

Geo-Environmental Desk Study

Addlesee Timber & Haulage Ltd, R/O 2 Sandtoft
Road, Belton, DN9 1PH

DEVELOPMENT CONTROL SECTION	
16 APR 2008	
DATE RECEIVED	
Referred To	

14th April 2008

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Confidentiality Statement

This report is addressed to:

Mr Frank Addlesee
Addlesee Timber & Haulage Ltd
R/O 2 Sandtoft Road
Belton
Doncaster
DN9 1PH

The conclusions reached in this report are restricted to those which can be determined from the information consulted and may be subject to amendment in light of additional information.

The report is confidential to the party to whom it is addresses and may only be relied upon by that party or other professional advisors, for the specific purpose to which it refers and no responsibility is accepted to any third parties for the whole or part of its contents.

1 Introduction

1.1.1 Authorisation

On the instruction of Mr Frank Addlesee of Addlesee Timber & Haulage Ltd, a Geo-Environmental Desk Study has been carried out on his site at R/O 2 Sandtoft Road, Belton, Doncaster DN9 1PH. The site location is shown in Appendix A.

1.1.2 Aims and Objectives

The following document outlines a preliminary risk assessment to address the potential hazards arising from the former uses of the above site at the request of North Lincolnshire Council's Planning Department.

The objective of the report is to identify source-pathway-receptor linkages and develop an initial conceptual model of the site in accordance with BS:10175:2001, Investigation of Potentially Contaminated Sites – Code of Practice. The proposed model will be used in a risk assessment of the site based upon the information available at the time of writing.

The findings of this assessment can be used to determine the scope of an Intrusive Site Investigation should the need arise.

1.1.3 Development Proposal

Planning permission for the site has been applied for by Mr Frank Addlesee of 2 Sandtoft Road for the construction of three, 4 and 5 bedroom detached houses.

2 Site Location and Settings

2.1.1 Site Address

Rear of 2 Sandtoft Road
Belton
Doncaster
DN9 1PH

Area of the site: 0.44Ha approx

2.1.2 Site Inspection

A site inspection was carried out on the 22nd March 2008 by Mr H J Wroot (Architect for the development). The site comprises a flat, level and rectangular piece of land, access is gained from Turbarry Road off Sandtoft Road, Belton. The site is bounded by residential gardens to the south, agricultural land to the north and west and Turbarry Road to the east. Currently the site is operational, manufacturing timber fence panels and pallets and concrete posts. The site houses a number of brick and corrugated steel buildings and wood storage areas. An access roadway is present through the centre of the site. Vegetation is not present. Site photographs are presented in Appendix D.

2.1.3 Site History

Historical maps have been studied to identify potentially contaminative former land uses. Historical maps are presented in Appendix B. The following environmentally pertinent observations have been made upon review of the available maps. Mr Addlesee advises he started in business on the site 24 years ago.

Date: 1907

The earliest available map shows the site to be undeveloped. The site is bordered to the south by a residential dwelling, and to the north, east and west by fields.

Date: 1956

The site showed little change since the map from 1907, the site and surrounding land remain undeveloped.

Date: 1981-1989

The site showed little change since the map from 1956, the site and surrounding land remain undeveloped.

2.1.4 Geology

British Geological Survey Sheet 88 (Doncaster) at 1:50 000 scale shows the site to be underlain by drift deposits comprising clays and sands. The drift deposits overlie the Triassic Keuper Marl. No faults are within the vicinity of the site. The underlying solid geology is broadly horizontal.

2.1.5 Coal Mining

The Coal Authority's Gazetteer was consulted and the site was found not to be within an area affected by coal mining activities. A Coal Authority mining report has therefore not been commissioned for the risk assessment.

2.1.6 Radon

According to the Promap report, the site is within an area where between 1% and 3% of homes are above the action level of radon gas. The Promap report states that specific radon gas protective measures are not required for new dwellings or extensions at the site.

