN BURIED OR COVERED BY VEGETATION. YOU SHOULD CONSULT YOUR LOCAL DRAINAGE AUTHORITY OR COMMISSION A CCTV DRAINAGE SURVEY TO ENSURE THAT YOU LOCATE ANY MISSING COVERS OR DRAINAGE RUNS.

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DRAWING TITLE
Topographical Survey

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