2.1.7 Hydrogeology

The underlying stratum of the Keuper Marl is classed as a minor aquifer with overlying soils of high leaching potential. A minor aquifer can be *'fractured or potentially fractured rocks, which do not have a high primary permeability, or other formations of variable permeability including unconsolidated deposits. Although not producing large quantities of water for abstraction, they are important for local supplies and in supplying base flows to rivers'*. Soils of high leaching potential are described as *'soils which readily transmit liquid discharges because they are either shallow, or susceptible to rapid by-pass flow directly to rock, gravel or groundwater'*.

According to the Environment Agency's website, the site does not lie within a Source Protection Zone for groundwater abstraction.

2.1.8 Hydrology

The nearest major watercourse to the site is the River Torne and South Engine Drain, located approximately 800 m to the west.

The Environment Agency at present are monitoring the quality of surrounding water courses within the area. Under the Environment Agency's classification 5 watercourses within the area are being monitored for quality, Hatfield Waste Drain, North Level Engine Drain, Paupers Drain, Three Rivers and North Soak Drain. At present the Hatfield Waste Drain, North Level Engine Drain, Three Rivers and North Soak Drain are considered to be at risk and Paupers Drain is considered to be probably at risk of failing the Water Framework Directive guidelines for managing large bodies of water.

According to the Environment Agency the site lies within the 1 in 200 year flood plain of the River Torne.

Three licensed discharge consents are present within 25 – 100m of the site. The license holder is Severn Trent Water who hold the licenses for two sewerage discharges and one surface water discharge.

2.1.9 Waste

Review of the Environment Agency's website indicates that there are no sites releasing pollution from industrial sites within 1km of the site.

2.1.10 Pollution Incidents

Review of the Environment Agency's website has indicated that two pollution incidents have occurred within 1000m of the site. Pollution incidents are summarised in the table below:

Date	Impact to Air	Impact to Land	Impact to Water	Pollutant	Incident Number
12th August 2003	No Impact	No impact	Significant impact	Vegetable Washings	181446
25th March 2005	No impact	Minor impact	Significant impact	Crude Sewerage	301365

3 Preliminary Risk Assessment

3.1.1 Conceptual Site Model

The objective of the conceptual site model is to identify the nature and extent of any potential contamination and to include a hypothesis of the nature and sources of contamination, potential migration pathways and potential receptors developed on the basis of the information from the preliminary investigation in accordance with BS 10175:2001.

The conceptual site model is based on the concept that for there to be a risk from contamination there must be a 'source-pathway-receptor' linkage. If one or more linkages are absent then there is effectively no risk.

3.1.2 Pollutant Linkage Assessment

Historical maps have indicated that the site had been undeveloped for a number of years prior to its current usage. Due to the sites current activities with regards to the treatment of timber and manufacture of concrete posts there is a potential for contaminants to be present beneath the site. Therefore a potential pollutant linkage may be present within the site.

4 Conclusions and Recommendations


4.1.1 Anticipated Ground Conditions

The site is underlain by drift deposits comprising sands and clays of unknown thickness. These drift deposits are underlain by the Triassic Keuper Marl at an unknown depth.

4.1.2 Risk Classification

Review of available information including historical maps of the site, it can be concluded that little activity has occurred regarding contaminative land use until the sites current activities as a site manufacturing timber products.

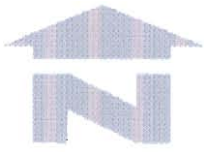
With regard to the preliminary risk assessment it is considered there is a potential for contaminants to be present within beneath the site at 2 Sandtoft Road, Belton. It is therefore recommended that a full intrusive environmental investigation is carried out to determine the extent of potential contaminants that may be present within the underlying ground and to assess the risks to human health due to the change in end usage of the site from industrial to residential.



Kate Wroot BSc (Hons) MSc FGS

Geotechnical Engineer

Appendix A- Site Location Plan



Site Plan



Howard J Wroot BSc MRICS Chartered Surveyor 240 Wharf Road, Ealand Scunthorpe DN17 4JN	Proposal	Change of Use from Industrial Site to Residential Development of 3 Building Plots		
	Drawing	Site Plan		
	Tel 01724 710688	Client	Addesee Timber & Haulage Ltd	
Fax 01724 710174	Date	18/4/08	Dwg No	1 of 1
Revision	Mob 07947 226577	Scale	1:250	Ref No 638-08

Appendix B- Promap Report

Report date:	13 April 2008
Customer ref:	638 2008 Residential Development_ESC
Property address:	R/O 2 Sandtoft Road, Belton, Doncaster, South Yorkshire, DN9 1PH
Report Commissioned by:	Howard J Wroot Chartered Surveyors
On behalf of:	Addlesee Haulage & Timber Ltd
Purpose of report:	Other
Freehold or Leasehold:	Freehold
Redevelopment Yes or No:	Yes - It is understood that there are redevelopment plans for the site in the form of Change of use, from Light Industry/Manufacturing to Residential.

Wilbourn Associates' professional opinion describes the level of risk associated with the information disclosed in the associated EnviroScreen data, as the following:

Property Assessment

FURTHER ACTION

In view of the development proposals in the form of Change of use from Light Industry/Manufacturing to Residential, it is likely that the local planning authority will require a risk based assessment as to the ground conditions with conclusions as to whether any remedial measures are necessary.

Property Value

In our opinion, from the information we have examined, there is a risk that the value of the property could be impaired.

Contaminated Land

The property may also constitute "contaminated land" as defined by Part IIA of the Environmental Protection Act 1990.

Environmental Factors for consideration

In this case the following environmental factors have been identified (1) An area affected by radon (2) An area of floodplain

Recommended Next Steps

It is understood that the site is to be developed as Residential. It is important that the Additional Factors are considered in the context of this report. It is also recommended that a detailed Phase 1 risk assessment is carried out for planning purposes.

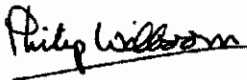
If you require the Additional Factors to be investigated you may wish to consider instructing an appropriately qualified and insured environmental professional. Landmark Information Group provide a list of Environmental Consultants with UK coverage at:- www.enviroscreen.co.uk/enviroscreen/environmental_consultants_list.jsp

Wilbourn Associates provide a free leaflet as to what the next steps should entail and can be downloaded from <http://www.environmental-surveyors.com/enviroscreenredevelopment>.

For sites of up to 1 hectare Wilbourn Associates can undertake such a report at a cost of £1500 + VAT + disbursements (such as enquiries to public sector bodies, travel and subsistence). This would determine whether any site investigation is necessary and, if applicable, a cost plan for doing so. If you would like Wilbourn Associates to undertake these works please contact us on 0114 243 5500 or send an email to instructions@environmental-surveyors.com.

If the issues outlined above are adequately addressed by the environmental surveyors, solicitors and/or other property professionals retained in this matter, there may be no impairment to the value of the property or any risk that the property would be designated as "contaminated land" within the meaning of Part IIA of the Environmental Protection Act 1990. The documentation should rest with the deeds and be made available for future transactions.

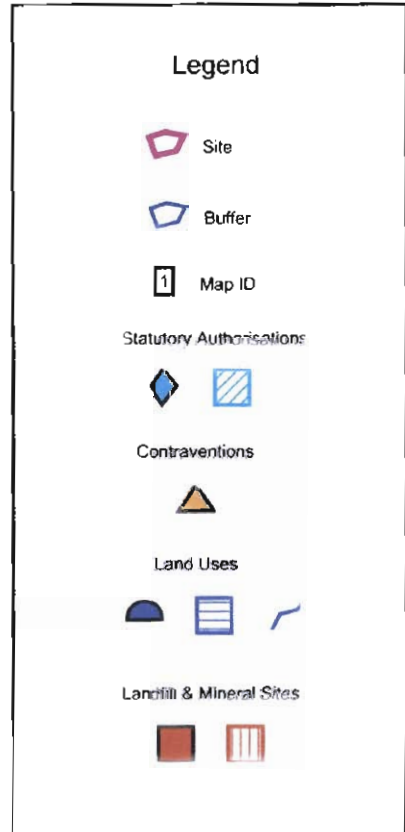
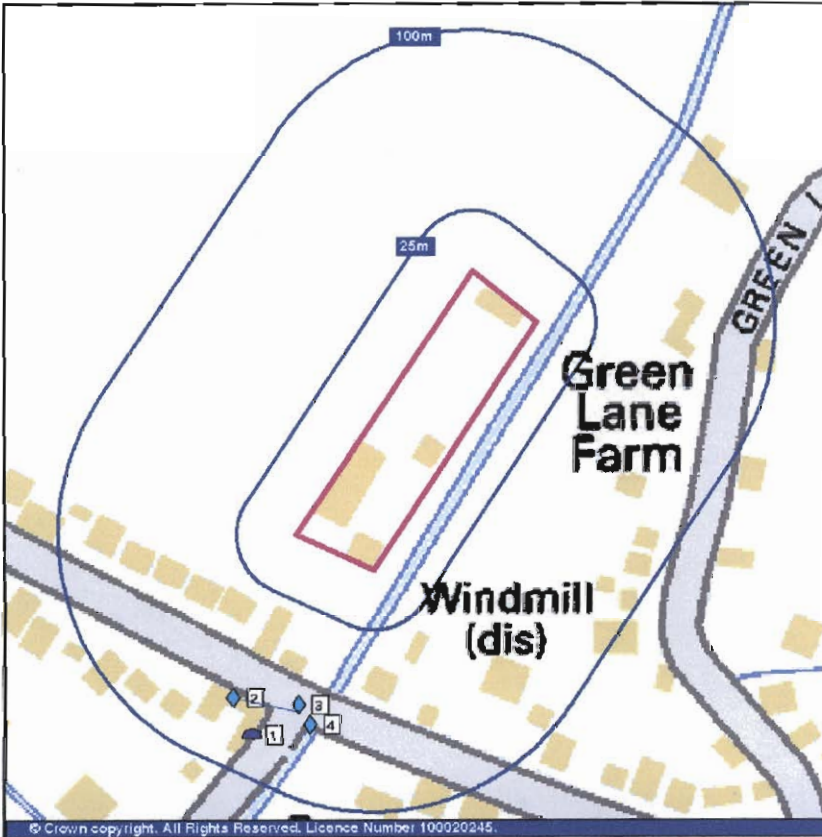
Based on valuation guidance from the RICS Red Book this report complies with UK GN1.1 - Appendix 2.2(E) Contamination and hazardous substances and valuation guidance from the RICS Red Book - Appendix 2.2(F) Environmental Matters. Wilbourn Associates are regulated by RICS.

Signed by

Philip E. Wilbourn BSc C.Env FRICS
Chartered Environmental Surveyor



Site Address: R/O 2 Sandtoft Road, Belton, Doncaster, South Yorkshire, DN9 1PH



Site Boundary: TotalArea
0.44 Ha

Prepared For
Howard J Wroot Chartered
Surveyors
240 Wharf Road
Ealand
Scunthorpe
North Lincolnshire
DN17 4JN

Client Ref
638 2008 Residential
Development_ESC

Purchase Order No.
01 2008

Client Name
Addlesee Haulage & Timber Ltd

Factors affecting the site

Map ID On Site 0 - 25m 25 - 100m

	Map ID	On Site	0 - 25m	25 - 100m
Historical Land Uses				
Contemporary Trade Directory Entries				
Coloured Window Frames Ltd, ,1,Sandtoft Road,Belton,Doncaster, PVC-U Products - Manufacturers & Suppliers, Status: Inactive, Positional Accuracy: Automatically positioned to the address	1			✓
Landfill & Mineral Sites				
Local Authority Landfill Coverage				
North Lincolnshire Unitary Council, - Has no landfill data to supply *	N/A			
Statutory Authorisations				
Discharge Consents				
Severn Trent Water Limited, Ps - N Lincs Area - Emergency Of Ps No 4 - Carhous, Sewage Discharge, Reference: T/83/01391/O, Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989, Positional Accuracy: Located by supplier to within 100m	2			✓
Severn Trent Water Limited, Areas Of Belton Village - Sws (11),Belton,N Lincs, Surface Water Discharge, Reference: T/83/03289/O, Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995), Positional Accuracy: Located by supplier to within 100m	3			✓
Severn Trent Water Limited, Westgate,South Side,Belton Village, Sewerage Discharge, Reference: CT/83/03289/O,6, Status: Not Supplied, Positional Accuracy: Located by supplier to within 100m	4			✓
Contraventions				
No features identified within this category	N/A			
Natural Features				
Extreme Flooding from Rivers or Sea without Defences				
Flood Plain Type: Combined Tidal and Fluvial, Source: Environment Agency, Head Office, Boundary Accuracy: As Supplied	N/A	✓		
Flooding from Rivers or Sea without Defences				
No	N/A			
Areas Benefiting from Flood Defences				
No	N/A			
Flood Water Storage Areas				
No	N/A			
Flood Defences				
No	N/A			
Groundwater Vulnerability				
Geological Classification: Minor Aquifer (Variably permeable) - These can be fractured or potentially fractured rocks, which do not have a high primary permeability, or other formations of variable permeability including unconsolidated deposits. Although not producing large quantities of water for abstraction, they are important for local supplies and in supplying base flow to rivers, Soil Classification: Soils of High Leaching Potential (H1) - Soils which readily transmit liquid discharges because they are either shallow, or susceptible to rapid by-pass flow directly to rock, gravel or groundwater, Map Scale: 1:100,000	N/A	✓		

Factors affecting the site

	Map ID	On Site	0 - 25m	25 - 100m
Drift Deposits				
No	N/A			
Radon Affected Areas				
Between 1% and 3% of homes are above the Action Level	N/A	✓		
Between 1% and 3% of homes are above the Action Level	N/A		✓	
Radon Protection Measures				
No radon protective measures are necessary in the construction of new dwellings or extensions	N/A	✓		
Coal Mining Affected Areas				
In an area which may not be affected by coal mining	N/A			
Brine Compensation Area				
No	N/A			

Local Authority Landfill Coverage * if applicable. It has not been possible to obtain Landfill data from this authority therefore the fact that no local authority landfills are disclosed in this report does not necessarily confirm that no local authority landfills exist. We recommend that if you are concerned about landfill you should contact the relevant local authority. "-" denotes the nearest Local Authority Landfill Coverage.

Additional Factors for Consideration

- (I) The property forms part of a development project where it is proposed that it is used for Residential. Are there any planning preconditions and have they been complied with? This report should be considered as a precursor to a thorough investigation of the site for planning control purposes. It should be noted that this report is insufficient for the purposes of obtaining planning permission.
- (II) The Department of Communities and Local Government have published Planning Policy Statement (PPS) 23: Planning and Pollution Control where "Local planning authorities should pay particular attention to development proposals for sites where there is a reason to suspect contamination, such as the existence of former industrial uses, or other indications of potential contamination, and to those for particularly sensitive use such as a day nursery or housing likely to be used by families with children". As a result contamination factors may be considered a material planning consideration.
- (III) For reference, the local planning authorities would require such a report to be set in the context of DEFRA and the Environment Agency CLR11: Model procedures for the management of Land Contamination dated Sept 2004 and Environment Agency Guidance on Requirements for Land Contamination Reports dated July 2005.
- (IV) Do any environmental reports exist for the site? Have these been prepared by appropriately qualified, competent and insured consultants? Do they address the issues raised in this preliminary appraisal? Can you rely upon them? Is the consultant prepared to assign the benefit of these? If so, it is important to ensure that those parties offering the warranties are of sufficient financial standing backed by appropriate insurance cover.
- (V) This report should be presented to the lender as appropriate. Any subsequent documentation should also be made available to the lender.

Useful Contact Information

Environment Agency National Customer Contact Centre (NCCC)
PO Box 544, Templeborough, Rotherham, S60 1BY
Telephone 08708 506 506
enquiries@environment-agency.gov.uk

Health Protection Agency Radon Survey, Centre for Radiation, Chemical and Environmental Hazards
Chilton, Didcot, Oxfordshire, OX11 0RQ
Telephone 01235 822622, Fax 01235 833891
radon@hpa.org.uk
www.hpa.org.uk

North Lincolnshire Council Environmental Protection Team
Church Square House, PO Box 42, Scunthorpe, Lincolnshire, DN15 6XQ
Telephone 01724 296296, Fax 01724 280271
www.northlincs.gov.uk

British Geological Survey Enquiry Service
British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG
Telephone 0115 936 3143, Fax 0115 936 3276
enquiries@bgs.ac.uk
www.bgs.ac.uk

Wilbourn Associates
30 Jessops Riverside, 800 Brightside Lane, Sheffield, S9 2RX
www.environmental-surveyors.com

Landmark Information Group Limited
The Smith Centre, Henley on Thames, Oxfordshire, RG9 6AB
Telephone 0844 844 9960, Fax 0844 844 9951
customerservice@promap.co.uk
www.landmarkinfo.co.uk



Additional Information

In completing this report Wilbourn Associates has undertaken a review of the Enviroscreen data made available to it. No site inspection, further enquiries or investigation of surface or ground conditions has been carried out by Wilbourn Associates. No information as to the age, value and type of property has been made available.

Surveyors are reminded to refer to the RICS guidance note 'Contamination and Environmental Matters - their implications for property professionals', published December 2003, and consider using the property observation checklists developed by the RICS for identifying apparent potential for contamination and recording observations made during the normal course of inspection. The checklists are contained at Appendices C-E of the above guidance note. Completion of these checklists does not constitute an environmental assessment for the purposes of Professional Indemnity Insurance where many surveyors are unlikely to have appropriate indemnity cover.

Copies of the property observation checklist can be downloaded free of charge at

www.environmental-surveyors.com/downloads

The information in this Enviroscreen® Certificate is derived from a number of statutory and non-statutory sources (refer to the user guide). Whilst every effort is made to ensure accuracy, Landmark cannot guarantee the accuracy or completeness of such information or data, nor to identify all the factors that may be relevant. If you are a private individual using this Certificate Landmark recommend that you discuss its contents in full with your professional advisor. It is essential to read this Certificate in conjunction with the User Guide and your attention is drawn to the scope of the Certificate section within the User Guide.

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Commercial Premises Environmental Insurance

Landmark information Group provides a link to Arlington Insurance Services Limited which is able to offer environmental insurance underwritten by ACE Insurance Group Limited for R/O 2 Sandtoft Road, Belton, Doncaster, South Yorkshire, DN9 1PH. The insurance is subject to an Enviroscreen certificate report having been commissioned and a quote obtained from Arlington Insurance Services Limited.

Key policy Benefits:

- Coverage for sudden and gradual pollution
- Coverage for on-site and off-site first party cleanup
- Automatic coverage for biodiversity damage
- Damage to third party property, including diminution in value
- Policy periods up to 5 years coverage
- Limit of indemnity up to £5m
- Self Insured Retentions from £2,500 per loss
- Proactive claims support to minimise losses and their financial and reputational impacts on the business
- Legal Defence Expenses

This statement does not contain the full terms and conditions of the coverage provided, which can be found in the policy document. The Environmental Impairment Liability (EIL) Policy is a claims-made policy offering a range of cover for gradual, sudden and accidental pollution resulting from the ownership, control and/or operation of premises.

Insurance Quotations

The Enviroscreen report has highlighted potential issues with the site at:
R/O 2 Sandtoft Road, Belton, Doncaster, South Yorkshire, DN9 1PH

These potential issues would need to be assessed by an environmental specialist before an indicative insurance quote is given.

Please telephone 0207 493 4960 to receive advice on insurance from an environmental specialist.

For further information please go to www.arlingtoninsuranceservices.com/environmental.

This insurance is offered by



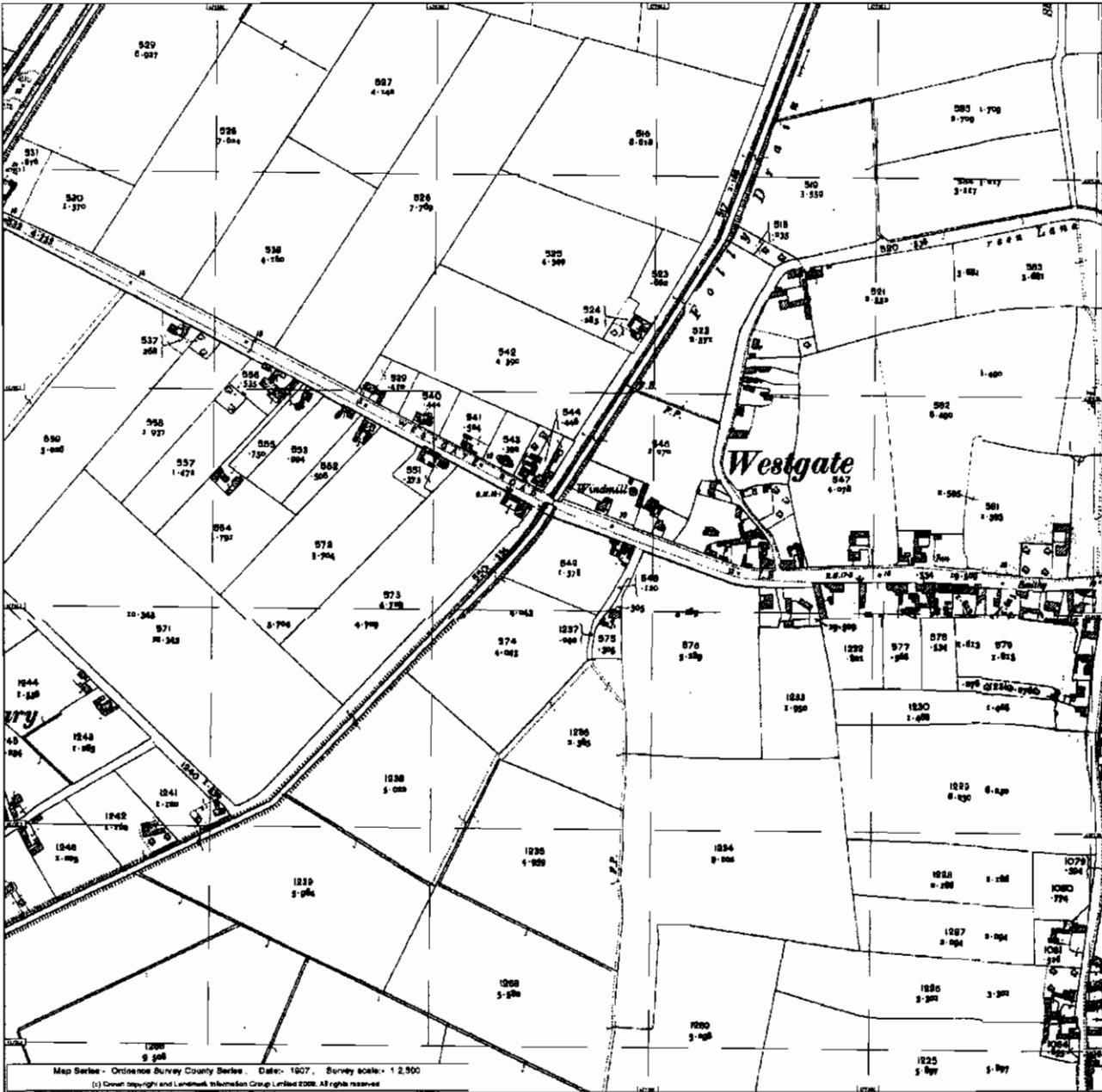
ace european group



ACE European Group Limited, ACE Building, 100 Leadenhall Street, London EC3A 3BP
Arlington Insurance Services Ltd, 5 Arlington Street, London SW 1A 1RA

Authorised and regulated by the Financial Services Authority

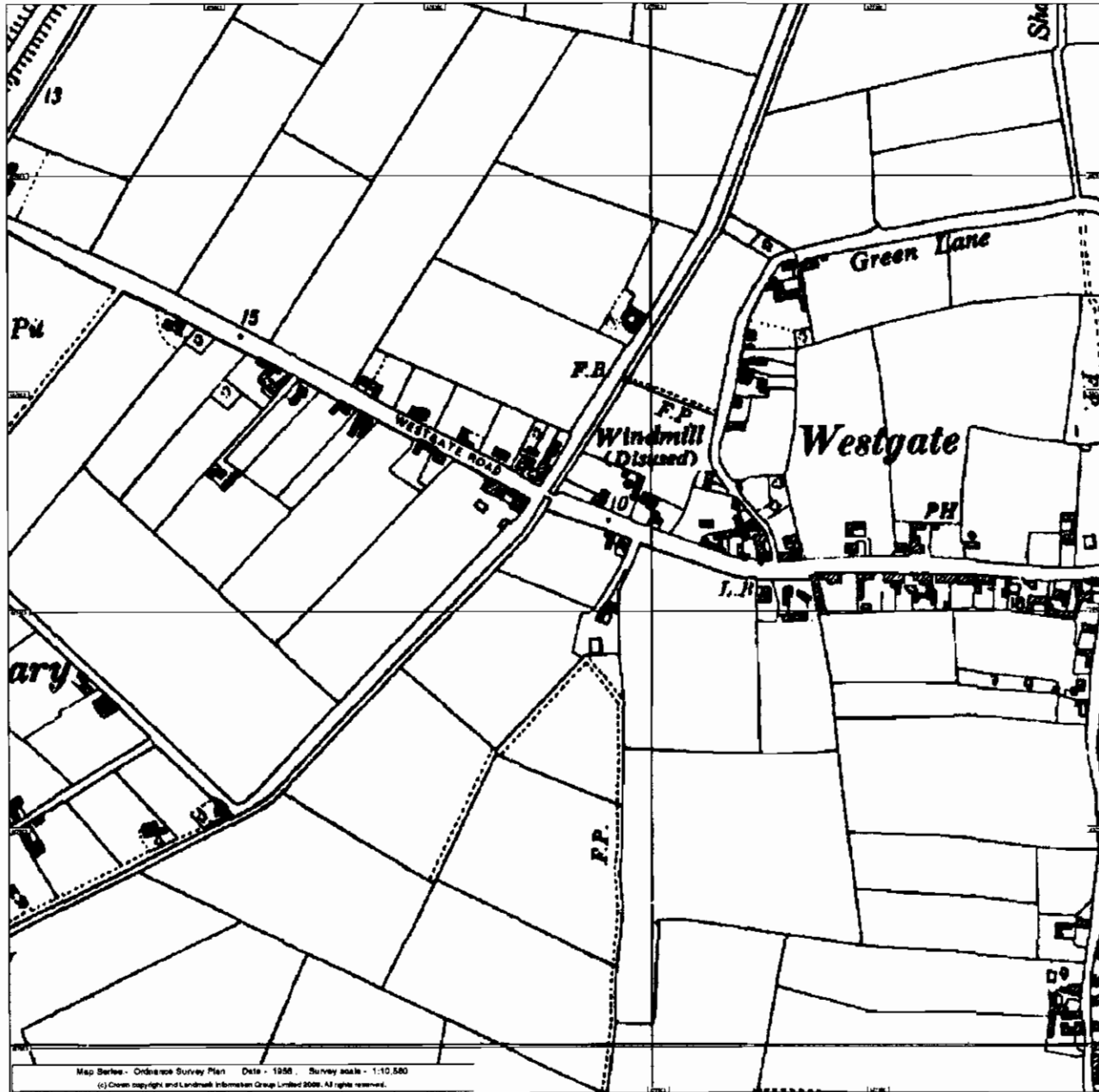
Appendix C- Historical Maps



Map Series - Ordnance Survey County Series. Date: 1907. Survey scale - 1:2,500
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Landmark Historical Map
 Published Date(s): 1907
 Originally plotted at: 1:2,500



Landmark Historical Map
 Published Date(s): 1956
 Originally plotted at: 1:10,560



Landmark Historical Map
 Published Date(s): 1981-1989
 Originally plotted at: 1:2,500

Appendix D- Site Photographs



Photograph 1:



Photograph 2:



Photograph 3:



Photograph 4:



Photograph 5:



Photograph 6:



Photograph 7: