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Innovation Park Medway

Geoenvironmental and Geotechnical Desk Study

For:

INNOVATION PARK MEDWAY

Project Number:

12841

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EXECUTIVE SUMMARY

SITE LOCATION	The study site comprises two discrete areas, situated in the north west (Area 1) and south (Area 2) sectors of Rochester Airport. The airport is situated on the south west extend of the Chatham/Rochester urban area; and on the east side of the M2 motorway. The A229 (Maidstone Road) runs along the east boundary of the airport, with an industrial estate and residential areas to the north.
ENVIRONMENTAL SETTING	Geological maps indicate the site to be underlain by superficial deposits of the Clay with Flints Formation and bedrock geology of the Seaford Chalk Formation. The environmental sensitivity of the site is considered to be **High** based on the following classifications: • Hydrogeology: **High** – The underlying chalk formations are designated Principal Aquifers and the site lies within a Source Protection Zone 2. • Hydrology: **Low-Moderate** – No surface water features were identified during a site walkover; however some drainage channels are understood to be present which are assumed to ultimately discharge to the River Medway, situated approximately 2.5km to the north west of Area 1.
HISTORY AND CURRENT USE	Area 1 is generally flat, comprising part of the grassed runway to the airport as well as four industrial units with associated car parking. The historic use of Area 1 has been similar to its current use and is closely associated with the past history of the airport, namely, the development of Short Brother Ltd aircraft manufacturing, as well as electrical component manufacture (Marconi and GEC) in the 1930's. Area 1 is to be developed with a mixture of open park space/soft landscaping and commercial units in two clusters: The Runway Park (to north of Area 1) and Orchard Cluster (to south). Area 2 is an "L" shaped area of land situated to the south of the current airfield. The eastern part of this site comprises concrete and tarmac hard standing, as well as former building areas (understood to have previously included hangars), split over two levels, with a small building and concrete structures still present in some areas. The western part of the site has been used as a caravan park since late 1970's and an "Electrical Engineering" building appeared on the eastern part of the site in the 1930's, to be demolished before the 2003. Development proposals for Area 2 are currently unknown and anticipated to include development of cark parking spaces and potential multi-storey cark park. The proposed developments are considered to represent a **Low-Moderate** sensitivity end use.
GEOTECHNICAL HAZARDS	Based on a review of available information the following risks and considerations are adjudged in relation to potential geotechnical hazards: • Made Ground and Obstructions; • Compressible Ground; • Shrinking and Swelling Clay; • Services; • Aggressive Ground Conditions; • Dissolution Features; and, • Chalk Mining.
CONTAMINATION ISSUES	Based on the history of the area there is considered to be significant potential for contamination and other ground based risks to be present beneath some of the study area. The perceived potential risks associated with these are summarised below: • End Users: A **MODERATE** risk is adjudged based on the significant potential for contamination to be present; however the proposed redevelopment of the two study areas for commercial purposes is considered to represent moderate end user sensitivity. • Groundwater: A **VERY HIGH** risk has been identified. This is driven by the presence of a Principal Aquifer beneath the site, situated within a Source Protection Zone 2; and the potential for significant contamination to be present beneath the site derived from historic industrial uses. • Surface Water: A **HIGH** potential risk is adjudged. A surface water feature is present on the site; while this is understood to represent a drainage feature, the overall hydrological sensitivity may be higher given the potential for hydraulic communication between surface and groundwater.

	• Ground Gases and Vapours: A **LOW-MODERATE** risk has been identified. No significant potential ground gas sources have been identified at the site; however the potential for volatile contaminants and contaminants which may degrade and generate ground gases to be present cannot be discounted. • Services: A **MODERATE-HIGH** risk is adjudged, based on the identified potential for hydrocarbons to be present beneath the site. • Groundworks: A **MODERATE** risk has been identified based on the assumption that, while basic health and safety provisions may in place, the potential for significant contamination (including asbestos) which could require more developed risk mitigation measures cannot be discounted. • Unexploded Ordnance: A **HIGH** risk is adjudged. Zetica bomb risk mapping indicates the majority of the site to be situated within a high risk area and available records state that the airport experienced a heavy bombing raid during World War II.
RECOMMENDATIONS	A ground investigation should be designed by a competent person, implemented in accordance with BS 10175:2011+A2:2017 and BS 5930+A3:2015 and reported in accordance with current technical guidance. This should provide information on the general ground conditions and also target identified potential pollutant linkages. In addition, it should consider potential geotechnical hazards in accordance with the above BS guidance and Eurocode 7 to provide information for desiccation assessment, buried concrete classification and the design of foundations, floor slabs, external areas, excavations and drainage. Issues such as soil reuse and waste classification should also be considered. Land quality assessment is an iterative process and likely to be a condition of planning consent for the redevelopment. It is recommended that this report is submitted to the Local Authority as part of the Planning Process. A detailed assessment of the potential risk associated with UXOs is recommended prior to ground investigation as records indicate the site is known to have been subject to significant bombing during World War II. Whilst not identified during the site walkover, it is recommended that a specialist undertakes a survey for invasive species.

1.0 INTRODUCTION

1.1. Appointment and Scope

1.1.1. This report has been produced by Campbell Reith Hill LLP (CampbellReith) on behalf of Medway Council (the Client) to summarise environmental and geotechnical information relating to Innovation Park Medway, Rochester Airport, Kent (hereafter referred to as the site). The references and limitations associated with this report follow the main text.

1.1.2. Innovation Park Medway comprises two discrete parcels of land, situated in the south and north-western sectors of Rochester Airport. Figures showing the location of these are presented in Appendix A.

1.1.3. The report has been produced in general accordance with the procedures for ground investigation, interpretation and reporting set out in DEFRA Contaminated Land Report (CLR) 11, BS 5930:2015, BS 10175:2011 (+A2:2017) and BS EN 1997 (Eurocode 7). The objective of the report is to collate and interpret Phase 1 Desk Study information including:

a) A conceptual model for the site ground conditions (soil, water and gas);

b) A generic quantitative risk assessment (human health, controlled waters and gas);

c) Outline recommendations for land contamination issues;

d) A geotechnical evaluation; and,

e) Geotechnical design recommendations.

1.1.4. The contamination appraisal is intended to identify remedial requirements necessary to permit the redevelopment of the site for commercial purposes, with associated areas of soft landscaping and car parking.

1.1.5. This assessment considers the objectives of the National Planning Policy Framework which requires information to demonstrate that a site is suitable for its new use (taking account of ground conditions and land instability) and not capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990 (after remediation). The NPPF requires adequate site investigation information, prepared by a competent person.

1.1.6. It should be recognised that further appraisals, investigations, specification and validation may be required to accord with the recommendations stated herein. It is noted that these appraisals do not consider wider development issues, with cost implications, such as waste classification.

1.1.7. The geotechnical appraisal has been carried out in accordance with Eurocode 7.

1.1.8. The report is based a review of readily available information as referenced and a site visit undertaken by a representative of CampbellReith on 14th August 2018. The desk study information is presented in Appendix B. Photographs taken during the site visit are presented in Appendix C.

2.0 SITE DESCRIPTION

2.1. Site Location

2.1.1. The study site comprises two discrete areas, situated in the north west (Area 1) and southern (Area 2) sectors of Rochester Airport.

2.1.2. The airport is situated on the south-western edge of the Chatham/Rochester urban area and on the eastern side of the M2 motorway. The A229 (Maidstone Road) runs along the eastern boundary of the airport, with an industrial estate and residential areas present to the north.

2.1.3. Area 1 is approximately 14.8Ha in size and centred on National Grid reference 164727E, 574332N. Area 2 occupies approximately 3.3Ha and is centred on 163753E, 574614N.

2.1.4. A plan showing the location and extents of the areas is presented as Figure 2. Site photographs are provided in Appendix C, with photograph locations presented as Figure 5.

2.2. Site Layout

Area 1

2.2.1. Area 1 is approximately triangular in shape and is predominantly an area of grassed airfield, but also includes a part of Rochester Airport Industrial Estate, comprising approximately four commercial units and associated parking areas.

2.2.2. The area can be accessed via Maidstone Road and Laker Road in the east and Marconi Way in the northeast.

Based on satellite imagery, the area appears relatively flat and is recorded to be approximately 118.0-120.0m above ordnance datum (AOD), increasing in height from north west to south east.

Area 2

2.2.3. An annotated plan showing key features identified within and around Area 2 is presented as Figure 3.

2.2.4. Area 2 is approximately 'L' shaped and comprises a caravan storage site with associated buildings and a residential dwelling in the west sector; and areas of hardstanding, car parking, built up areas of Made Ground, former building footprints and concrete structures in the east.

2.2.5. The area can be accessed via Rochester Road (for the caravan site) in the west; and from Maidstone Road (for the remainder) in the east. The concrete car parking area situated in the east of Area 2 may also be accessed via the car parking associated with the current Medway Innovation Centre offices, situated nearby to the north.

2.2.6. During the site walkover it was noted that the east sector of Area 2 has historically comprised an area of former buildings, now demolished, with associated tarmac hardstanding situated around these, and split over two separate levels.

2.2.7. From the current Innovation Centre building area situated to the north, the area slopes up onto a relatively flat area (residing at approximately 132.0-132.5m AOD) which comprises concrete and tarmac, with some raised building floor slabs and former wall structures also apparent.

2.2.8. At the south end of the concrete car parking area a significant slope upwards of approximately 3.0m in height is present, with a raised platform of 135.0-136.0m AOD completing the remainder of the south east sector.

2.2.9. This raised platform appears to be effected by a combination of raised former building platforms as well as a volume of placed Made Ground comprising a significant proportion of brick. A cross-section of the above is presented alongside Figure 3.

2.2.10. In the south east corner of the concrete car parking area, a two storey building associated with the now demolished larger structures in this area remains. This is understood to include an electricity sub-station; with an associated external staircase illustrating the former split building level. Concrete structures associated with former buildings are also still present nearby to the west. These features are visible in Photographs 3-5 (inclusive) presented in Appendix C.

2.2.11. The caravan storage area in the west sector of Area 2 generally resides at 137.0-138.0m AOD, however slopes of up to 3.0m in height are present around the periphery of this facility, generally occupied by trees and dense vegetation.

2.2.12. The remainder of the caravan park area predominantly comprises tarmac access roads, former camp site buildings, and a residential property. An area used for burning waste was also noted in the north east corner of the property, whilst a sceptic tank serving the residential dwelling is also present nearby to the west of this structure.

2.3. Invasive Plant Species

2.3.1. The potential presence of invasive plant species, such as Japanese Knotweed, has not been assessed and it is recommended that an appropriately qualified specialist carries out a survey.

2.4. Surrounding Land Use

2.4.1. To the west, north-west and north of Area 1 lies the main portion of Rochester Airport Industrial Estate, recreational / sports grounds and further afield, residential land uses. To the north of Area 2 lies Rochester Airport and associated buildings and runways.

2.4.2. East and south east of Area 1 lie runways associated with Rochester Airport, followed by commercial units to the east and southeast and residential developments and open fields to the east and northeast. East of Area 2 lies residential properties and a superstore.

2.4.3. South of Area 1 lie runways associated with Rochester Airport, with residential land uses and a covered reservoir present south of Area 2.

2.4.4. West of Area 1 lies a strip of commercial units followed by Rochester Road, M2 and open greenfields / woodland. The same road networks are present west of Area 2, alongside a go-kart circuit and additional woodland.

2.5. Redevelopment Proposal

2.5.1. The site is to be developed with a mixture of commercial units, associated car parking, and open park space/soft landscaping; considered to represent a **Low-Moderate** sensitivity end use.

3.0 ENVIRONMENTAL SETTING

3.1. Geology

3.1.1. The British Geological Survey (BGS) geology viewer [1] of the area shows the bedrock of the site to be the Seaford Chalk Formation, described as a firm, white chalk with nodular and tabular flint seams. Hard lithified strata and thin marls are known to be present within the lower beds of the formation. Flint nodules are noted to be large to very large in size. Superficial deposits of the Clay with Flints Formation are recorded to overlay the Chalk, described broadly as unbedded and heterogeneous orange to brown and red to brown sandy Clays.

3.1.2. Nearby boreholes, accessed through the online BGS borehole archive [2], indicate a layer of turf over topsoil up to 0.1m bgl, underlain by Made Ground up to 0.45-0.60m bgl. Variable Clay deposits (Clay with Flints Formation) are recorded beneath the Made Ground up to 2.20m bgl, in turn underlain by variable Chalks (Seaford Chalk Formation) encountered up to hole completion (4.6m bgl).

3.2. Geological Hazards

3.2.1. The Groundsure Report [3] indicates a 'Negligible' to 'Low' Hazard Rating for the following natural ground hazards: shrink-swell clays, landslides, compressible deposits, collapsible deposits and running sands on site. However, the Hazard Rating for ground dissolution of soluble rocks is indicated to be 'High'. Further, due to the recorded presence of Clay deposits (Superficial Clay with Flints) on site, and likely Made Ground associated with historic and present developments, the Hazard Rating for shrink-swell clays and compressible ground has been modified to Moderate.

3.2.2. Both site areas are recorded in the Groundsure Report [3] to contain natural cavities. Four solution pipes are recorded in the north west of Area 1 and two solution pipes are recorded in the central part of Area 2.

3.2.3. The site is located within chalk mining area [3]. An associated chalk cavity has been recorded 296m west of the site. The available report suggests that "non-coal mining" is 'Unlikely' to have been carried out on site. However, a suspected chalk mining feature has been identified from historic maps approximately 184m north of Area 2. Geological conditions on site are considered suitable for mineral extraction and therefore, the potential for further unrecorded extraction features cannot be discounted.

3.2.4. The Coal Authority UK Map [4] does not include the site within a coal mining reporting area and no brine affected areas have been identified within 1km of the site.

3.3. Seismicity

The national forward to BS EN 1998-1:2004+A1:2013 'Eurocode 8: Design of Structures for Earthquake Resistance – Part 1' states there are no requirements in the UK to consider seismic loading, and the whole of the UK may be considered an area of very low seismicity in which the provisions of EN 1998 need not apply.

3.4. Hydrogeology

3.4.1. The site hydrogeology is summarised in Table 3.1 and the associated references listed at the back of the report.

Table 3.1: Summary of Hydrogeology

Type	Distance	Description	Ref
Superficial/Drift Deposits	On site	Unproductive	[3]
Soil/Bedrock Deposits – Seaford Chalk Formation	On site	Principal Aquifer	[3]
Soil Leaching Potential	-	-	-
Source Protection Zone	On site	SPZ 2 Outer Catchment (Area B) SPZ 3 Total Catchment (Area B)	[3]
Groundwater Abstractions	513-514m E	License: 9/40/02/0236/G Details: Potable Water Supply – Direct Source: Southern Region Groundwater Point: Boreholes at Snodhurst Ps	[3]
	697m W	License: 9/40/02/0236/G Details: Potable Water Supply – Direct Source: Southern Region Groundwater Point: Boreholes at Nashenden Ps	[3]

3.4.2. The site is considered to have a **High** Sensitivity with respect to hydrogeology. The sensitivity is based upon the definitions provided in NHBC R&D661, as amended to include the requirements of the Water Framework Directive and the EA's River Basin Catchment Plans.

3.5. Hydrology

3.5.1. The site hydrology is summarised in Table 3.2 and the associated references listed at the rear of the report.

Table 3.2: Summary of Hydrology

Type	Distance	Description	Ref
Surface Water features	On-site	No surface water features were identified on site during the recent walkover; however it is understood that some drainage channels are present and these are assumed to ultimately discharge to the River Medway	[3]
Surface Water Abstractions	<2km	None identified	[3]
River network	<2km	None identified	[3]
Flooding	>250m	None identified	[3]

3.5.2. The site is considered to have a **Low-Moderate** Sensitivity with respect to hydrology. The sensitivity is based upon the guidance detailed for the hydrogeological assessment above.

[1] Guidance for the Safe Development of Housing on Land Affected by Contamination R&D66: 2008 Volume 1 (Environment Agency, NHBC and CIEH)

3.6. Radon

3.6.1. The Groundsure Report [3] indicates that the site is located in an area where between 1-3% of homes are above the action level and as such a **LOW** risk is adjudged and radon protection measures are not required for development, excluding any proposed basement construction.

3.6.2. BRE 211: Radon – Guidance on Protective Measures for New Buildings (2015) notes that all basements are at increased risk of elevated levels of radon regardless of geographic location, because more walls are in contact with the ground as well as the floor, and reduced natural ventilation below ground level increases the risk of elevated radon levels. In addition, the Management of Health and Safety at Work Regulations (1999) require the assessment of health and safety risks and both the Health and Safety Executive (HSE) and Public Health England (PHE) state that this should include the measurement of radon for occupied below ground workplaces (occupied for more than 1 hour per week/52 hours of the year), irrespective of whether a site is situated in a radon affected area. This is the responsibility of the Employer.

3.6.3. As such, if the proposed development is to include construction of a basement, consideration should be given to the incorporation of radon protection measures or site specific assessment to determine whether protective measures are actually required. The form of assessment should be agreed in advance with Building Control and/or the Contaminated Land Department of the Local Planning Authority but may include passive radon monitoring during ground investigation together with a more detailed assessment of the site geology to determine the likelihood for radon-emitting strata to be present at the site.

3.7. Sensitive Land Uses

3.7.1. A review has been made of Designated Ecological sites. These are summarised in Table 3.3 below and presented on Figure 4.

Table 3.3: Summary of Designated Sites

Type	Distance	Description	Ref
Sites of Special Scientific Interest (SSSI)	1km-2km	3 x SSSI have been identified within the indicated distance from the site	[3]
Areas of Outstanding Natural Beauty (AONB)	50-250m (West, beyond the M2)	1 x AONB has been identified within the indicated distance from the site (Kent Downs AONB)	
Ancient Woodlands	50-250m	5 x ancient woodlands haven been identified within the indicated distance from the site (nearest is Frith/Impton Woods)	

4.0 SITE HISTORY AND INDUSTRIAL SETTING

4.1. Site History

4.1.1. Information relating to the site history has been obtained by reference to the Groundsure report [3] including historical mapping and is summarised for the site and its surroundings in Tables 4.1 and 4.2.

Table 4.1: Site History

Date	Development
1865	Area 1 is formed predominantly of the woodland of Great Delce Wood in the north and Slipper's Hearne in the south, with minor areas of grassland / agricultural land in the east. Area 2 is predominantly covered by Woolmans Wood.
1895-1907	Woodland previously covering Area 1 no longer exists, instead, three footpaths are present. No change is observed in Area 2.
1932-1933	A recreational and sports ground area are seen to extend within the north-eastern corner of Area 1, with one structure present on the northeast boundary. No significant changes are present in Area 2.
1938-1939	Removal of recreational areas and structures and suspected development of larger commercial structures within the north-eastern corner of Area 1. Eastern strip of Area 2 developed with two rectangular structures, later seen to be "electrical engineering works".
1955	Removal of past structures previously present in Area 1. Development 'works' present in the north of the site. Removal of woodland in Area 2.
1961-64	Area 1 – Two small buildings present in north central part of the site associated with engineering 'works' to the north. Pond present opposite the entrance to the larger building to the north of the site (Electronic Engineering Works). Area 2 – 'Works' buildings remain to west of site and the remainder of the open area labelled as Rochester Airport. 1972 Revision to map of Area 2 shows extension to rear of Electrical Engineering Works and an electricity substation to the east of the site.
1973-1975	Development of 2 / 3 small structures and associated strip of land within the north-north-eastern part of Area 1. Suspected extensions/developments to buildings previously recorded in Area 2.
1988-1989	Further developments along the northern strip of Area 1, including 2/3 rectangular structures, suspected to be commercial / industrial. Development of a caravan site within the central-western parts of Area 2. Electrical engineering building and substation remains to east of Area 2.
1990-2002	Suspected minor developments associated with present buildings. Areas more or less in the same layout seen today.
2003 to date	Apparent demolition of the Electrical engineering building and substation to the east of Area 2.

Table 4.2: Adjacent Land History

Date	Development
1865	Surrounding area predominantly grassland / agricultural spaces and woodland. Horsted (suspected small village) including pond feature and a minor chalk pit present approximately 150-300m east / southeast of Area 1, respectively.
1895-1896	Further removal of woodland areas, with earthworks present approximately 150m west of Area 1. Further suspected earthworks and suspected chalk mining feature also present 100-150m north of Area 1. New Horsted developed approximately 160m north of Area 2.
1907	Development of reservoir south of Area 2.

Date	Development
1932-1933	Residential areas, sports stadium and fort developed to the north / northeast of Area 1 (note fort not indicated on previous mapping as military instillation with former garrison posting, anti-aircraft radar and latterly anti-aircraft command in bunkers [5]) Area of land where pits were found (A.D. 1892) present east of Area 1. Residential developments present east and south of Area 2. Band of land adjacent to Area 2 now titled Coalpit Bank.
1938-1955	Significant residential and commercial developments to the north, east and south of the site. Including development of suspected commercial units adjacent to the northern boundary of Area 1.
1967-1970	Further suspected commercial developments north of Area 1 and east of Area 2. Development of Medway Towns Motor Road east of the site. Development of Rochester Airport and associated land / buildings between Area 1 and 2.
1988-1989	Further strips of commercial developments present adjacent to the north and western site boundaries of Area 1 and north-northeast of Area 2.

4.2. Unexploded Ordnance (UXO)

4.2.1. A preliminary review has been made of the UXO risk presented by the site based upon CIRIA C681 ('Unexploded Ordnance (UXO) – A guide for the construction industry') and the assessment matrices presented in Tables 5.1-5.3 therein.

4.2.2. Zetica bomb risk mapping indicates the majority of the site to be situated within a high risk area. In addition, available records indicate that "The airport was bombed heavily during the war by a wing of Dornier 17s on August 15th 1940. Many 100lb bombs scored hits on the factory and the runways." [6].

4.2.3. As such the potential for unexploded ordnance to be present beneath the site is currently considered to be **HIGH** and will require further assessment and consideration during future phases of work.

4.3. Tunnels and Infrastructure

4.3.1. In reference to the Groundsure report [3] and GISSMO [4], no tunnels, tunnel features or railway lines are recorded to exist beneath the site.

4.3.2. It should be noted that the above review does not constitute a formal review of all buried utilities that may be present at the site.

4.4. Current Industrial Setting

4.4.1. Table 4.3 summarises identified industrial features which may present a potential source of contamination to the site based upon the Groundsure Report. The Groundsure Report should be consulted for further details. Unless otherwise stated, only those features that are within the stated review distances have been included.

Table 4.3: Industrial Setting

Type	Distance Reviewed	Distance from Site	Description
Contaminated land register entries and notices	<500m	N/A	Not present
Landfills	<250m	N/A	None present (note Non-operational landfill recorded 268m W of Site A – "Difficult" waste)
Waste Transfer/Treatment Stations	<100m	N/A	Not present
Potentially Infilled Land	<250m	N/A	Not present
Pollution Incidents	<50m	Onsite (Area 1)	EA recorded pollution incident. Category 3 (Minor) impact to air, land and water. Date: 12/5/2002, ref. 78204, Pollutant: not defined ("other")
		8m W (Area 1)	EA recorded pollution incident. Category 4 (no impact) impact to air and water. Category 3 (minor) impact to land. Date: 12/7/2001, ref. 15838, Pollutant: Oils and Fuel - Diesel
		50m NW (Area 1)	National Incidents Recording System, List 1. Substantiated pollution to watercourse (D) of Medway Estuary (22 March 1999). Priority description: Immediate (within 2hrs), Waste description: not available, Water impact: significant, Land impact: significant, Air impact: No impact. Pollutant: not recorded. (NGR: 574200, 165100)
Environmental Permits	<150m	N/A	No records of historic IPC or Part A(1) IPPC Authorised Activities present
		On site (Area 1)	Water Industry Referrals (potentially harmful discharges to the public sewer), Ref: AF0539, Vacuum Physics Department, Airport Works. Active
		On site (Area 1)	Part A(2) and Part B Activities and Enforcements: BAE Systems Ltd, Marconi Way, Rochester, ME1 2XX Process: Surface Cleaning, Status: Current Permit. Permit Type: Part B. No enforcements notified
		68m SW (Area 1)	Part A(2) and Part B Activities and Enforcements: Aeromet International Ltd, 21 Laker Road, Rochester, ME1 3QX. Process: Non Ferrous Metal Process. Status: Current Permit. Permit Type: Part B. No enforcements notified
		126m E (Area 1)	Records of Category 3 or 4 Radioactive Substance Licences: Mid Kent College, Horsted, Maidstone Road, Chatham, Kent, ME5 9UQ. Disposal Of Radioactive Waste (was Rsa60 Section 6). Ref: BA4477
Discharge Consents	<100m	47m E (Both Area 1 and 2)	Retail Park Development, Retail Park Development, Maidstone Road, Chatham, Kent Effluent Type: Trade Discharges – Site Drainage Permit Number: P06806R Permit Version: 1 Receiving Water: Into Land Status: New Consent (wra 91, S88 & Sched 10 As Amended By Env Act 1995) Issued 1/4/1997, effective 1/4/1997, and revocation date 3/12/1997
		47m E	Address: Maidstone Road, Maidstone Road, Chatham, Kent, ME5. Effluent Type: Miscellaneous

Type	Distance Reviewed	Distance from Site	Description
		(Both Area 1 and 2)	Discharges - Surface Water Permit Number: P01037L. Permit Version: 1 Receiving Water: Freshwater River. Status: Lapsed Under Schedule 23 Environment Act 1995. Issue date: 29/6/1987, Effective Date: 29/6/1987, Revocation Date: 31/3/1997
Abstractions	<250m	-	Not present
Fuel Stations	<200m	-	No active stations present
Contemporary trade directory entries- active	<100m	0m	None present on site Area 1
			In the south eastern part of Area 2 is an Electricity Substation
		1–100m	Area 1: Unspecified works (x4), a tank (x2), unspecified works, electricity substation (x3), mechanical engineers, unspecified factory (x4), construction completion services (x2), garden goods, measurement and inspection equipment (x2), cooling and refrigeration, mechanical electrical equipment (x2), catering and food products, electrical equipment (x2), Warehouse and Depot (x5), Fuel Distribution, Joinery (x2), precision engineers and tooling, vehicle testing and repair (x3), Printers, Hydraulics repair
		1-100m	Area 2: Specialist machinery, airport, innovation centre, helicopter charter firm, Soloman Petroleum Services
Control of Major Accident Hazards (COMAH) Sites	<500m	-	Not present

4.4.2. The past history of Rochester Airport site and some of the surrounding areas is characterised by military uses, such as:

- Fortifications, bunkers and anti-aircraft uses part of the defences of the Chatham and Rochester Ports (Napoleonic, later used through World Wars and into Cold War)[5]; and,
- Aircraft and component design and manufacture (site of former Shorts Aircraft Factory and Marconi/GEC electrical engineering sites [6]).

It has been common practice for militarily "sensitive sites" not to be shown on historic maps as result of government censorship of OS mapping. There is a significant possibility that some former uses of the site and surrounding areas are unrecorded in available mapping.

4.4.3. The following features identified in the review of information available and listed above require further consideration as part of the conceptual site model:

- Onsite current and previous use as an electrical component engineering and aeronautical manufacturing site (both Area 1 and Area 2) with associated tanks (some ASTs identified in mapping) and use and storage of potentially hazardous materials;
- Onsite previous contamination incident (EA recorded pollution incident, Category 3 (Minor) impact to air, land and water. Date: 12/5/2002, ref. 78204). The pollutant was

not defined ("other") and some legacy may remain within below ground soil and groundwater at Area 1;

- Onsite previous electricity substation (east central part of Area 2) which may have formerly used PCBs as a coolant and may have leaked or spilt to the soils at the site;
- Offsite previous contamination incident recorded 8m W of Area 1 (Category 3 (minor) impact to land. Date: 12/7/2001, ref. 15838, Pollutant: Oils and Fuel – Diesel) was assessed to have had a minor impact on land that may encroach onto the site soils and groundwater; and,
- Offsite: Significant pollution incident 50m NW of Area 1 (National Incidents Recording System, List 1 [ref: 2171.0], 22 March 1999. A release of an unknown contaminant resulted in a "significant" impact to land and water receptors). Without other information it is possible that this may have resulted in contamination to the land and groundwater at Area 1.

4.4.4. Other features listed in the table above are not otherwise considered further. This includes a Non-operational landfill recorded 268m W of Area 1. Available records note that this contained "Difficult" waste. However, this landfill is greater than 250m from the site and it is unlikely that a migration pathway exists to transport contamination either in groundwater or ground gas to the site (nearest to Area 1). The permitted discharges to public sewer, permitted use of surface cleaning operations (current on Area 1) and non-ferrous metal process activities (Adjacent Area 1) should be controlled as part of the licence conditions and liability for contamination and clean up created by these activities would reside with the permit holders. The onsite use of Area 2 as a Caravan Park is not considered to be a significant potentially contaminative use.

5.0 PRELIMINARY CONCEPTUAL SITE MODEL & QUALITATIVE RISK ASSESSMENT

5.1. Introduction

5.1.1. Current practice for land contamination evaluation involves classification of risk for each of the identified contaminant source-pathway-receptor pollutant linkages. These are summarised below, considering the desk study information obtained. This information has been utilised to design the site investigation considering the proposed end use.

5.2. Classification of Risk

5.2.1. Risk is defined by the combination of two factors: i) the probability of an occurrence (expressed as a likelihood); and ii) the consequence of it happening (expressed as a severity). The procedure for classifying risk is summarised in Table 5.1. The categories of risk have been based upon those defined in the Guidance for the Safe Development of Housing on Land Affected by Contamination, R&D66: 2008 Volume 1 (Environment Agency, NHBC and CIEH). The categories are defined in the Environmental Risk Assessment Supporting Information section to the rear of this report, together with definitions of the classifications of probability and consequence.

Table 5.1: Classification of Risk

Probability (Likelihood)		Consequence			
		Severe	Medium	Mild	Minor
	High likelihood	Very high risk	High risk	Moderate risk	Low risk
	Likely	High risk	Moderate risk	Moderate/low risk	Low risk
	Low likelihood	Moderate risk	Moderate/low risk	Low risk	Very low risk
	Unlikely	Moderate/low risk	Low risk	Very low risk	Very low risk

5.3. Potential Sources of Contamination

5.3.1. Table 5.2 summarises the potential contamination sources that have been identified on or near the site. The potential contaminant types associated with these is then given based upon a review of CLR 11, industry profiles and anecdotal information:

Table 5.2: Potential Sources of Contamination

Feature on or near site	Potential Contaminant
Onsite current and previous use as an electrical engineering component and aeronautical manufacturing site (**both Area 1 and Area 2**) with associated tanks (some ASTs identified in mapping) and use and storage of potentially hazardous materials.	M, H, VOC, ACM, PCB
Onsite previous contamination incident (EA recorded pollution incident, Category 3 (Minor) impact to air, land and water. Date: 12/5/2002, ref. 78204). The pollutant was not defined (“other”) and some legacy may remain within below ground soil and groundwater at **Area 1.**	H, VOC, PCB, Otherwise unknown

Feature on or near site	Potential Contaminant
Onsite previous electricity substation (east central part of **Area 2**).	PCB
Offsite previous contamination incident recorded 8m W of **Area 1** - Category 3 (minor) impact to land.	H, PAH (Diesel)
Offsite previous pollution incident 50m NW of **Area 1** (National Incidents Recording System, List 1) unknown contaminant resulted in a "significant" impact to land and water receptors.	H, VOC, PCB, Otherwise unknown
Notes: M – Metals. H – Hydrocarbons. VOC – Volatile Organic Compounds. ACM – Asbestos containing Materials. PCB – Polychlorinated biphenyls. GG – Ground Gases	

5.4. Receptors and Exposure Pathways

5.4.1. Potential risks have been identified based on the proposed site use (see Section 2), the receptors and potential pathways by which the receptor/s may be exposed to the contaminant source/s. These are presented in Table 5.3:

Table 5.3: Receptors and Exposure Pathways

Receptor	Pathway	Risk
End Users	Ingestion of soil/dust	**LOW-MODERATE** – intended end use includes commercial buildings with associated areas of car parking and some soft landscaping.
Neighbours		**LOW** – intended end use includes commercial buildings with associated areas of car parking and some soft landscaping.
Construction Workers		**LOW-MODERATE** – Uncertain nature of ground conditions and potential for contamination below site represents risk during construction to receptors. It is likely that appropriate PPE and working method will be applied to reduce this risk.
End Users	Inhalation of soil/dust (including potential asbestos fibres)	**LOW-MODERATE** – intended end use includes commercial buildings with associated areas of open park/soft landscaping and car parking.
Neighbours		**LOW** – intended end use includes commercial buildings with associated areas of car parking and some soft landscaping.
Construction Workers		**HIGH** – Uncertain nature of ground conditions and potential for contamination below site represents risk during construction to receptors. The potential for construction workers to be exposed to asbestos should be considered a potential high risk until sufficient information and data is available to quantitatively assess this.
End Users	Dermal contact with soil/dust/water	**LOW** – intended end use includes commercial buildings with associated areas of car parking and some soft landscaping.
Neighbours		**LOW** – intended end use includes commercial buildings with associated areas of car parking and some soft landscaping.
Construction Workers		**LOW-MODERATE** – Uncertain nature of ground conditions and potential for contamination below site represents risk during construction to receptors. It is likely that appropriate PPE and working method will be applied to reduce this risk.
End Users	Inhalation of vapour from soil/dust	**LOW-MODERATE** – intended end use includes commercial buildings with associated areas of car parking and some soft landscaping.

Receptor	Pathway	Risk
Neighbours		**LOW** – intended end use includes commercial buildings with associated areas of car parking and some soft landscaping.
Construction Workers		**MODERATE** – Uncertain nature of ground conditions and potential for contamination below site represents risk during construction to receptors. It is likely that appropriate PPE and working method will be applied to reduce this risk.
End Users	Migration of soil gases to confined spaces/structures	**MODERATE-HIGH** – intended use may include basements and potential for contamination to be present within soil or groundwater uncertain. Once characterised suitable remedial measures to remove the pathway between sources can reduce the risk to this receptor.
Construction Workers		**MODERATE-HIGH** – intended use may include basements / deep excavations and potential for contamination to be present within soil or groundwater uncertain. It is likely that actions by site workers to ensure safe working in confined spaces will reduce risk.
Building		**MODERATE** – intended use may include basements and potential for contamination to be present within soil or groundwater uncertain. Once characterised suitable remedial measures to remove the pathway between sources can reduce the risk to this receptor.
End Users	Inhalation of vapour from groundwater	**LOW-MODERATE** – intended end use includes commercial buildings with associated areas of car parking and some soft landscaping.
Neighbours		**LOW** – intended end use includes commercial buildings with associated areas of car parking and some soft landscaping.
Construction Workers		**LOW-MODERATE** – uncertain nature of groundwater and soil contamination may include volatile component. It is likely that actions by site workers to ensure safe working in confined spaces will reduce risk.
Surface Waters	Migration of water borne contaminants from on site	**HIGH** – There are records of historic pollution incidents on site. The character of this potential source is unknown. Site development may mobilise or otherwise introduce a pathway allowing contamination to migrate from site.
Groundwater Aquifer	Migration of contamination from surface and/or subsurface to groundwater	**HIGH** – There are records of historic pollution incidents on site. The character of this potential source is unknown. Site development may mobilise or otherwise introduce a pathway allowing contamination to groundwater (especially Area 1).
	Migration of water borne contamination from off-site	**HIGH** – There are records of significant historic pollution incidents off-site. The character of this potential source is unknown. Site development may mobilise or otherwise introduce a pathway allowing contamination to migrate from offsite to onsite receptors.
End Users	Movement of contaminants to engineered structures (water pipes)	**MODERATE** – There are records of historic pollution incidents on and off site. The character of these potential sources are unknown. Site development may mobilise or otherwise introduce a pathway allowing contamination to affect engineered structures.
Sensitive Land	Uptake by flora/fauna associated with	**LOW** – While the source and character of contamination on site is uncertain, sensitive land uses that could be affected are

Receptor	Pathway	Risk
Use (SSSI etc)	sensitive land use	a significant distance from the site.

5.4.2. Based on a preliminary conceptual site model, a **HIGH** risk has been identified from potential contamination at the site.

5.4.3. Considering the past and current uses of the site, a ground investigation is required in order to appraise the potential issues of land contamination, as well as geotechnical matters.

5.4.4. Effort should be made to locate and obtain more detail about the previous on-site and offsite contamination incidents to understand the source, extent of contamination, work to remediate the incidents and to understand if there is likely to be any residual contamination. If sufficient information becomes available it may lead to a reassessment of the risk with the effect of reducing uncertainty. However, a ground investigation may still be required to validate the findings and collect site specific information.

6.0 GEOTECHNICAL CONCLUSIONS AND RECOMMENDATIONS

6.1. Summary

6.1.1. The site is expected lie upon a layer of Topsoil / Made Ground atop of the Clay with Flint Formation, underlain by the Seaford Chalk Formation. An intrusive ground investigation with geotechnical testing is required to confirm the underlying geology, groundwater regime and engineering properties of the underlying material.

6.1.2. The site is to be developed with new commercial units, soft landscaping and car parking areas.

6.1.3. The anticipated geotechnical hazards associated with the proposed developments are summarised in Table 6.1.

Table 6.1: Summary of Onsite Geotechnical Hazards

Hazard	Description
Made Ground and Obstructions	Made Ground, associated with past and present developments, is likely present on site. Obstructions to excavations, such as historical foundations, may also be present within the Made Ground. Natural obstructions such as flints and marls are likely present within the strata. Obstructions are likely to conflict with proposed developments. Made Ground is not anticipated to be a suitable founding stratum.
Compressible Ground	Made Ground is likely to be encountered onsite, as indicated above, and is unlikely to have been laid to an engineered specification. Further soft natural ground and structureless chalks may also be present. Such strata may exhibit large total and differential settlements under relatively light loads such as that imparted by pavements or low rise residential buildings. Ground improvement or bespoke / abnormal foundation solutions may therefore be required.
Shrinking and Swelling Clay	The Clay with Flints Formation may exhibit large volume change potential. Foundations within materials of large volume change potential should be designed to relevant guidance. The designer should account for this at an early stage particularly where structures are in proximity to existing/proposed trees.
Services	The Site is likely underlain by a number of redundant and active services which may conflict with the proposed development or future intrusive ground investigation works.
Aggressive Ground Conditions	At this stage it should be assumed that the underlying materials could be aggressive to buried construction products (such as concrete and steel). This includes likely Made Ground underlying the site, which is anticipated to be of a variable composition and could also be aggressive to buried concrete.
Dissolution Features	A number of dissolution pipes have been recorded on site. Due to the recorded geology, presence of additional dissolution features cannot be discounted. Such features may conflict with proposed developments and require ground improvement / remediation and / or bespoke / abnormal foundation solutions.
Chalk Mining	A chalk related mining feature has been identified north of the site. Presence of small scale surface or underground mining features on site cannot be discounted. Such extraction features may conflict with proposed developments and require ground improvement / remediation and / or bespoke / abnormal foundation solutions.
UXO's	There is a significant potential for UXO(s) presence on site. It is recommended that appropriate UXO risk assessments are commissioned to suitably assess the potential risk posed during work below ground.

6.2. Preliminary Design Recommendations

6.2.1. The adopted foundation solution will depend on the nature of the proposed structures and the ground conditions revealed by intrusive investigations.

6.2.2. Bespoke / Abnormal / Deep foundation solutions may also be required should the intrusive ground investigation find poor quality / adverse ground conditions, dissolution features, mineral extraction features and / or obstructions. It is noted that flints and marls within the Seaford Chalk Formation should be considered as being potentially present.

6.2.3. Ground works associated with landscaping and any additional associated design requirements will, as above, be dependent on the ground conditions revealed by intrusive investigations.

6.2.4. Due to the nature of the presumed ground conditions, including the Clay with Flints Formation, heave protection and potential requirement for deepening of foundations may be required. Such requirements may be more prevalent in cases where trees are present in the vicinity of developments and should be assessed accordingly.

6.2.5. Buried concrete may have to be designed to have an enhanced resistance to sulphate and thaumasite attack.

6.2.6. Soakaway drainage may be suitable given the presence of the anticipated relatively permeable Seaford Chalk Formation. The potential for use of soakaway drainage on site requires soakage testing in the appropriate strata and locations proposed for such drainage.

6.3. Ground Investigation

6.3.1. Due to the risks identified, a ground investigation is deemed required which should be designed based on the requirements of Eurocode 7 Part 2 (and the associated national annex) to confirm the underlying geology and engineering properties of the soils. The investigation should be tailored so as to ensure the geotechnical hazards discussed in Section 7.1 are addressed. This should include, but not be limited to; boreholes, laboratory geotechnical testing, in-situ geotechnical testing (including SPT testing), soakage testing and groundwater monitoring.

The geotechnical objectives of the ground investigation are to:

- Provide a detailed geological model;
- Assess design parameters for the soil properties (both physical and chemical);
- Investigate geotechnical hazards;
- Provide groundwater and hydrogeological data; and,
- Provide adequate design information for the proposed development.

6.3.2. The ground investigation should be designed by a ‘competent person’ in accordance with BS 5930:2015 and Eurocode EN 1997 (Eurocode 7).

6.3.3. It should be noted that the nature of the site and the anticipated ground conditions present a number of practical issues that would need to be considered in the design and implementation of the recommended ground investigation.

- This site is currently in active use which may place constraints on the areas that can be investigated and will have bearing on the nature of equipment that can be deployed (in areas where available working space is limited).
- As the site is in active use, live services will be present onsite. A detailed service survey should be undertaken and safe digging best practice applied during ground investigation.

- Historical foundations, unrecorded infrastructure, flints / marls and / or unrecorded mine workings may provide obstructions to ground investigation works.

6.3.4. A Geotechnical Design/Interpretative Geotechnical Report should be prepared in accordance with Eurocode 7, once the ground investigation has been completed and the final scheme details are known.

6.4. Additional work

6.4.1. It is recommended that a detailed desk study is commissioned to assess the risk posed by UXO(s) onsite.

7.0 GEOENVIRONMENTAL CONCLUSIONS AND RECOMMENDATIONS

7.1. Summary

7.1.1. The potential sources of contamination identified at the site include:

- Onsite current and previous use as an electrical engineering component and aeronautical manufacturing site (both Area 1 and Area 2) with associated tanks (some ASTs identified in historic mapping) and use and storage of potentially hazardous materials. Potential for metals, hydrocarbons, polyaromatic hydrocarbons, volatile organic compounds and polychlorinated biphenyl;
- Onsite previous contamination incident (EA recorded pollution incident, Category 3 (Minor) impact to air, land and water. Date: 12/5/2002, ref. 78204). The pollutant was not defined ("other") and some legacy may remain within below ground soil and groundwater at Area 1. Unknown contaminant may be anything from inorganic solutions, simple hydrocarbons through to more complex organic complexes;
- Onsite previous electricity substation (east central part of Area 2) associated with use of polychlorinated biphenyls (PCBs);
- Offsite previous contamination incident recorded 8m W of Area 1 - Category 3 (minor) impact to land known to be Diesel (hydrocarbon and polyaromatic hydrocarbons); and,
- Offsite previous pollution incident 50m NW of Area 1 (National Incidents Recording System, List 1) unknown contaminant resulted in a "significant" impact to land and water receptors. Unknown contaminant may be anything from inorganic solutions, simple hydrocarbons through to more complex organic complexes.

7.1.2. The site is generally considered to present a **MODERATE** to **HIGH** risk in relation to contamination across the majority of the site.

7.1.3. Effort should be made to locate and obtain more detail about the previous on and off-site contamination incidents to understand the source, extent of contamination, work to remediate the incidents and to understand if there is likely to be any residual contamination. If sufficient information becomes available it may lead to a reassessment of the risk with the effect of reducing uncertainty. However, a ground investigation may still be required to validate the findings and collect site specific information.

7.1.4. A ground investigation is required in order to appraise the potential land contamination identified. This should be designed by a 'competent person' in accordance with BS10175:2011+A2:2017. The investigation should provide general site coverage, target the potential sources of identified contamination and assess the underlying soil quality, groundwater quality and ground gas conditions. Provision should be made for between 4 to 6 visits to monitor ground gas and vapours. The investigation should also consider waste issues, as these can affect the development costs, and options for soil recycling at the site.

7.1.5. A contamination analysis suite should be applied that considers metals, semi-metals, inorganic chemicals, speciated petroleum hydrocarbons and polyaromatic hydrocarbons, phenols, and BTEX, in order to provide data for human health and groundwater risk assessments. In addition, the presence of asbestos in soils should be appraised by testing. Such testing should be

completed in accordance with UKAS and MCERTs standards. Subject to the determination of the final objectives of the ground investigation, the test suite may also be modified to facilitate the classification of waste soil arisings and also to consider the suitability of soils on site for reuse as a growing medium (BS 3882).

7.1.6. The desk study is considered sufficient to satisfy planning conditions relating to former site uses and provision of a preliminary risk assessment. It is likely that site investigation and reporting will be required in order to satisfy further planning condition(s) relating to land contamination.

7.1.7. The results of any intrusive investigation should be reported within a Land Quality Statement (LQS) for the site considering the requirements of current technical guidance (publications by the Environment Agency, NHBC and Eurocode 7) and the requirements of the NPPF or associated planning conditions. This report should include: a Generic Quantitative (Tier 2) Environmental Risk Assessment; revised Conceptual Site Model; recommendations for further assessments (if required); and, outline remedial and geotechnical recommendations. Land quality assessment is a phased process and it should be noted that further investigation, assessment and reporting may be required, dependent upon the findings of the Land Quality Statement.

7.2. Additional Work

7.2.1. Whilst not identified during the site walkover, it is recommended that a specialist undertakes a survey for invasive species.

TECHNICAL REFERENCES

Ref	Reference Title	Type
[1]	BGS Geology of Britain viewer (http://mapapps.bgs.ac.uk/geologyofbritain/home.html) Accessed 1st June 2018	Website
[2]	BGS Borehole Data (http://mapapps.bgs.ac.uk/geologyofbritain/home.html) Accessed 1st June 2018	Website
[3]	Groundsure Enviroinsight Report (2013) Ref: EMS-193945_283303 Dated 11th February 2013.	Mapping and associated database
[4]	Coal Authority UK Map.	Map
[5]	Victorian Forts, Bridgewoods Fort (https://www.victorianforts.co.uk/pdf/datasheets/bridgewoods.pdf) Accessed 4th June 2018	Website
[6]	Rochester Airport History (https://rochesterairport.co.uk/about/history/) Accessed 4th June 2018	Website

ENVIRONMENTAL RISK ASSESSMENT SUPPORTING INFORMATION

Soil Screening Values

The Environment Agency has published non statutory technical guidance for Regulators and their advisors to assess the chronic risk posed to human health from land contamination, known as the Contaminated Land Exposure Assessment (CLEA) Framework.

The CLEA Framework documents and associated risk assessment model are subject to ongoing technical review. In July 2008 guidance documents CLR7 to 10, which previously underpinned the CLEA Framework, were withdrawn. In January 2009 the Environment Agency published CLEA V1.04 risk assessment software and associated guidance documents[2] as a replacement to the previous CLEA UK Beta Version and documents CLR 7 to 10. Further revisions were made in September 2009 to CLEA V1.05 and October 2009 to CLEA 1.06 risk assessment software.

Soil Guideline Values (SGVs) were produced by Defra/EA and Generic Assessment Criteria (GACs) were produced by CampbellReith and others. These were based on the CLEA model and supporting guidance (SR2 and SR3) and where based on a minimal/tolerable level of risk.

In December 2014 DEFRA released final versions of the C4SLs (Category 4 Screening Levels) for 6 No. contaminants (As, benzene, BaP, Cd, Cr VI and Pb) together with a Policy Companion Document and an Erratum. These represent contaminant soil concentrations which present an acceptable (Low) level of risk, within the context of Part 2A, i.e. they are representative of Category 4 sites. In the Contaminated Land Statutory Guidance (April 2012), sites under Part 2A assessments are categorised 1 - 4, with Category 1 being definitely Part 2A and Category 4 definitely not Part 2A ('where there is no risk or the level of risk posed is low').

The C4SLs were produced using the CLEA model and follow the general approach of SR3, although, changes were made to exposure parameters and to the toxicological basis of the assessments. The C4SLs are based on a low level of toxicological concern (LLTC) and are, by definition, less conservative than Health Criteria Values (HCVs) which are the basis for assessments defined in SR2 and used in the generation of SGVs and GACs. They are, therefore, indicative of a low level of risk.

Since their release, DEFRA have confirmed that C4SLs can be used in the planning regime and DCLG (Department for Communities and Local Government) amended Planning Practice Guidance (PPG) on Land Affected by Contamination (12 June 2014)[3] which stated that C4SLs provide a simple test for deciding when land is suitable for use and definitely not contaminated land'. On 03 September 2014 the Secretary for the Environment, Lord de Mauley, issued a letter (attached) to all Local Authorities which references DCLG's PPG and confirms that C4SLs could be used in planning and provide a simple test for establishing when sites are suitable for use.

LQM/CIEH issued S4ULs in December 2014 for 89 contaminants (metals, BTEX, banded TPH, speciated PAH, chlorinated solvents, phenols, chlorophenols, chlorobenzenes, pesticides and a number of miscellaneous others). The S4ULs have generally adopted the revisions to the exposure modelling that were developed in the production of the C4SLs. Critically, however, they are based on HCVs to produce concentrations which are indicative of a minimal/tolerable level of risk.

S4ULs are therefore used as the preliminary stage of soil assessments since they are indicative of minimal/tolerable level of risk. If these are exceeded then the C4SLs are used (if available) to determine if the risk could be described as low.

Where CLEA compliant S4ULs or C4SLs are not available reference is made to Generic Assessment Criteria (GAC) derived using the CLEA UK model (beta version). These are currently used for cyanide. Where referred to, the non-compliant standing of these values is considered.

[2] Environment Agency Report Ref: SC050021/SR2 - *Human Health Toxicological Assessment of Contaminants in Soil.* January 2009. Environment Agency Report Ref: SC050021/SR3 – *Updated background to the CLEA model.* January 2009.

[3] http://planningguidance.planningportal.gov.uk/blog/guidance/land-affected-by-contamination/land-affected-by-contamination-guidance/

Selection of Appropriate [Tier 2] Soil Screening Values

The CLEA model is based upon defined exposure scenarios and six generic land uses have been established for the C4SLs and S4ULs. These set out a discrete set of circumstances where exposure may occur, including a source, the pathways, and the exposed population.

The three generic land use scenarios used in the development of SGVs are:

- **commercial / Industrial;**
- **allotments; and,**
- **residential with plant uptake,**
- **residential without plant uptake,**
- **public open space (residential)**
- **public open space (parks)**

It is noted that the CLEA screening values are generic and not always applicable. Where the CLEA conceptual model is not appropriate it will be necessary to develop site specific Detailed Quantitative Risk Assessment screening values as a further stage of assessment.

It is noted that the CLEA model does not consider risks from contaminated waters beneath the site to human health and the model also assumes that no free product is present. Should such conditions exist at the subject site the requirement for application of an alternative risk assessment model should be assessed. Alternatively, construction workers are potentially exposed to acute risk and therefore require separate consideration.

Statistical Analysis of Soil Analytical Results

Statistical analysis of soil based analytical results has been undertaken in accordance with CL:AIRE Guidance on Comparing Soil Contamination Data with a Critical Concentration (May 2008). The use of the Mean Value Test and Maximum Value Test is still considered appropriate for site assessments. Although the guidance advocates use of the one - sample t test, this is a variation of the mean value test and establishes the confidence level at which the assessor can determine whether a particular screening level has/has not been succeeded. The mean value test used herein is set at the 95th percentile confidence limit in order to be risk conservative.

The Maximum Value Test is a statistical tool that is used to identify outlier values from a numerical distribution of results for a given determinant. These outlier values can be excluded and considered separately, and the remaining values are then used to calculate upper bound 95th percentile values ($95^{\%ile}$) (Mean Value Test) for comparison with the screening values.

The results are reviewed prior to any statistical analysis in order to determine if zoning of the soils is apparent and hence whether the site requires to be divided into averaging areas. Additional tables are presented where appropriate to reflect distinct ground characteristics relevant to the conceptual model.

Water Screening Values

This assessment considers potential risks to controlled waters (groundwater and surface waters) in relation to risks from any historical contamination. The most stringent test is that defined for Contaminated Land under Part 2A of the Environmental Protection Act, 1990. However, it should be recognised that a wider evaluation of risk is considered within the planning regime and CLR 11.

The Environment Agency has a wider policy agenda for the protection of controlled waters that will impinge upon judgements in relation to land contamination issues. This includes those for the Water Framework Directive and Groundwater Directive and wider legislation for both groundwater, surface water and associated elements (such as fisheries)[4].

The results of water analysis have been compared to screening values selected to assess the potential risk to the identified controlled water receptors in the Conceptual Model. The specific standards utilised for this purpose are considered in the assessment table footnotes and typically comprise: Environmental Quality Standards for the protection of aquatic life; Surface Water Standards; EC, UK and WHO Drinking Water Standards; or Background water quality (where no applicable standard exists).

The initial assessment considers the sensitivity of the receptor in the selection of the screening value. Advice for this purpose has been obtained principally from Environment Agency Technical Advice to Third Parties on Pollution of Controlled Waters for Part 2A of the Environmental Protection Act 1990, No 07/02, EA, 2002 (INFO-RA2-3e), as informed by the EA's GP3.

Where a viable pollutant linkage is considered to be present and the screening criteria exceeded, a Qualitative Risk Assessment is presented with associated recommendations. Depending on the specific objectives, policy and practice of the Environment Agency, discussion of water screening values may be subsequently required.

Definitions of Consequence, Probability and Risk

The following classification has been taken from Guidance for the Safe Development of Housing on Land Affected by Contamination R&D66: 2008 Volume 1 (Environment Agency, NHBC and CIEH.

The key to the classification is that the designation of risk is based upon the consideration of both:

a) **the magnitude of the potential consequence (i.e. severity).**

[takes into account both the potential severity of the hazard and the sensitivity of the receptor]

b) **the magnitude of probability (i.e. likelihood).**
[takes into account both the presence of the hazard and receptor and the integrity of the pathway]

[4] Refer to Environment Agency Publications for Groundwater Protection Policy and Practice (GP3)

Classification of Consequence

Classification	Definition	Examples
Severe	Highly elevated concentrations **likely** to result in "significant harm" to human health as defined by the EPA 1990, Part 2A, if exposure occurs. Equivalent to EA **Category 1** pollution incident including persistent and/or extensive effects on water quality; leading to closure of a potable abstraction point; major impact on amenity value or major damage to agriculture or commerce. Major damage to aquatic or other ecosystems, which is likely to result in a substantial adverse change in its functioning or harm to a species of special interest that endangers the long-term maintenance of the population. Catastrophic damage to crops, buildings or property.	Significant harm to humans is defined in circular 01.2006 as death, disease*, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. Major fish kill in surface water from large spillage of contaminants from site. Highly elevated concentrations of List I and II substances present in groundwater close to small potable abstraction (high sensitivity). Explosion, causing building collapse (can also equate to immediate human health risk if buildings are occupied).
Medium	Elevated concentrations which could result in "significant harm" to human health as defined by the EPA 1990, Part 2A if exposure occurs. Equivalent to **EA Category 2** pollution incident including significant effect on water quality; notification required to abstractors; reduction in amenity value or significant damage to agriculture or commerce. Significant damage to aquatic or other ecosystems, which may result in a substantial adverse change in its functioning or harm to a species of special interest that may endanger the long-term maintenance of the population. Significant damage to crops, buildings or property.	Significant harm to humans is defined in circular 01/2006 as death, disease*, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. Damage to building rendering it unsafe to occupy e.g. foundation damage resulting in instability. Ingress of contaminants through plastic potable water pipes.
Mild	Exposure to human health **unlikely** to lead to "significant harm". Equivalent to **EA Category 3** pollution incident including minimal or short lived effect on water quality; marginal effect on amenity value, agriculture or commerce. Minor or short lived damage to aquatic or other ecosystems, which is unlikely to result in a substantial adverse change in its functioning or harm to a species of special interest that would endanger the long-term maintenance of the population.	Exposure could lead to slight short-term effects (e.g. mild skin rash). Surface spalling of concrete.

Classification	Definition	Examples
	Minor damage to crops, buildings or property.	
Minor	No measurable effect on humans. Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems. Repairable effects of damage to buildings, structures and services.	The loss of plants in a landscaping scheme. Discoloration of concrete.

Classification of Probability

Classification	Definition	Examples
High likelihood	There is pollutant linkage and an event would appear very likely in the short-term and almost inevitable over the long-term, or there is evidence at the receptor of harm or pollution.	*a) Elevated concentrations of toxic contaminants are present in soils in the top 0.5m in a residential garden.* *b) Ground/groundwater contamination could be present from chemical works, containing a number of USTs, having been in operation on the same site for over 50 years.*
Likely	There is pollutant linkage and all the elements are present and in the right place which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short-term and likely over the long-term.	*a) Elevated concentrations of toxic contaminants are present in soils at depths of 0.5-1.0m in a residential garden, or the top 0.5m in public open space.* *b) Ground/groundwater contamination could be present from an industrial site containing a UST present between 1970 and 1990. The tank is known to be single skin. There is no evidence of leakage although there are no records of integrity tests.*
Low likelihood	There is pollutant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a long period such an event would take place, and is less likely in the shorter term.	*a) Elevated concentrations of toxic contaminants are present in soils at depths >1m in a residential garden, or 0.5-1.0m in public open space.* *b) Ground/groundwater contamination could be present on a light industrial unit constructed in the 1990s containing a UST in operation over the last 10 years – the tank is double skinned but there is no integrity testing or evidence of leakage.*
Unlikely	There is pollutant linkage but circumstances are such that it is improbable that an event would occur even in the very long-term.	*a) Elevated concentrations of toxic contaminants are present below hardstanding.* *b) Light industrial units <10 yrs old containing a double-skinned UST with*

Classification	Definition	Examples
		annual integrity testing results available.

Note: A pollution linkage must first be established before probability is classified. If there is no pollution linkage then there is no potential risk. If there is no pollution linkage then there is no need to apply tests for probability and consequence.

For example if there is surface contamination and a principal aquifer is present at depth, but this principal aquifer is overlain by an aquiclude of significant thickness then there is no pollution linkage and the risks to the principal aquifer are not assessed. The report should identify both the source and the receptor but state that because there is no linkage there are no potential risks.

Description of the classified risks

Very high risk
There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the site without remediation action OR there is evidence that severe harm to a designated receptor is already occurring. Realisation of that risk is likely to present a substantial liability to be site owner/or occupier. Investigation is required as a matter of urgency and remediation works likely to follow in the short-term.

High risk
Harm is likely to arise to a designated receptor from an identified hazard at the site without remediation action. Realisation of the risk is likely to present a substantial liability to the site owner/or occupier. Investigation is required as a matter of urgency to clarify the risk. Remediation works may be necessary in the short-term and are likely over the longer term.

Moderate risk
It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely, that the harm would be relatively mild. Further investigative work is normally required to clarify the risk and to determine the potential liability to site owner/occupier. Some remediation works may be required in the longer term.

Low risk
It is possible that harm could arise to a designated receptor from identified hazard, but it is likely at worst, that this harm if realised would normally be mild. It is unlikely that the site owner/or occupier would face substantial liabilities from such a risk. Further investigative work (which is likely to be limited) to clarify the risk may be required. Any subsequent remediation works are likely to be relatively limited.

Very low risk
It is a low possibility that harm could arise to a designated receptor, but it is likely at worst, that the harm if realised would normally be mild or minor.

No potential risk
There is no potential risk if no pollution linkage has been established.

LIMITATIONS

Environmental & Geotechnical Interpretative Reports

1. This report provides available factual data for the site obtained only from the sources described in the text and related to the site on the basis of the location information provided by the client.
2. Where any data or information supplied by the client or other external source, including that from previous studies, has been used, it has been assumed that the information is correct. No responsibility can be accepted by CampbellReith for inaccuracies within this data or information. In relation to historic maps the accuracy of maps cannot be guaranteed and it should be recognized that different conditions on site may have existed between and subsequent to the various map surveys.
3. This report is limited to those aspects of historical land use and enquiries related to environmental matters reported on and no liability is accepted for any other aspects. The opinions expressed cannot be absolute due to the limit of time and resources implicit within the agreed brief and the possibility of unrecorded previous uses of the site and adjacent land.
4. The material encountered and samples obtained during on-site investigations represent only a small proportion of the materials present on the site. There may be other conditions prevailing at the site which have not been revealed and which have therefore not been taken into account in this report. These risks can be minimised and reduced by additional investigations. If significant variations become evident, additional specialist advice should be sought to assess the implications of these few findings.
5. The generalised soil conditions described in the text are intended to convey trends in subsurface conditions. The boundaries between strata are approximate and have been developed on interpretations of the exploration locations and samples collected.
6. Water level and gas readings have been taken at times and under conditions stated on the exploration logs. It must be noted that fluctuations in the level of groundwater or gas may occur due to a variety of factors which may differ from those prevailing at the time the measurements were taken.
7. Please note that CampbellReith cannot accept any liability for observations or opinions expressed regarding the absence or presence of asbestos or on any product or waste that may contain asbestos. We recommend that an asbestos specialist, with appropriate professional indemnity insurance, is employed directly by the client in every case where asbestos may be present on the site or within the buildings or installations. Any comments made in this report with respect to asbestos, or asbestos containing materials, are only included to assist the client with the initial appraisal of the project and should not be relied upon in any way.
8. The findings and opinions expressed are relevant to those dates of the reported site work and should not be relied upon to represent conditions at substantially later dates.
9. This report is produced solely for the benefit of the client, and no liability is accepted for any reliance placed upon it by any other party unless specifically agreed in writing.

Appendix A: Figures

Figure 1: Site Location

Figure 2: Redline Boundary

Figure 3: Area 2 Annotated Layout

Figure 4: Designated Ecological Sites

Figure 5: Photograph Location Plan

Innovation Park, Medway

Client: Medway Council

Figure 1:
Site Location Plan

Scale: 1:50000@A4
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Job Number: 12841
Drawn by - Checked by: RP/RLF - SB
Drg No - Status/Revision: GIS002 - B
File location: //red-data1/gis-data/12750 - 12999/12841 R - Medway/Project_Workspaces (pdf in Outputs)
Date (Revision History): 14/08/2018 (A, First Issue, 03/05/18, RP; B, Minor Amendments, 14/08/18, RLF)

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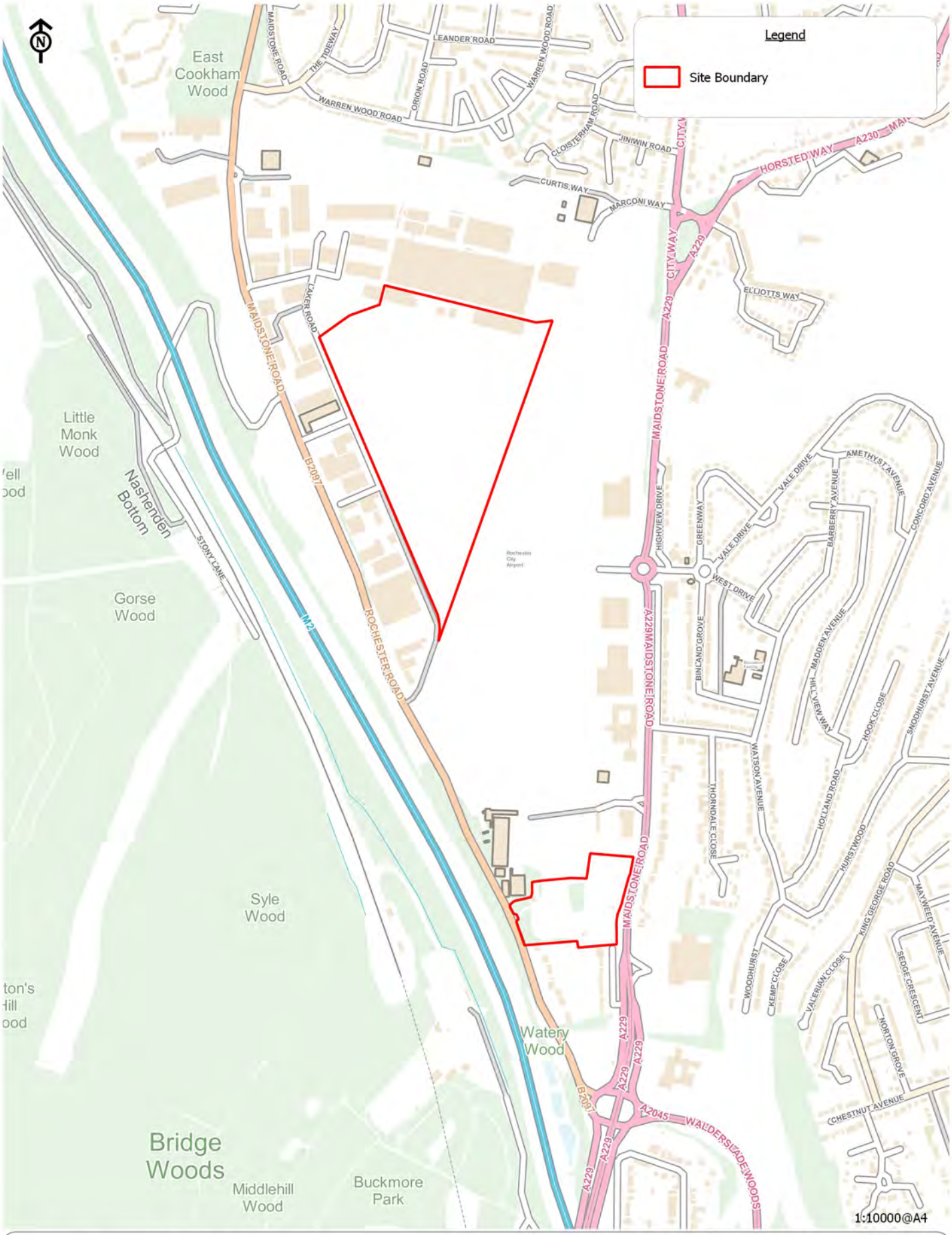

Innovation Park, Medway

Client: Medway Council

Figure 2:
Red Line Boundary

Scale: 1:10000@A4

Job Number: 12841
Drawn by - Checked by: RP/RLF - SB
Drg No - Status/Revision: GIS001 - C
File location: //red-data1/gis-data/12750 - 12999/12841 R - Medway/Project_Workspaces (pdf in Outputs)
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notes

1 Do not scale from this drawing. Work from figured dimensions only.
2 No deviation from the details shown on this drawing is allowed without Campbell Reith Hill's prior permission in writing.
3 All work is to be in accordance with the relevant specifications issued by Campbell Reith Hill, British Standard Codes or Practice, Statutory requirements and the Contract Documents.
4 Drawing Status:
P - Preliminary C - Construction
5 Suitability Code:
S0 - Work in progress S3 - For internal review and comment
S1 - For coordination S4 - For construction approval
S2 - For information
D1 - For costing D3 - For contractor review
D2 - For tender D4 - For manufacture / procurement

Legend

Site Boundary

Site Features

Dense Vegetation
Made Ground
Concrete Car Park
Concrete Structure
Raised Platform Area
Slope
Cross Section

Topography (m)

130
131.1
132.2
133.3
134.4
135.5
136.6
137.7
138.9
140

Airfield Fuel Storage Area (1 AST, 2+ UST, All Bunded)

Tarmac

Ramp up to concrete car park from current Innovation Centre

A'

Floor Slab

Burning Area

Slopes down ~2-3m

Sceptic Tank

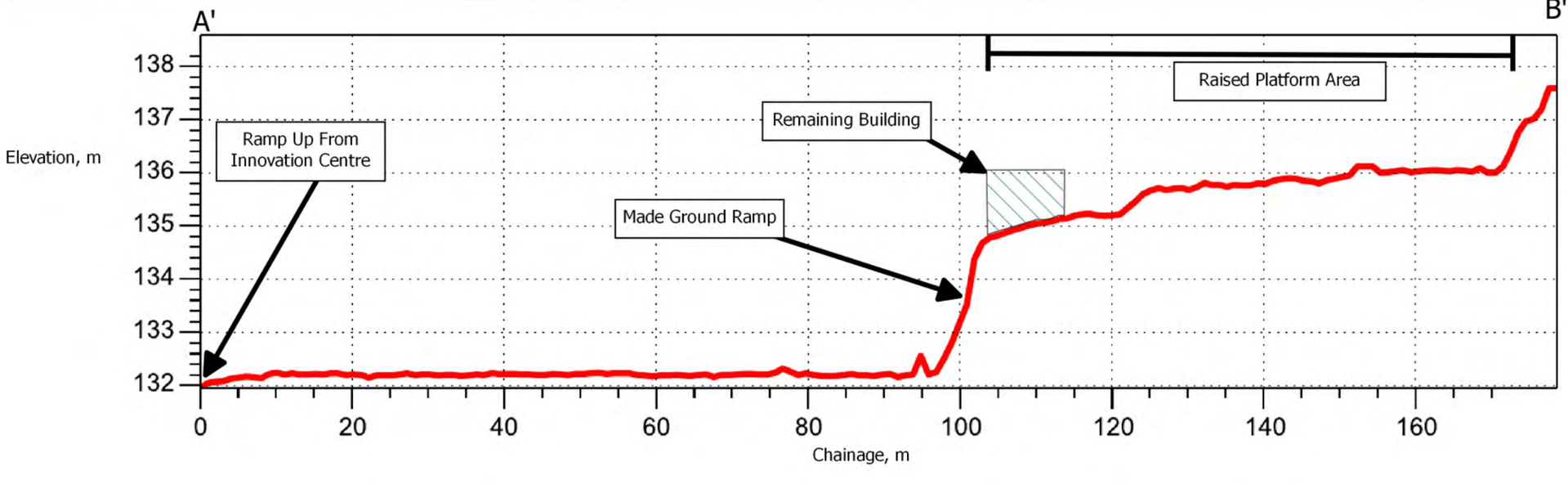
Made Ground ramps up toward South

Made Ground ramps up ~3m from concrete car parking area to rasied platform in the South of Area 2

Former Building

B'

Former Campsite Toilet Block (Derelict)



Status/ Rev.	Description	Date	By
A	First Issue	14/08/18	RLF

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Job Title: Innovation Park, Medway

Client: Medway Council

Figure 3:
Area 2 - Annotated Site Layout

Job No	Scale	Date	Drawn by	Checked by
12841	1:750@A2	Aug 2018	RLF	MP

Drg No	File Loc.	Status/Rev.
GIS014	N:\12750 - 12999\12841 R - Medway\Project_Workspaces	A

Innovation Park, Medway

Client: Medway Council

Figure 5:
Designated Ecological Sites

Scale: 1:40000@A4
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Drg No - Status/Revision: GIS004 - B
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Date (Revision History): 14/08/2018 (A, First Issue, 04/05/18, RP; Minor Amendment, 14/08/18, RLF)

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Innovation Park, Medway

Client: Medway Council

Figure 7:
Photo Location Plan

Scale: 1:1000@A3
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Date (Revision History): 15/08/2018 (A, First Issue, 15/08/18, RLF)

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Appendix B: Desk Study Information

EmapSite
Masdar House, ,
Eversley, RG27 0RP

GroundSure Reference:	EMS-193945_283303
Your Reference:	EMS_193945_283303
Report Date:	Feb 11, 2013
Report Delivery Method:	**Email - pdf**
Client Email:	sales@emapsite.com

GroundSure EnviroInsight

Address:

Dear Sir/Madam,

Thank you for placing your order with emapsite. Please find enclosed the GroundSure EnviroInsight as requested

If you would like further assistance regarding this report then please contact the emapsite customer services team on 0118 9736883 quoting the above report reference number.

Yours faithfully,

emapsite customer services team

Enc.
GroundSure EnviroInsight

GroundSure EnviroInsight

Address:

Date: Feb 11, 2013

GroundSure Reference: EMS-193945_283303

Your Reference: EMS_193945_283303

Client: EmapSite

Brought to you by emapsite

Aerial Photograph of Study Site

NW ▲ N NE

◄W E►

SW S ▼ SE

Site Name:
Grid Reference: 574470,164589
Size of Site: 68.99 ha

Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Report Section	Number of records found within (X) m of the study site boundary					
1. Environmental Permits, Incidents and Registers	on-site	0-50	51-250	251-500	501-1000	1000-1500
1.1 Industrial Sites Holding Environmental Permits and/or Authorisations						
Records of historic IPC Authorisations	0	0	0	0	-	-
Records of Part A(1) and IPPC Authorised Activities	0	0	0	0	-	-
Records of Water Industry Referrals (potentially harmful discharges to the public sewer)	1	0	0	0	-	-
Records of Red List Discharge Consents (potentially harmful discharges to controlled waters)	0	0	0	0	-	-
Records of List 1 Dangerous Substances Inventory sites	0	0	0	0	-	-
Records of List 2 Dangerous Substances Inventory sites	0	0	0	0	-	-
Records of Part A(2) and Part B Activities and Enforcements	1	0	1	1	-	-
Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	3	0	-	-
Records of Licensed Discharge Consents	0	2	1	5	-	-
Records of Planning Hazardous Substance Consents and Enforcements	0	0	0	0		
1.2 Records of COMAH and NIHHS sites	0	0	0	0	-	-
1.3 Environment Agency Recorded Pollution Incidents						
National Incidents Recording System, List 2	1	1	0	-	-	-
National Incidents Recording System, List 1	0	1	0	-	-	-
1.4 Sites Determined as Contaminated Land under Part IIA EPA 1990	0	0	0	0	-	-
2. Landfill and Other Waste Sites	on-site	0-50	51-250	251-500	501-1000	1000-1500
2.1 Landfill Sites						
Environment Agency Registered Landfill Sites	0	0	0	0	0	-
Landfill Data – Operational Landfill Sites	0	0	0	0	0	-
Environment Agency Historic Landfill Sites	0	0	0	0	0	0
Landfill Data – Non-Operational Landfill Sites	0	0	0	1	0	-
BGS/DoE Landfill Site Survey	0	0	0	0	0	0
GroundSure Local Authority Landfill Sites Data	0	0	0	0	0	0
2.2 Landfill and Other Waste Sites Findings						
Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	-	-
Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	-	-
Environment Agency Licensed Waste Sites	0	0	0	0	2	0

3. Current Land Uses	on-site	0-50	51-250	251-500	501-1000	1000-1500
3.1 Current Industrial Sites Data	10	35	45	-	-	-
3.2 Records of Petrol and Fuel Sites	0	0	1	2	-	-
3.3 Underground High Pressure Oil and Gas Pipelines	0	0	0	0	-	-

4. Geology	Description
4.1 Are there any records of Artificial Ground and Made Ground present beneath the study site? *	No
4.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site? *	Yes
4.3 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
Source: Scale: 1:50,000 BGS Sheet 272	

* This includes an automatically generated 50m buffer zone around the site.

5. Hydrogeology and Hydrology	on-site	0-50	51-250	251-500	501-1000	1001-2000
5.1 Are there any records of Productive Strata in the Superficial Geology within 500m of the study site?				Yes		
5.2 Are there any records of Productive Strata in the Bedrock Geology within 500m of the study site?				Yes		
5.3 Groundwater Abstraction Licences (within 2000m of the study site).	0	0	0	0	4	0
5.4 Surface Water Abstraction Licences (within 2000m of the study site).	0	0	0	0	0	0
5.5 Potable Water Abstraction Licences (within 2000m of the study site).	0	0	0	0	4	0
5.6 Are there any Source Protection Zones within 500m of the study site?					Yes	
5.7 River Quality	on-site	0-50	51-250	251-500	501-1000	1001-1500
Is there any Environment Agency information on river quality within 1500m of the study site?	No	No	No	No	No	No
5.8 Detailed River Network entries within 500m of the site	0	0	0	0	-	-
5.9 Surface water features within 250m of the study site	Yes	No	Yes	-	-	-

6. Flooding	
6.1 Are there any Environment Agency indicative Zone 2 floodplains within 250m of the study site?	No
6.2 Are there any Environment Agency indicative Zone 3 floodplains within 250m of the study site?	No
6.3 Are there any Flood Defences within 250m of the study site?	No
6.4 Are there any areas benefiting from Flood Defences within 250m of the study site?	No
6.5 Are there any areas used for Flood Storage within 250m of the study site?	No
6.6 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Very Low
6.7 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	High

7. Designated Environmentally Sensitive Sites	on-site	0-50	51-250	251-500	501-1000	1001-2000
7.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	3
7.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0

7.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	3
7.3 Records of Local Nature Reserves (LNR)	0	0	0	0	0	0
7.4 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
7.5 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
7.6 Records of Ramsar sites	0	0	0	0	0	0
7.7 Records of World Heritage Sites	0	0	0	0	0	0
7.8 Records of Environmentally Sensitive Areas	0	0	0	0	0	0
7.9 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	1	0	0	0
7.10 Records of National Parks	0	0	0	0	0	0
7.11 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
7.12 Records of Nitrate Vulnerable Zones	0	0	0	0	0	0
7.13 Records of Ancient Woodlands	0	0	5	1	3	10

8. Natural Hazards

8.1 What is the maximum risk of natural ground subsidence?	High

9. Mining

9.1 Are there any coal mining areas within 75m of the study site?	No
9.2 What is the risk of subsidence relating to shallow mining within 150m of the study site?	Low
9.3 Are there any brine affected areas within 75m of the study site?	No

Using this Report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between GroundSure and the Client. The document contains the following sections:

1. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

2. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

3. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure underground oil and gas pipelines.

4. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

5. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

6. Flooding

Provides information on surface water flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

7. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites. These searches are conducted using radii of up to 500m.

8. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence.

9. Mining

Provides information on areas of coal and shallow mining.

10. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, GroundSure provide a free Technical Helpline (08444 159000) for further information and guidance.

Note: Maps

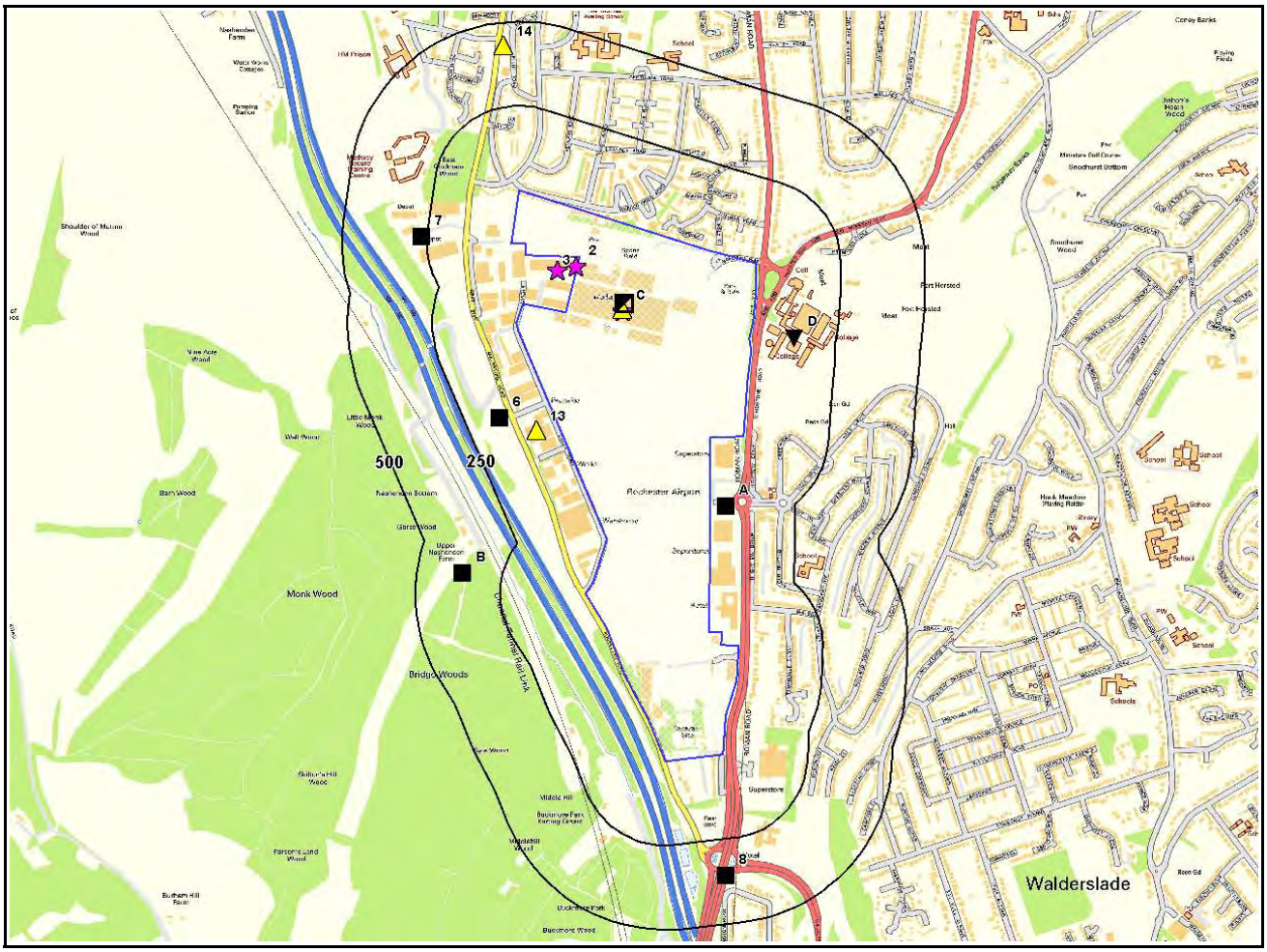
Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Environmental Permits, Incidents and Registers Map

NW N NE



W E

SW S SE

Authorisations,Incidents and Registers Legend

Enabled by Ordnance Survey

- Site Outline
- Search Buffers (m) 250 500
- Recorded Pollution Incident
- Dangerous Substances (List 1)
- Dangerous Substances (List 2)
- Water Industry Referrals
- Licenced Discharge Consents
- Red List Discharge Consents
- RAS 3 & 4 Authorisations
- Part A(1) Authorised Processes and Historic IPC Authorisations
- Part A(2) and Part B Authorised Processes
- COMAH / NIHHS Sites
- Sites Determined as Contaminated Land
- Hazardous Substance Consents and Enforcements

1.Environmental Permits, Incidents and Registers

1.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency and Local Authorities reveal the following information:

Records of historic IPC Authorisations within 500m of the study site: 0

Database searched and no data found.

Records of Part A(1) and IPPC Authorised Activities within 500m of the study site: 0

Database searched and no data found.

Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site: 1

The following Water Industry Referral records are represented as points on the Authorisations, Incidents and Registers map:

ID	Distance [m]	Direction	Address	Permission reference	Local Authority	First Date Received	Last Date Received	Status
22C	0.0	On Site	Vacuum Physics Department, Airport Works, Rochester, Kent, Me1 2xx	AF0539	Maidstone Borough Council	01-06-2001	01-04-2008	Effective

Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site: 0

Database searched and no data found.

Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site: 0

Database searched and no data found.

Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site: 0

Database searched and no data found.

Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site: 3

The following Part A(2) and Part B Activities are represented as points on the Authorisations, Incidents and Registers map:

ID	Distance	Direction	NGR	Details

12C	0.0	On Site	574394, 164979	Address: BAE Systems Ltd, Marconi Way, Rochester, ME1 2XX Process: Surface Cleaning Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
13	68.0	SW	574140, 164619	Address: Aeromet International Ltd, 21 Laker Road, Rochester, ME1 3QX Process: Non Ferrous Metal Process Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
14	426.0	N	574042, 165760	Address: Rochester Service Station, Maidstone Road Rochester, ME1 3LT Process: Unloading of petrol at storage service stations Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified

Records of Category 3 or 4 Radioactive Substance Licences within 500m of the study site: 3

The following RAS Licence (3 or 4) records are represented as points on the Authorisations, Incidents and Registers map:

ID	Distance [m]	Direction	Address	Operator	Type	Permission Number	Dates	Status
19D	126.0	E	Mid Kent College, Horsted , Maidstone Road, Chatham, Kent, ME5 9UQ	Mid Kent College	Disposal Of Radioactive Waste (was Rsa60 Section 6).	BA4477	Date of Approval:26/6/1998 Effective from:29/6/1998 Last date of update:2012-10-01	Superseded By Variation
20D	126.0	E	Mid Kent College, Horsted , Maidstone Road, Chatham, Kent, ME5 9UQ	Mid Kent College	Disposal Of Radioactive Waste (was Rsa60 Section 6).	BA4477	Date of Approval:15/9/1998 Effective from:10/10/1998 Last date of update:2012-10-01	Superseded By Variation
21D	126.0	E	Mid Kent College, Horsted , Maidstone Road, Chatham, Kent, ME5 9UQ	Mid Kent College	Disposal Of Radioactive Waste (was Rsa60 Section 6).	BA4477	Date of Approval:27/11/1998 Effective from:30/11/1998 Last date of update:2012-10-01	Revoked/ cancelled

Records of Licensed Discharge Consents within 500m of the study site: 8

The following Licensed Discharge Consents records are represented as points on the Authorisations, Incidents and Registers map:

ID	Distance	Direction	NGR	Details	
4A	47.0	E	574700, 164400	Address: Retail Park Development, Retail Park Development, Maidstone Road, Chatham, Kent Effluent Type: Trade Discharges - Site Drainage Permit Number: P06806R Permit Version: 1	Receiving Water: Into Land Status: New Consent (wra 91, S88 & Sched 10 As Amended By Env Act 1995) Issue date: 1/4/1997 Effective Date: 1/4/1997 Revocation Date: 3/12/1997

5A	47.0	E	574700, 164400	Address: Maidstone Road, Maidstone Road, Chatham, Kent, ME5 9?? Effluent Type: Miscellaneous Discharges - Surface Water Permit Number: P01037L Permit Version: 1	Receiving Water: Freshwater River Status: Lapsed Under Schedule 23 Environment Act 1995 Issue date: 29/6/1987 Effective Date: 29/6/1987 Revocation Date: 31/3/1997
6	153.0	SW	574030, 164660	Address: Csm Joint Venture, Csm Joint Venture, Maidstone Rd, Chatham, Kent Effluent Type: Trade Discharges - Site Drainage Permit Number: P09087 Permit Version: 1	Receiving Water: Into Land Status: Revoked (wra 91, S88 & Sched 10 As Amended By Env Act 1995) Issue date: 8/9/2000 Effective Date: 8/9/2000 Revocation Date: -
7	268.0	W	573800, 165200	Address: Bridgewood Business Park, Bridgewood Business Park, Maidstone Road, Rochester, Kent Effluent Type: Miscellaneous Discharges - Surface Water Permit Number: P03926 Permit Version: 1	Receiving Water: Freshwater River Status: New Consent (wra 91, S88 & Sched 10 As Amended By Env Act 1995) Issue date: - Effective Date: - Revocation Date: -
8	357.0	S	574700, 163300	Address: Medway Towns South Peripheral Rd, Medway Towns South Peripheral Rd, 400m E B'wood R/about, Maidstone, Kent, ME5 9?? Effluent Type: Miscellaneous Discharges - Surface Water Permit Number: P02166 Permit Version: 1	Receiving Water: Into Land Status: Lapsed Under Schedule 23 Environment Act 1995 Issue date: 7/3/1989 Effective Date: 7/3/1989 Revocation Date: 31/3/1997
9B	369.0	W	573920, 164200	Address: Eurolink Ctrl Constuction Site, Eurolink Ctrl Constuction Site, London Portal, Stony Lane Bluebell Hill, Chatham Kent Effluent Type: Sewage Discharges - Final/treated Effluent - Not Water Company Permit Number: P07608 Permit Version: 1	Receiving Water: Into Land Status: Revoked (wra 91, S88 & Sched 10 As Amended By Env Act 1995) Issue date: 20/5/1999 Effective Date: 20/5/1999 Revocation Date: -
10B	369.0	W	573920, 164200	Address: Eurolink Ctrl Constuction Site, Eurolink Ctrl Constuction Site, London Portal, Stony Lane Bluebell Hill, Chatham Kent Effluent Type: Trade Discharges - Unspecified Permit Number: P07608 Permit Version: 1	Receiving Water: Into Land Status: Revoked (wra 91, S88 & Sched 10 As Amended By Env Act 1995) Issue date: 20/5/1999 Effective Date: 20/5/1999 Revocation Date: -
11B	369.0	W	573920, 164200	Address: Eurolink Ctrl Constuction Site, Eurolink Ctrl Constuction Site, London Portal, Stony Lane Bluebell Hill, Chatham Kent Effluent Type: Trade Discharges - Site Drainage Permit Number: P07608 Permit Version: 1	Receiving Water: Into Land Status: Revoked (wra 91, S88 & Sched 10 As Amended By Env Act 1995) Issue date: 20/5/1999 Effective Date: 20/5/1999 Revocation Date: -

Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site: 0

Database searched and no data found.

1.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site: 0

Database searched and no data found.

1.3 Environment Agency Recorded Pollution Incidents

Records of National Incidents Recording System, List 2 within 250m of the study site: 2

The following NIRS List 2 records are represented as points on the Authorisations, Incidents and Registers Map:

ID	Distance	Direction	NGR	Details

1C	0.0	On Site	574394, 164978	Incident Date: 12/5/2002 Incident Identification: 78204 Pollutant: Other Pollutant Pollutant Description: Other	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
2	8.0	W	574254, 165111	Incident Date: 12/7/2001 Incident Identification: 15838 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

Records of National Incidents Recording System, List 1 within 250m of the study site: 1

The following NIRS List 1 records are represented as points on the Authorisations, Incidents and Registers Map:

ID	Distance	Direction	NGR	Details	
3	40.0	S	574200, 165100	Incident Date: 22-Mar-1999 Incident Identification: 2171.0 Catchments Name: MEDWAY ESTUARY (NIRS) Water Description: ESTUARY Water Course: D Incident Substantiated: Yes	Priority Description: Immediate (2 Hours) Waste Description: Not Available Water Impact: Significant Impact Land Impact: Significant Impact Air Impact: No Impact Pollutant:

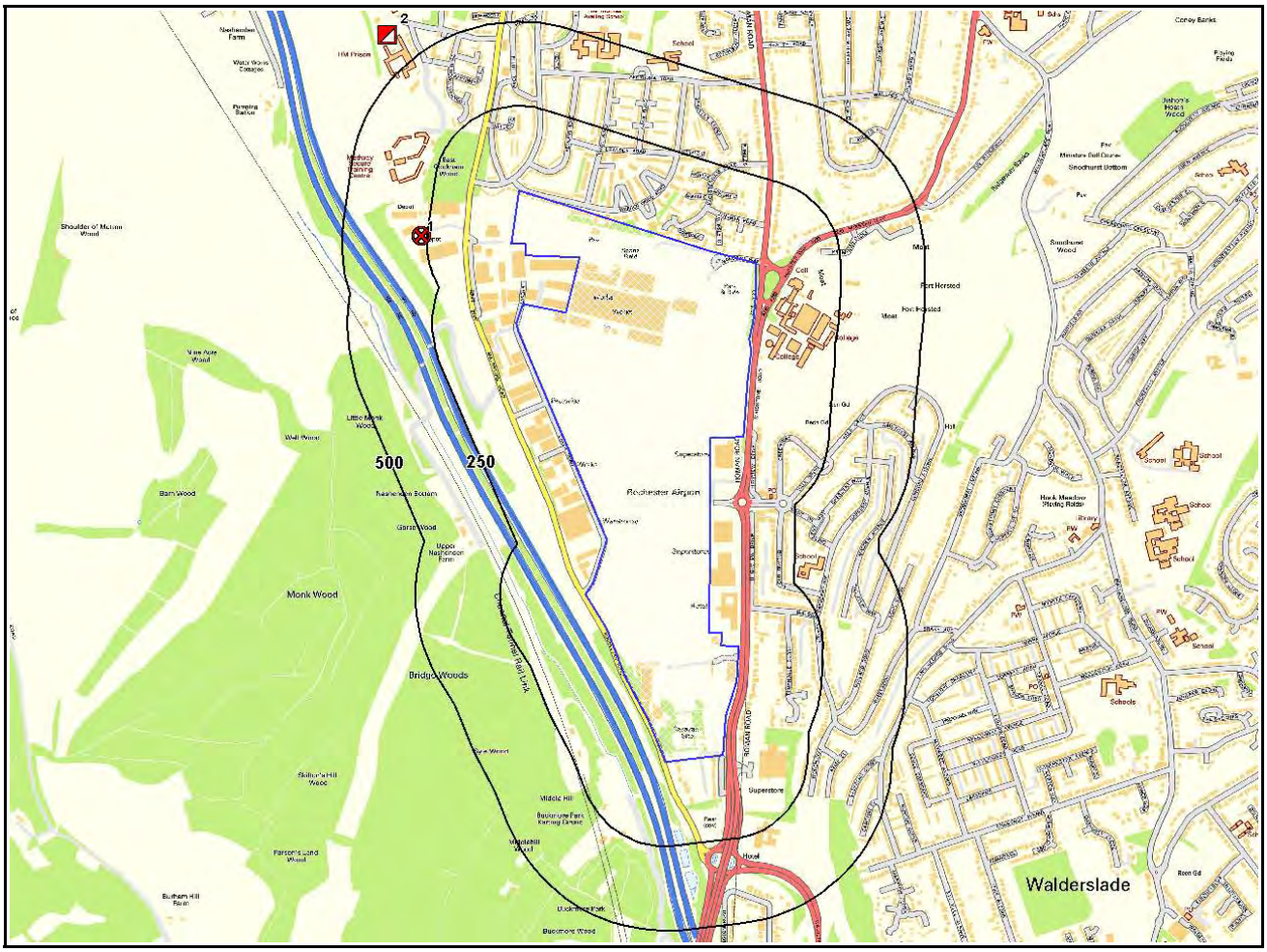
1.4 Sites Determined as Contaminated Land under Part IIA EPA 1990

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site? 0

Database searched and no data found.

2. Landfill and Other Waste Sites Map

NW ▲ N NE



◄W E►

SW ▼ S SE

Landfill & Other Waste Sites Legend

Enabled by Ordnance Survey

Site Outline

250 500 Search Buffers (m)

E.A. Active Landfill

E.A. Historic Landfill (Area Data)

E.A. Historic Landfill (Point Data)

BGS / DoE Survey Landfill

Local Authority Landfill (Area Data)

Local Authority Landfill (Point Data)

Operational Waste Treatment Licence

Closed Waste Treatment Licence

REGIS Waste Licence

Operational Landfill

Closed Landfill

2. Landfill and Other Waste Sites

2.1 Landfill Sites

Records from Environment Agency landfill data within 1000m of the study site: 0

Database searched and no data found.

Records of operational landfill sites sourced from Landmark within 1000m of the study site: 0

Database searched and no data found.

Records of Environment Agency historic landfill sites within 1500m of the study site: 0

Database searched and no data found.

Records of non-operational landfill sites sourced from Landmark within 1000m of the study site: 1

The following landfill records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance	Direction	NGR	Details	
1	268.0	W	573800, 165200	Site Address: Fort Bridgewood, ROCHESTER, Kent, Landfill Licence: 24HAKPAL Agency Reference: Waste Type: Difficult Waste Description: Difficult Landfill Known Restrictions: No known restriction on source of waste	Record Date: 01-Jun-1978 Transfer Date: Modification Date: Status: Licence lapsed/cancelled/defunct/not applicable/surrendered Category: LANDFILL Regulator: EA - Southern Region - Kent Area (Addington) Size: Undefined

Records of BGS/DoE non-operational landfill sites within 1500m of the study site: 0

Database searched and no data found.

Records of Local Authority landfill sites within 1500m of the study site: 0

Database searched and no data found.

2.2 Other Waste Sites

Records of operational waste treatment, transfer or disposal sites within 500m of the study site: 0

Database searched and no data found.

Records of non-operational waste treatment, transfer or disposal sites within 500m of the study site: 0

Database searched and no data found.

Records of Environment Agency licensed waste sites within 1500m of the study site: 2

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

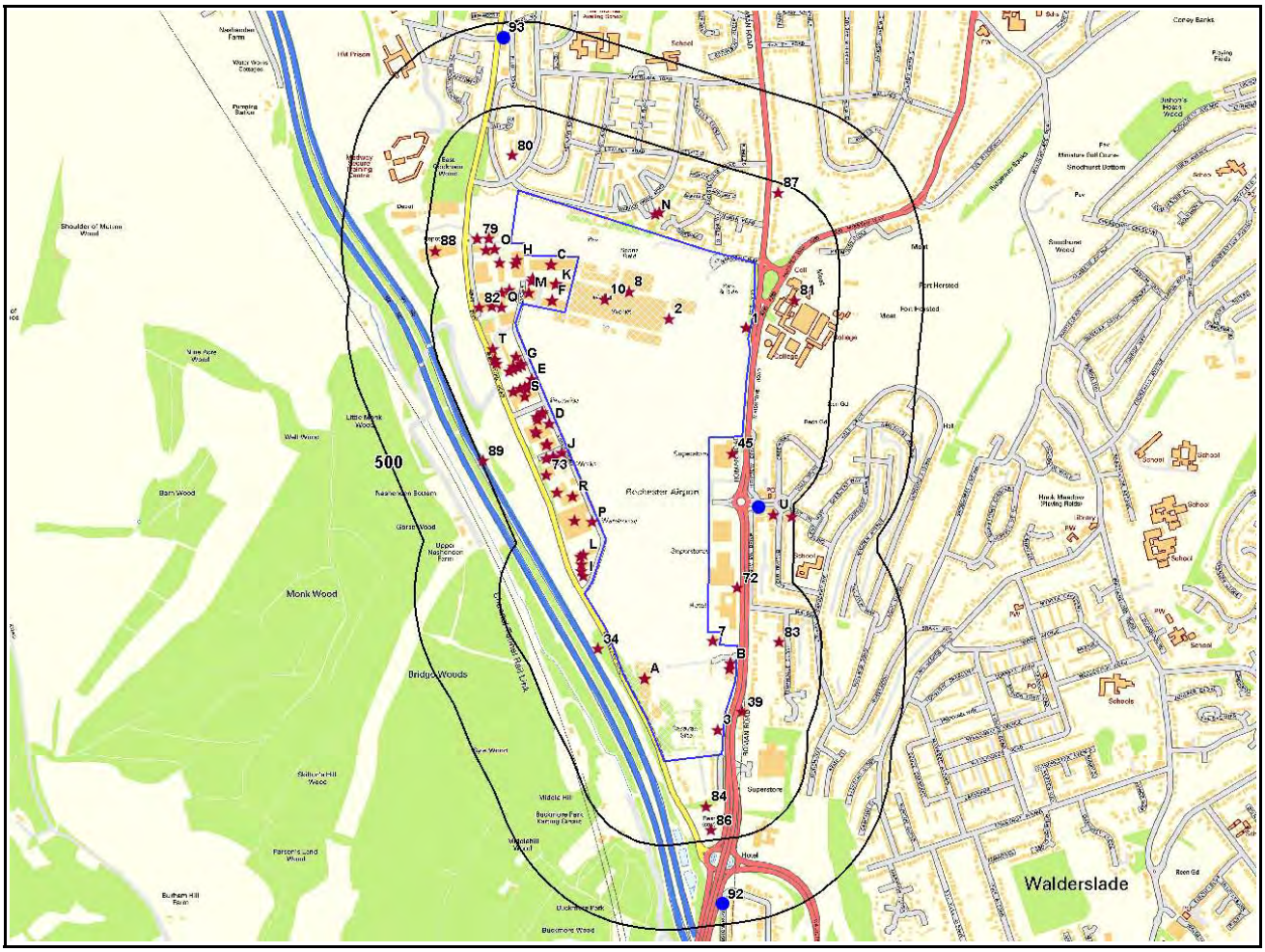
ID	Distance	Direction	NGR	Details	
2	605.0	NW	573700, 165800	Site Address: 1, Fort Road, Rochester, Kent, ME1 3QS Type: WEEE treatment facility Size: < 25000 tonnes Regis Licence Number: REC248 EPR reference: EA/EPR/GP3093LZ/S002 Operator: Reclaimed Appliances Ltd Waste Management licence No: 101444 Annual Tonnage: 0.0	Issue Date: 12/05/2010 Effective Date: - Modified: - Surrendered Date: 16/02/2011 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: H M P Rochester Correspondence Address: -, -
Not shown	962.0	NW	573607, 166170	Site Address: H M P Rochester, 1, Fort Road, Rochester, Kent, ME1 3QS Type: WEEE treatment facility Size: < 25000 tonnes Regis Licence Number: MR 004 EPR reference: EA/EPR/JB3938RV/A001 Operator: M D J Light Brothers (Scrap Processors) Ltd Waste Management licence No: 104555 Annual Tonnage: 74999.0	Issue Date: 13/08/2012 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: H M P Rochester Correspondence Address: -, -

3. Current Land Use Map

NW N NE

◄W E►

SW S SE



Current Land Use Legend

Enabled by Ordnance Survey

Site Outline

250
500
Search Buffers (m)

Current Industrial Sites

Petrol & Fuel Sites

Underground High Pressure Oil & Fuel Pipelines

3. Current Land Uses

3.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site: 90

The following records are represented as points on the Current Land Uses map.

ID	Distance	Direction	Company	Address	Activity	Category
1	0.0	On Site	Electricity Sub Station	ME1	Electrical Features	Infrastructure and Facilities
2	0.0	On Site	Works	ME1	Unspecified Works Or Factories	Industrial Features
3	0.0	On Site	Electricity Sub Station	ME5	Electrical Features	Infrastructure and Facilities
4A	0.0	On Site	County Fire Protection Ltd	Rochester City Airport, Maidstone Road, Chatham, ME5 9SD	Special Purpose Machinery and Equipment	Industrial Products
5A	0.0	On Site	Rochester Airport	Maidstone Road, Chatham, ME5 9SD	Airports and Landing Strips	Air
6B	0.0	On Site	Innovation Centre Medway	Innovation Centre Medway, Maidstone Road, Chatham, ME5 9FD	Business Parks and Industrial Estates	Industrial Features
7	0.0	On Site	Av8 Helicopters Ltd	Maidstone Road, Chatham, ME5 9SD	Aircraft Charters	Contract Services
8	0.0	On Site	Tank	ME1	Tanks (Generic)	Industrial Features
9B	0.0	On Site	T A Barcoding	G15 Innovation Centre Medway, Maidstone Road, Chatham, ME5 9FD	Office and Shop Equipment	Industrial Products
10	0.0	On Site	Works	ME1	Unspecified Works Or Factories	Industrial Features
11E	18.0	SW	Electricity Sub Station	ME1	Electrical Features	Infrastructure and Facilities
12P	20.0	SW	Electricity Sub Station	ME1	Electrical Features	Infrastructure and Facilities
13 D	21.0	SW	Electricity Sub Station	ME1	Electrical Features	Infrastructure and Facilities
14J	22.0	SW	Hi-spec	Unit 1/A Forward Way Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX	Construction Completion Services	Construction Services
15 C	25.0	S	Autoglass	4 Stirling Park, Laker Road, Rochester, ME1 3QR	Vehicle Repair, Testing and Servicing	Repair and Servicing
16 C	25.0	S	Hotchkiss Air Supply	2 Stirling Park, Laker Road, Rochester, ME1 3QR	Cooling and Refrigeration	Industrial Products
17 D	26.0	SW	Castle View Enterprises Ltd	23 Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX	Catering and Non Specific Food Products	Foodstuffs
18 H	27.0	SW	Kent Modular Electronics Ltd	621, Maidstone Road, Rochester, ME1 3QL	Electronic Equipment	Industrial Products
19E	28.0	SW	Works	ME1	Unspecified Works Or Factories	Industrial Features
20F	28.0	N	The Generator Company	12 Stirling Park, Laker Road, Rochester, ME1 3QR	Electrical Equipment Repair and Servicing	Repair and Servicing
21F	28.0	N	T G C International Ltd	12 Stirling Park, Laker Road, Rochester, ME1 3QR	Electrical Motors and Generators	Industrial Products
22 D	28.0	SW	Depot	ME1	Container and Storage	Transport, Storage and Delivery
23E	29.0	SW	Factory	ME1	Unspecified Works Or Factories	Industrial Features
24 G	30.0	SW	Sprint Fuels Ltd	43 Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX	Fuel Distributors and Suppliers	Household, Office, Leisure and Garden

25I	32.0	W	Stanford Joinery Ltd	Unit 4 A J A Business Centre Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3EZ	General Construction Supplies	Industrial Products
26 G	35.0	SW	Palatine Precision Ltd	45 Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX	Precision Engineers	Engineering Services
27 M	36.0	N	Works	ME1	Unspecified Works Or Factories	Industrial Features
28 H	39.0	SW	Works	ME1	Unspecified Works Or Factories	Industrial Features
29E	41.0	SW	Geku UK	31 Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX	Measurement and Inspection Equipment	Industrial Products
30I	42.0	W	Martin Environmental Services Ltd	Unit 1 Forward Way Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX	Mechanical Engineers	Engineering Services
31 G	42.0	SW	Factory	ME1	Unspecified Works Or Factories	Industrial Features
32 R	42.0	SW	Halton Foodservice Ltd	11 Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX	Construction Completion Services	Construction Services
33J	43.0	SW	Southern Sheds Ltd	17 Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX	Garden Goods	Consumer Products
34	44.0	W	Gantry	ME1	Travelling Cranes and Gantries	Industrial Features
35E	45.0	SW	Factory	ME1	Unspecified Works Or Factories	Industrial Features
36 K	46.0	W	Stirling Park MOT Centre	8 Stirling Park, Laker Road, Rochester, ME1 3QR	Vehicle Repair, Testing and Servicing	Repair and Servicing
37 K	46.0	W	R Winter Tooling	7 Stirling Park, Laker Road, Rochester, ME1 3QR	Tools Including Machine Shops	Industrial Products
38 K	46.0	W	Hydraquip Braided Hose Division Ltd	11 Stirling Park, Laker Road, Rochester, ME1 3QR	General Construction Supplies	Industrial Products
39	46.0	E	Solomon Petroleum Services Ltd	345, Maidstone Road, Chatham, ME5 9SE	Oil and Gas Extraction, Refinery and Product Manufacture	Extractive Industries
40J	48.0	SW	Bliss Joinery	Unit 2 Forward Way Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX	Access Equipment	Industrial Products
41I	49.0	W	Depot	ME1	Container and Storage	Transport, Storage and Delivery
42 D	49.0	SW	Works	ME1	Unspecified Works Or Factories	Industrial Features
43 D	50.0	SW	D A Printers Ltd	6, Lankester Parker Road, Rochester, ME1 3QU	Published Goods	Industrial Products
44J	50.0	SW	Factory	ME1	Unspecified Works Or Factories	Industrial Features
45	50.0	S	Electricity Sub Station	ME5	Electrical Features	Infrastructure and Facilities
46L	51.0	W	Warehouse	ME1	Container and Storage	Transport, Storage and Delivery
47 N	52.0	N	Electricity Sub Station	ME1	Electrical Features	Infrastructure and Facilities
48 O	53.0	W	Depot	ME1	Container and Storage	Transport, Storage and Delivery
49J	55.0	SW	Component Force Ltd	19 Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX	Rubber, Silicones and Plastics	Industrial Products
50 Q	55.0	W	Warehouse	ME1	Container and Storage	Transport, Storage and Delivery
51 G	55.0	SW	Master Hydraulics Ltd	39 Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX	Industrial Repairs and Servicing	Repair and Servicing

52 S	56.0	SW	Factory	ME1	Unspecified Works Or Factories	Industrial Features
53 G	56.0	SW	Warehouse	ME1	Container and Storage	Transport, Storage and Delivery
54L	57.0	W	A J A Fabrications Ltd	3 Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX	General Construction Supplies	Industrial Products
55 M	57.0	NW	B S L Gas Tech	101 Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX	Lifting and Handling Equipment	Industrial Products
56E	60.0	SW	Factory	ME1	Unspecified Works Or Factories	Industrial Features
57 N	63.0	N	Electricity Sub Station	ME1	Electrical Features	Infrastructure and Facilities
58 O	65.0	W	Electricity Sub Station	ME1	Electrical Features	Infrastructure and Facilities
59P	66.0	SW	Warehouse	ME1	Container and Storage	Transport, Storage and Delivery
60 M	67.0	S	Tank	ME1	Tanks (Generic)	Industrial Features
61 O	67.0	SW	Constructional Services	641, Maidstone Road, Rochester, ME1 3QJ	Measurement and Inspection Equipment	Industrial Products
62 D	68.0	SW	Aeromet International Plc	21 Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX	Moulds, Dies and Castings	Industrial Products
63 D	68.0	SW	Factory	ME1	Unspecified Works Or Factories	Industrial Features
64 M	70.0	N	Electricity Sub Station	ME1	Electrical Features	Infrastructure and Facilities
65 Q	70.0	NW	Warehouse	ME1	Container and Storage	Transport, Storage and Delivery
66 G	71.0	SW	Warehouse	ME1	Container and Storage	Transport, Storage and Delivery
67J	71.0	SW	Fourmost Fixings Ltd	Unit 3-4 Forward Way Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX	General Construction Supplies	Industrial Products
68 O	76.0	W	Medway Supplies	631, Maidstone Road, Rochester, ME1 3QJ	Dairy Products	Foodstuffs
69 R	79.0	SW	Ainsworth Insulation Ltd	6-7 Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX	General Construction Supplies	Industrial Products
70 S	84.0	SW	Factory	ME1	Unspecified Works Or Factories	Industrial Features
71 Q	84.0	W	Warehouse	ME1	Container and Storage	Transport, Storage and Delivery
72	85.0	E	Electricity Sub Station	ME5	Electrical Features	Infrastructure and Facilities
73	89.0	SW	Works	ME1	Unspecified Works Or Factories	Industrial Features
74T	89.0	SW	Electricity Sub Station	ME1	Electrical Features	Infrastructure and Facilities
75T	96.0	SW	Kent Gas Springs	Unit 17 Rochester Trade Park Rochester Airport Industrial Estate, Maidstone Road, Rochester, ME1 3QY	Vehicle Parts and Accessories	Motoring
76T	96.0	SW	Gate Control Gear Ltd	Unit 17 Rochester Trade Park Rochester Airport Industrial Estate, Maidstone Road, Rochester, ME1 3QY	Electronic Equipment	Industrial Products
77T	96.0	SW	Lake Leason Ltd	Unit 17 Rochester Trade Park Rochester Airport Industrial Estate, Maidstone Road, Rochester, ME1 3QY	Fences, Gates and Railings	Industrial Products
78T	96.0	SW	Mid-kent Chrysler Ltd	Unit 16 Rochester Trade Park Rochester Airport Industrial Estate, Maidstone Road, Rochester, ME1 3QY	Vehicle Repair, Testing and Servicing	Repair and Servicing
79	102.0	W	Electricity Sub Station	ME1	Electrical Features	Infrastructure and Facilities

80	104.0	N	Electricity Sub Station	ME1	Electrical Features	Infrastructure and Facilities
81	118.0	E	Electricity Sub Station	ME4	Electrical Features	Infrastructure and Facilities
82	119.0	W	Warehouse	ME1	Container and Storage	Transport, Storage and Delivery
83	122.0	E	Electricity Sub Station	ME5	Electrical Features	Infrastructure and Facilities
84	147.0	S	Telecommunications Mast	ME5	Telecommunications Features	Infrastructure and Facilities
85 U	190.0	E	D & S Motor Spares	20, Shirley Avenue, Chatham, ME5 9UR	Vehicle Parts and Accessories	Motoring
86	219.0	S	Electricity Sub Station	ME5	Electrical Features	Infrastructure and Facilities
87	220.0	N	City Way Chauffeurs	237a, City Way, Rochester, ME1 2TL	Vehicle Hire and Rental	Hire Services
88	225.0	W	Depot	ME1	Container and Storage	Transport, Storage and Delivery
89	245.0	SW	Gantry	ME1	Travelling Cranes and Gantries	Industrial Features
90 U	245.0	E	Electricity Sub Station	ME5	Electrical Features	Infrastructure and Facilities

3.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site: 3

The following petrol or fuel site records provided by Catalist are represented as points on the Current Land Use map:

ID	Distance	Direction	NGR	Company	Address	LPG	Status
91U	148.0	E	574801, 164394	Obsolete	Shirley Service Station, Maidstone Road, Maidstone Road, Chatham, Kent, ME5 9UR	Not Applicable	Obsolete
92	441.0	S	574694, 163215	Obsolete	Bridgewood Service Station, Maidstone Road, Maidstone Road, Chatham, Kent, ME5 9RY	Not Applicable	Obsolete
93	454.0	N	574045, 165789	Total	Total Rochester, Maidstone Road, Maidstone Road, Rochester, Kent, ME1 3LT	No	Open

3.3 Underground High Pressure Oil and Gas Pipelines

Records of high pressure underground pipelines within 500m of the study site: 0

Database searched and no data found.

4. Geology

4.1 Artificial Ground and Made Ground

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

4.2 Superficial Ground and Drift Geology

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
CWF-CSSG	CLAY-WITH-FLINTS FORMATION	CLAY, SILT, SAND AND GRAVEL

(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

4.3 Bedrock and Solid Geology

The database has been searched on site, including a 50m buffer.

LEX Code	Description	Rock Type
SECK-CHLK	SEAFORD CHALK FORMATION	CHALK
LECH-CHLK	LEWES NODULAR CHALK FORMATION	CHALK

(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

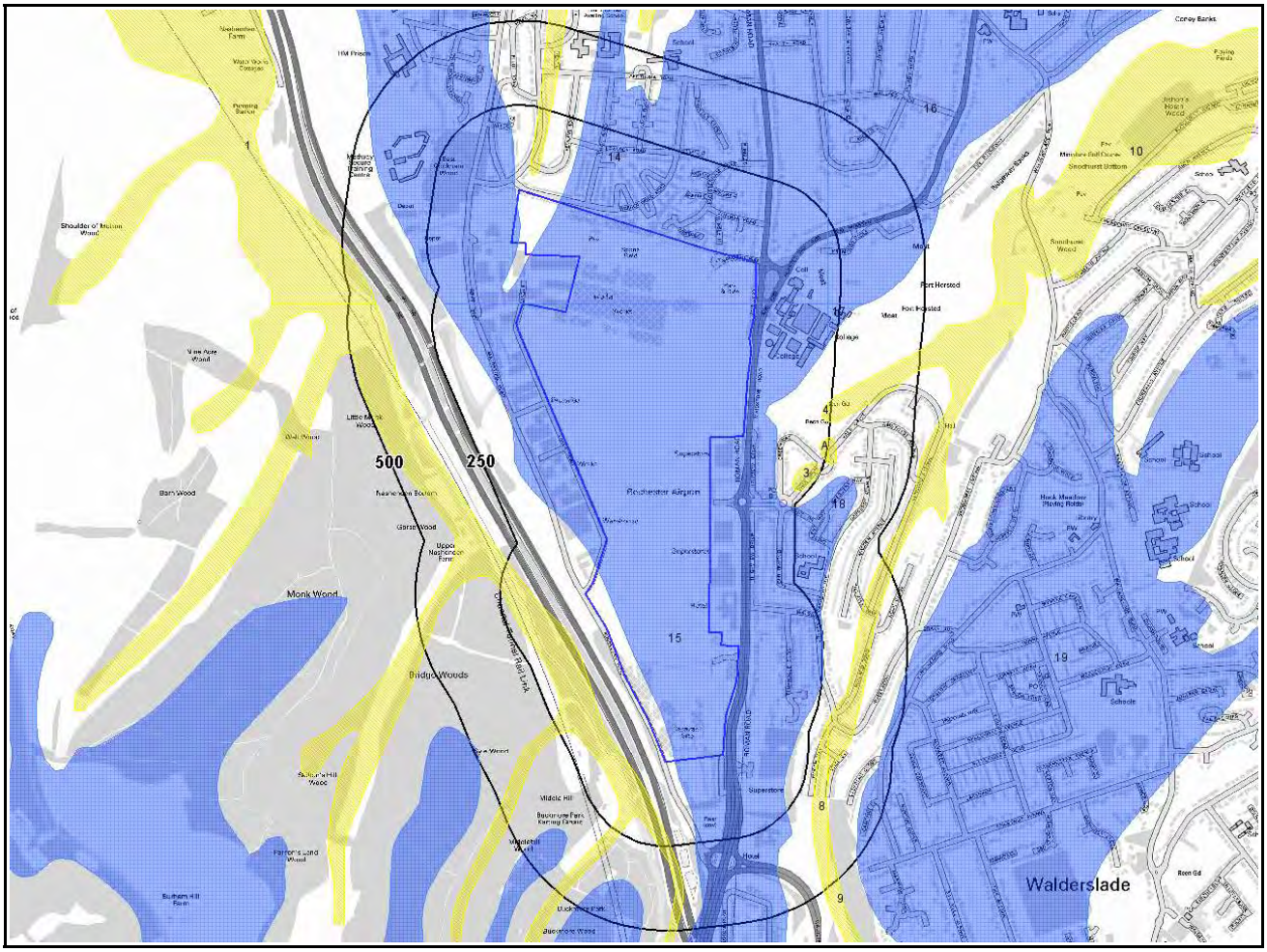
For more detailed geological and ground stability data please refer to the "GroundSure GeoInsight". Available from our website.

5a. Hydrogeology - Aquifer Within Superficial Geology

NW N NE

W E

SW S SE



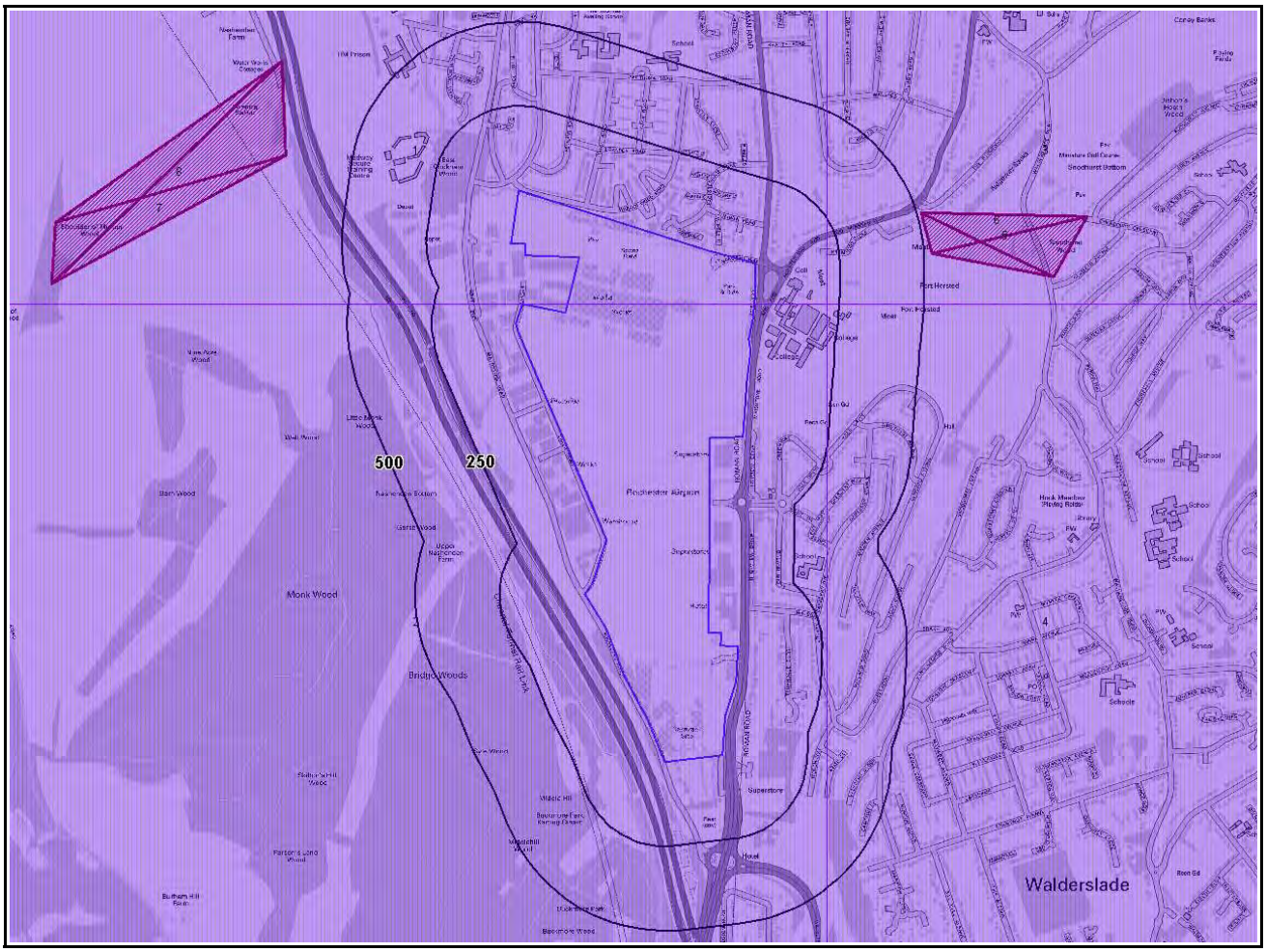
Aquifer Within Superficial Geology Legend

- Site Outline
- 250 / 500 Search Buffers (m)
- Principal Aquifer
- Secondary (A) Aquifer - Permeable Layers
- Secondary (B) Aquifer - Lower Permeability Layers
- Secondary Aquifer - Undifferentiated Layers
- Unproductive
- Unknown (lakes and landslip)

5b. Hydrogeology - Aquifer Within Bedrock Geology and Abstraction Licenses

NW N NE

W



E

SW S SE

Aquifer Within Bedrock Geology Legend

Site Outline

250
500
Search Buffers (m)

Principal Aquifer

Secondary (A) Aquifer - Permeable Layers

Secondary (B) Aquifer - Lower Permeability Layers

Groundwater Abstraction Licence

Secondary Aquifer - Undifferentiated Layers

Unproductive

Unknown (lakes and landslip)

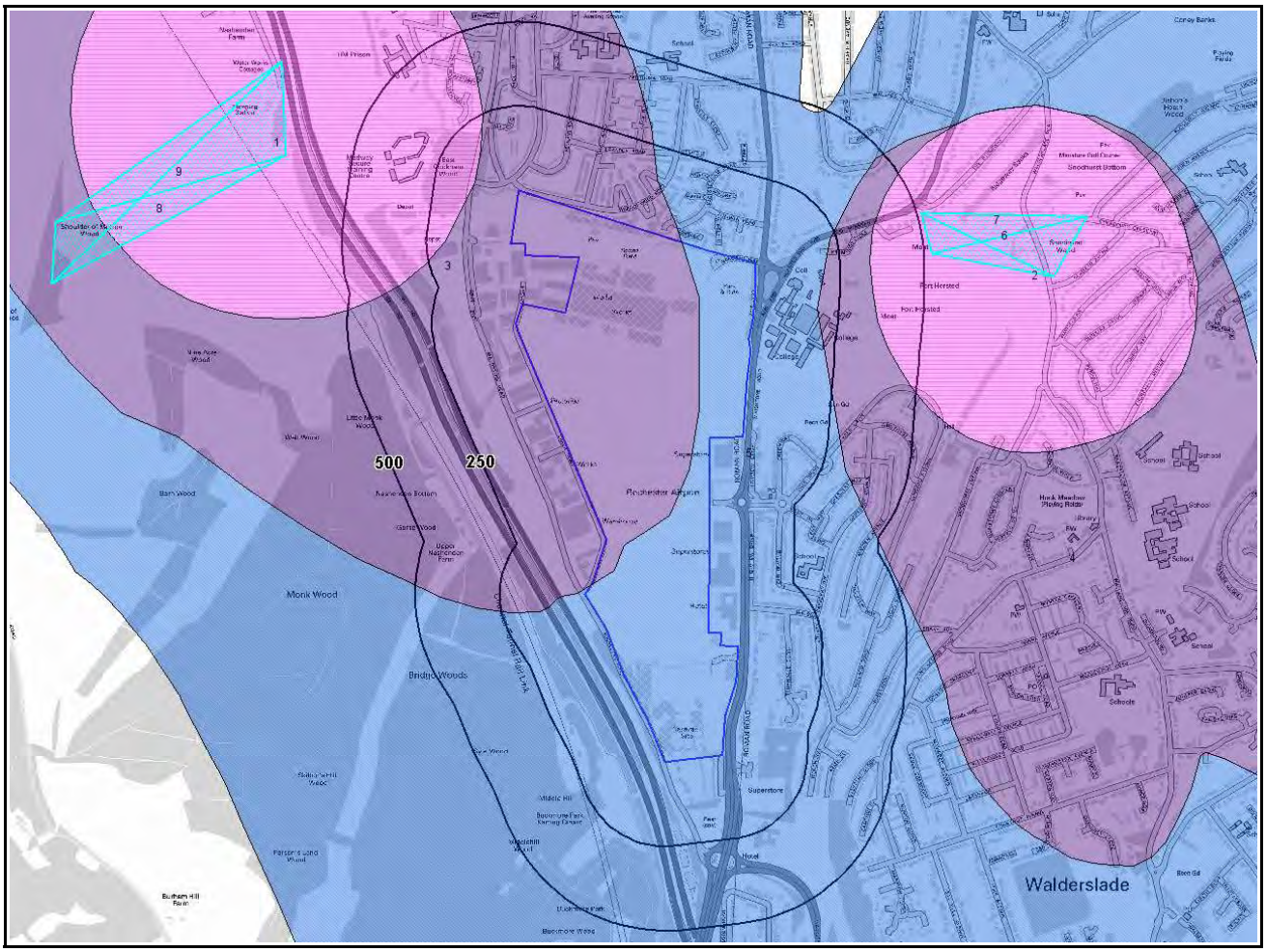
Surface Water Abstraction Licence

5c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses

NW N NE

W E

SW S SE



SPZ and Potable Water Abstraction Licenses
Legend

Site Outline

250
500
Search Buffers (m)

Source Protection Zone 1 - Inner Catchment

Source Protection Zone 2 - Outer Catchment

Source Protection Zone 3 - Total Catchment

Source Protection Zone 4 - Zone of Special Interest

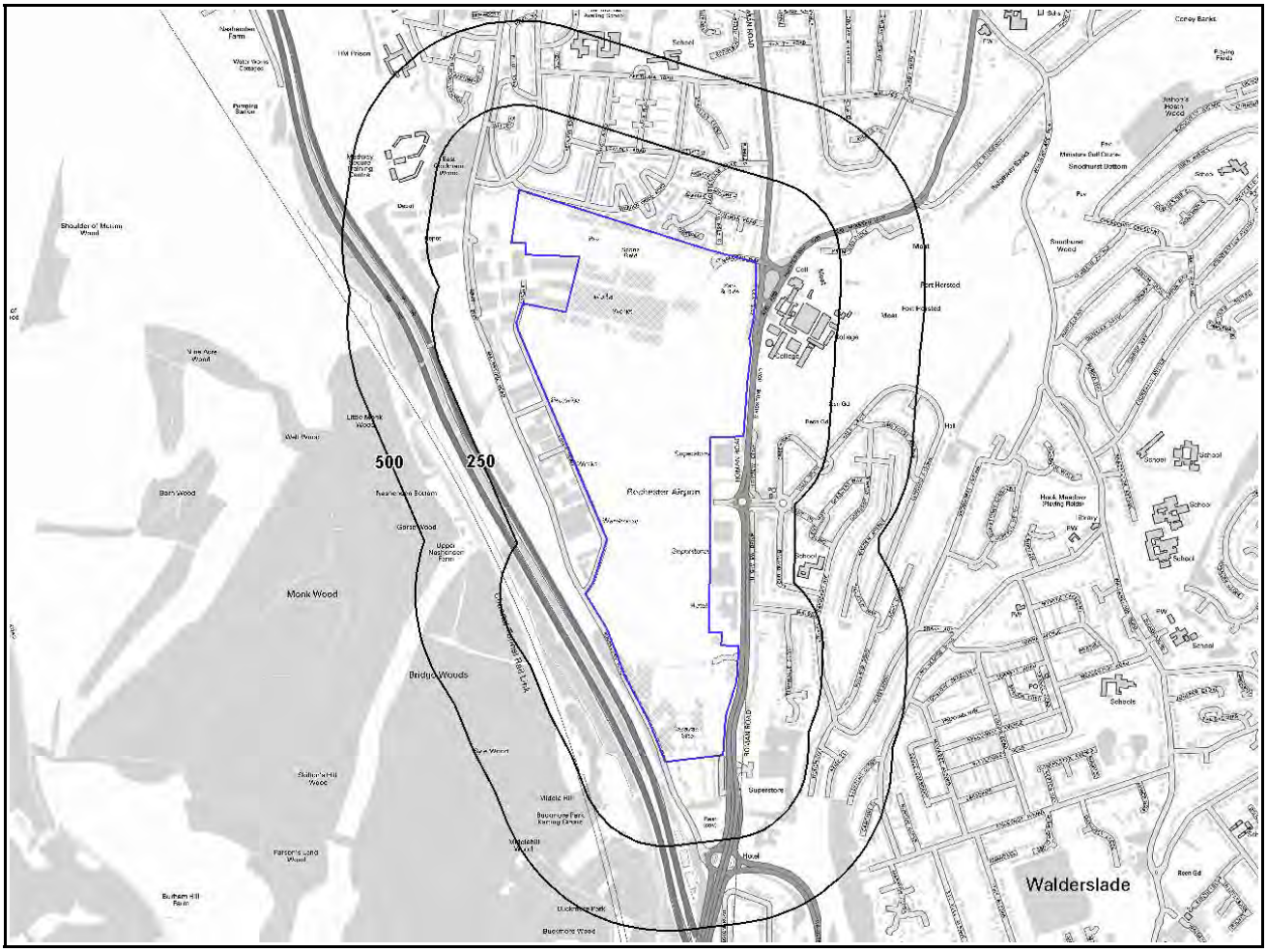
Potable Water Abstraction Licence

5d. Hydrology – Detailed River Network and River Quality

NW N NE

W E

SW S SE



Hydrology Legend

Enabled by Ordnance Survey

Site Outline

250
500
Search Buffers (m)

Primary River
Secondary River
Tertiary River
Lake/Reservoir
Underground River (inferred)
General Quality Assessment: Chemistry

Canal
Canal Tunnel
Extended Culvert (greater than 50m)
D/S of High Water Mark
D/S seaward extension
General Quality Assessment: Biology

5.Hydrogeology and Hydrology

5.1 Aquifer within Superficial Deposits

Are there records of productive strata within the superficial geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the GroundSure Enviroinsight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (5a):

ID	Distance [m]	Direction	Designation	Description
14	0.0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
15	0.0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
1	54.0	N	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
2	94.0	SW	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
3	189.0	SE	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
16	211.0	E	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
17	213.0	E	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
4	225.0	E	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
5A	229.0	E	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
6	240.0	E	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
7A	248.0	E	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
8	276.0	E	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
18	285.0	SE	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

ID	Distance [m]	Direction	Designation	Description
9	348.0	SE	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
19	427.0	E	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

5.2 Aquifer within Bedrock Deposits

Are there records of productive strata within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the GroundSure Enviroinsight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (5b):

ID	Distance [m]	Direction	Designation	Description
1	0.0	On Site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
2	0.0	On Site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
3	211.0	E	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
4	213.0	E	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

5.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site? Yes

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (5b):

ID	Distance	Direction	NGR	Details	
5	513.0	E	575280, 165270	Licence No: 9/40/02/0236/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: Boreholes At Snodhurst Ps Data Type: Region	Annual Volume (m³): 9300000 Max Daily Volume (m³): 51000 Original Application No: 169/0639C Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 29/11/2006 Version End Date:
6	514.0	E	575280, 165270	Licence No: 9/40/02/0236/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: Boreholes At Snodhurst Ps Data Type: Region	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 169/0639C Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 24/3/1986 Version End Date:

7	697.0	W	572720, 165240	Licence No: 9/40/02/0236/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: Boreholes At Nashenden Ps Data Type: Region	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 169/0639C Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 24/3/1986 Version End Date:
8	697.0	W	572720, 165240	Licence No: 9/40/02/0236/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: Boreholes At Nashenden Ps Data Type: Region	Annual Volume (m³): 9300000 Max Daily Volume (m³): 51000 Original Application No: 169/0639C Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 29/11/2006 Version End Date:

5.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site? **No**

Database searched and no data found.

5.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site? **Yes**

The following Potable Water Abstraction Licences records are represented as points, lines and regions on the SPZ and Potable Water Abstraction Licences Map (5c):

ID	Distance	Direction	NGR	Details	
6	513.0	E	575280, 165270	Licence No: 9/40/02/0236/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: Boreholes At Snodhurst Ps Data Type: Region	Annual Volume (m³): 9300000 Max Daily Volume (m³): 51000 Original Application No: 169/0639C Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: Version End Date:
7	514.0	E	575280, 165270	Licence No: 9/40/02/0236/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: Boreholes At Snodhurst Ps Data Type: Region	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 169/0639C Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: Version End Date:
8	697.0	W	572720, 165240	Licence No: 9/40/02/0236/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: Boreholes At Nashenden Ps Data Type: Region	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 169/0639C Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: Version End Date:
9	697.0	W	572720, 165240	Licence No: 9/40/02/0236/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: Boreholes At Nashenden Ps Data Type: Region	Annual Volume (m³): 9300000 Max Daily Volume (m³): 51000 Original Application No: 169/0639C Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: Version End Date:

5.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site? **Yes**

The following Source Protection Zones records are represented on the SPZ and Potable Water Abstraction Map (5c):

ID	Distance	Direction	Type	Description
3	0.0	On Site	2	Outer Catchment
5	0.0	On Site	3	Total Catchment
1	132.0	W	1	Inner Catchment
4	186.0	E	2	Outer Catchment
2	337.0	E	1	Inner Catchment

5.7 River Quality

Is there any Environment Agency information on river quality within 1500m of the study site? **No**

Biological Quality:

Database searched and no data found.

Chemical Quality:

Database searched and no data found.

5.8 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site? **No**

Database searched and no data found.

5.9 Surface Water Features

Are there any surface water features within 250m of the study site? **Yes**

The following surface water records are not represented on mapping:

Distance to Surface Water (m)	on-site	0-50	51-250
Surface water features within 250m of the study site	Yes	No	Yes

6. Environment Agency Flood Map

NW ▲ N NE

◄W

E►

SW ▼ S SE

Environment Agency Flood Legend

Enabled by Ordnance Survey

Site Outline

250
500
Search Buffers (m)

Zone 2 Floodplain

Zone 3 Floodplain

Flood Storage Area

Area Benefiting from Flood Defences

Flood Defences

6. Flooding

6.1 Zone 2 Flooding

Zone 2 floodplain estimates the annual probability of flooding as one in one thousand (0.1%) or greater from rivers and the sea but less than 1% from rivers or 0.5% from the sea. Alternatively, where information is available they may show the highest known flood level.

Is the site within 250m of an Environment Agency indicative Zone 2 floodplain? **No**

Database searched and no data found.

6.2 Zone 3 Flooding

Zone 3 estimates the annual probability of flooding as one in one hundred (1%) or greater from rivers and a one in two hundred (0.5%) or greater from the sea. Alternatively, where information is available they may show the highest known flood level.

Is the site within 250m of an Environment Agency indicative Zone 3 floodplain? **No**

Database searched and no data found.

6.3 Flood Defences

Are there any Flood Defences within 250m of the study site? **No**

6.4 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? **No**

6.5 Areas used for Flood Storage

Are there any areas used for Flood Storage within 250m of the study site? **No**

6.6 Groundwater Flooding Susceptibility Areas

Are there any British Geological Survey groundwater flooding susceptibility flood areas within 50m of the boundary of the study site? **Yes**

What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions? **Very Low**

6.7 Groundwater Flooding Confidence Areas

What is the British Geological Survey confidence rating in this result? **High**

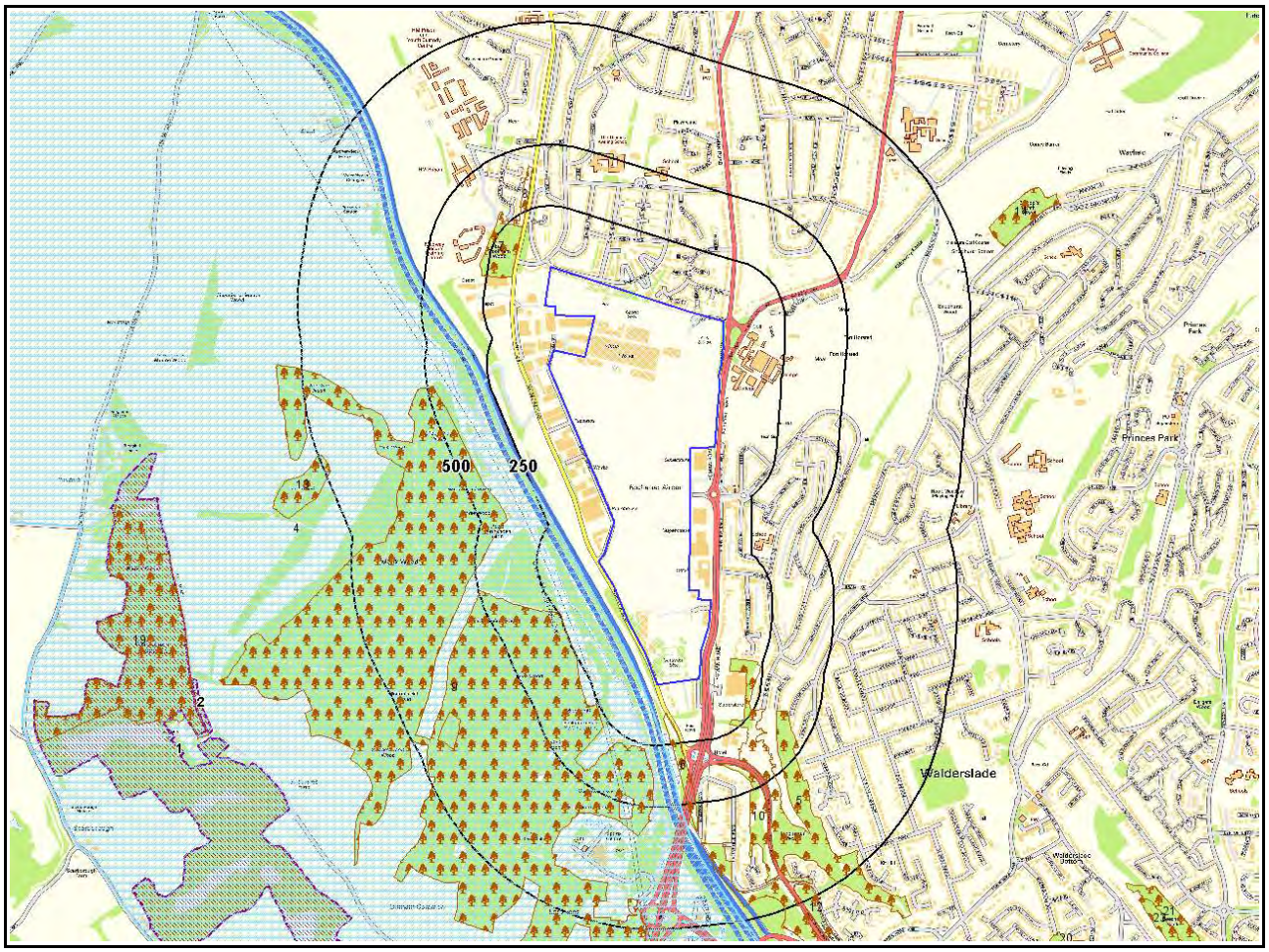
Notes:

Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The **confidence rating** is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

7.Designated Environmentally Sensitive Sites Map

NW ▲ N NE



◄W E►

SW ▼ S SE

Designated Environmentally Sensitive Sites Legend

Enabled by Ordnance Survey

- Site Outline
- SAC
- SSSI
- NNR
- World Heritage Sites
- SPA
- Ramsar
- LNR
- Environmentally Sensitive Areas
- Areas of Outstanding Natural Beauty
- Nitrate Vulnerable Zones
- Nitrate Sensitive Areas
- National Parks
- Ancient Woodlands

7.Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site? **Yes**

Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site: **3**

The following Site of Special Scientific Interest (SSSI) records provided by Natural England/Countryside Council for Wales and Scottish Natural Heritage are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance	Direction	SSSI Name	Data Source
1	1417.0	SW	Wouldham to Detling Escarpment	Natural England
2	1694.0	W	Wouldham to Detling Escarpment	Natural England
Not shown	1967.0	S	Wouldham to Detling Escarpment	Natural England

Records of National Nature Reserves (NNR) within 2000m of the study site: **0**

Database searched and no data found.

Records of Special Areas of Conservation (SAC) within 2000m of the study site: **0**

Database searched and no data found.

Records of Special Protection Areas (SPA) within 2000m of the study site: **0**

Database searched and no data found.

Records of Ramsar sites within 2000m of the study site: **0**

Database searched and no data found.

Records of Local Nature Reserves (LNR) within 2000m of the study site: **0**

Database searched and no data found.

Records of World Heritage Sites within 2000m of the study site: **0**

Database searched and no data found.

Records of Environmentally Sensitive Areas within 2000m of the study site: **0**

Database searched and no data found.

Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site: **1**

The following Area of Outstanding Natural Beauty (AONB) records and Scottish National Scenic Area (NSA) records provided by Natural England/Countryside Council for Wales/Scottish Government are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance	Direction	AONB/NSA Name	Data Source
4	60.0	W	Kent Downs	Natural England

Records of National Parks (NP) within 2000m of the study site: **0**

Database searched and no data found.

Records of Nitrate Sensitive Areas within 2000m of the study site: **0**

Database searched and no data found.

Records of Nitrate Vulnerable Zones within 2000m of the study site: **0**

Database searched and no data found.

Records of Ancient Woodland within 2000m of the study site: **19**

The following Ancient Woodland records are supplied by English Nature/Scottish Natural Heritage/Countryside Council for Wales and are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance	Direction	Ancient Woodland Name	Type
5	117.0	E	FRITH/IMPTON WOODS	Ancient and Semi-Natural Woodland
6	119.0	S	UNKNOWN	Ancient and Semi-Natural Woodland
7	147.0	W	UNKNOWN	Ancient and Semi-Natural Woodland
8	203.0	NW	UNKNOWN	Ancient and Semi-Natural Woodland
9	242.0	SW	BRIDGE WOODS	Ancient and Semi-Natural Woodland
10	349.0	S	FRITH/IMPTON WOODS	Ancient and Semi-Natural Woodland
11	662.0	S	FRITH/IMPTON WOODS	Ancient and Semi-Natural Woodland
12	919.0	SE	FRITH/IMPTON WOODS	Ancient and Semi-Natural Woodland
13	976.0	SW	BARN WOOD	Ancient and Semi-Natural Woodland
14	1141.0	E	BISHOPS HOATH WOOD	Ancient and Semi-Natural Woodland
Not shown	1377.0	S	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1415.0	S	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1447.0	SW	BURHAM DOWN 1	Ancient and Semi-Natural Woodland
Not shown	1542.0	SW	UNKNOWN	Ancient and Semi-Natural Woodland
19	1693.0	W	HARRISS COPSE	Ancient and Semi-Natural Woodland
20	1765.0	SE	FRITH/IMPTON WOODS	Ancient Replanted Woodland
21	1914.0	SE	FRITH/IMPTON WOODS	Ancient and Semi-Natural Woodland
Not shown	1965.0	S	UNKNOWN	Ancient and Semi-Natural Woodland
23	1990.0	SE	FRITH/IMPTON WOODS	Ancient Replanted Woodland

8. Natural Hazards Findings

8.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a GroundSure GeoInsight, available from our website. The following information has been found:

8.1.1 Shrink Swell

What is the maximum Shrink-Swell* hazard rating identified on the study site? **Low**

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

8.1.2 Landslides

What is the maximum Landslide* hazard rating identified on the study site? **Low**

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to drainage or excavations take place. Possible increase in construction cost to reduce potential slope stability problems. Existing property no significant increase in insurance risk due to natural slope instability problems.

8.1.3 Soluble Rocks

What is the maximum Soluble Rocks* hazard rating identified on the study site? **High**

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Very significant soluble rocks are present, with a high possibility of localised subsidence occurring naturally or in adverse conditions such as high surface or subsurface water flow. Obtain specialist advice to advise on need for stabilisation work and/or land management plan to maintain stability. Do not dispose of drainage into the ground. For new build a specialist land stability assessment is necessary. Investigation, remediation and/or mitigation works may be necessary to stabilise the area. Construction work may cause subsidence. Surface drainage must not affect the karst system or groundwater. Increased construction costs are likely. For existing property increase in insurance risk due to potential soluble rocks hazards. Potential of groundwater pollution.

8.1.4 Compressible Ground

What is the maximum Compressible Ground* hazard rating identified on the study site? **Negligible**

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

8.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks* hazard rating identified on the study site? **Very Low**

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

8.1.6Running Sand

What is the maximum Running Sand* hazard rating identified on the study site? **Negligible**

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

* This indicates an automatically generated 50m buffer and site.

9.Mining

9.1 Coal Mining

Are there any coal mining areas within 75m of the study site? **No**

Database searched and no data found.

9.2 Shallow Mining

What is the subsidence hazard relating to shallow mining on-site*? **Low**

*Please note this data is searched with a 150m buffer.

9.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site? **No**

Database searched and no data found.

10.Contacts

EmapSite
Telephone: 0118 9736883
sales@emapsite.com

British Geological Survey (England & Wales)
Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143. Fax: 0115 936 3276. Email: enquiries@bgs.ac.uk
Web: www.bgs.ac.uk
BGS Geological Hazards Reports and general geological enquiries

Environment Agency
National Customer Contact Centre
PO Box 544
Rotherham
S60 1BY
Tel: 08708 506 506
Web: www.environment-agency.gov.uk
Email: enquiries@environment-agency.gov.uk

Health Protection Agency
Chilton, Didcot, Oxon, OX11 0RQ
Tel: 01235 822622 www.hpa.org.uk/radiation
Radon measures and general radon information and guidance

The Coal Authority
200 Lichfield Lane, Mansfield, Notts NG18 4RG
Tel: 0845 762 6848
DX 716176 Mansfield 5
Web: www.groundstability.com

Ordnance Survey
Romsey Road
Southampton SO16 4GU
Tel: 08456 050505

Local Authority
Authority: Medway Council
Phone: 01634 306000
Web: www.medway.gov.uk
Address: Civic Centre, Strood, Rochester, Kent, ME2 4AU

Get Mapping PLC
Virginia Villas, High Street, Hartley Witney, Hampshire RG27 8NW
Tel: 01252 845444

Standard Terms and Conditions

1 Definitions

In these conditions unless the context otherwise requires:

"Beneficiary" means the Client or the customer of the Client for whom the Client has procured the Services.

"Commercial" means any building which is not Residential.

"Commission" means an order for Consultancy Services submitted by a Client.

"Consultancy Services" mean consultancy services provided by GroundSure including, without limitation, carrying out interpretation of third party and in-house environmental data, provision of environmental consultancy advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

"Contract" means the contract between GroundSure and the Client for the performance of the Services which arises upon GroundSure's acceptance of an Order or Commission and which shall incorporate these conditions, the relevant GroundSure User Guide, proposal by GroundSure and the content of any subsequent report, and any agreed amendments in accordance with clause 11.

"Client" means the party that submits an Order or Commission.

"Data Provider" means any third party providing Third Party Content to GroundSure.

"Data Report" means reports comprising factual data with no professional interpretation in respect of the level of likely risk and/or liability available from GroundSure.

"GroundSure" means GroundSure Limited, a company registered in England and Wales under number 03421028 and whose registered office is at Greater London House, Hampstead Road, London NW1 7EJ.

"GroundSure Materials" means all materials prepared by GroundSure as a result of the provision of the Services, including but not limited to Data Reports, Mapping and Risk Screening Reports.

"Intellectual Property" means any patent, copyright, design rights, service marks, moral rights, data protection rights, know-how, trade mark or any other intellectual property rights.

"Mapping" an historical map or a combination of historical maps of various ages, time periods and scales available from GroundSure.

"Order" means an order form submitted by the Client requiring Services from GroundSure in respect of a specified Site.

"Order Website" means online platform via which Orders may be placed.

"Report" means a Risk Screening Report or Data Report for commercial or residential property available from GroundSure relating to the Site prepared in accordance with the specifications set out in the relevant User Guide.

"Residential" means any building used as or suitable for use as an individual dwelling.

"Risk Screening Report" means one of GroundSure's risk screening reports, comprising factual data with interpretation in respect of the level of likely risk and/or liability, excluding **"Consultancy Services"**.

"Services" means the provision of any Report, Mapping or Consultancy Services which GroundSure has agreed to carry out for the Client/Beneficiary on these terms and conditions in respect of the Site.

"Site" means the landsite in respect of which GroundSure provides the Services.

"Third Party Content" means any data, database or other information contained in a Report or Mapping which is provided to GroundSure by a Data Provider.

"User Guide" means the relevant current version of the user guide, available upon request from GroundSure.

2 Scope of Services

2.1 GroundSure agrees to carry out the Services in accordance with the Contract and to the extent set out therein.

2.2 GroundSure shall exercise all the reasonable skill, care and diligence to be expected of experienced environmental consultants in the performance of the Services.

2.3 The Client acknowledges that it has not relied on any statement or representation made by or on behalf of GroundSure which is not set out and expressly agreed in the Contract.

2.4 Terms and conditions appearing on a Client's order form, printed stationery or other communication, including invoices, to GroundSure, its employees, servants, agents or other representatives or any terms implied by custom, practice or course of dealing shall be of no effect and these terms and conditions shall prevail over all others.

2.5 If a Client/Beneficiary requests insurance in conjunction with or as a result of the Services, GroundSure shall use reasonable endeavours to procure such insurance, but makes no warranty that such insurance shall be available from insurers or offered on reasonable terms. GroundSure does not endorse or recommend any particular insurance product, policy or insurer. Any insurance purchased shall be subject solely to the terms of the policy issued by insurers and GroundSure will have no liability therefor. The Client/Beneficiary should take independent advice to ensure that the insurance policy requested and/or offered is suitable for its requirements.

2.6 GroundSure's quotations/proposals are valid for a period of 30 days only. GroundSure reserves the right to withdraw any quotation at any time before GroundSure accepts an Order or Commission. GroundSure's acceptance of an Order or Commission shall be effective only where such acceptance is in writing and signed by GroundSure's authorised representative or where accepted via GroundSure's Order Website.

3 The Client's obligations

3.1 The Client shall ensure the Beneficiary complies with and is bound by the terms and conditions set out in the Contract and shall provide that Groundsure may in its own right enforce such terms and conditions against the Beneficiary pursuant to the Contracts (Rights of Third parties) Act 1999. The Client shall be liable for all breaches of the Contract by the Beneficiary as if they were breaches by the Client. The Client shall be solely responsible for ensuring that the Report/Mapping ordered is appropriate and suitable for the Beneficiary's needs.

3.2 The Client shall (or shall procure that the Beneficiary shall) supply to GroundSure as soon as practicable and without charge all information necessary and accurate relevant data including any specific and/or unusual environmental information relating to the Site known to the Client/Beneficiary which may pertain to the Services and shall give such assistance as GroundSure shall reasonably require in the performance of the Services (including, without limitation, access to a Site, facilities and equipment as agreed in the Contract).

3.3 Where Client/Beneficiary approval or decision is required, such approval or decision shall be given or procured in reasonable time as not to delay or disrupt the performance of any other part of the Services.

3.4 The Client shall not and shall not knowingly permit the Beneficiary to, save as expressly permitted by these terms and conditions, re-sell, alter, add to, amend or use out of context the content of any Report, Mapping or, in respect of any Services, information given by GroundSure. For the avoidance of doubt, the Client and Beneficiary may make the Report, Mapping or GroundSure's findings available to a third party who is considering acquiring the whole or part of the Site, or providing funding in relation to the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.5 The Client is responsible for maintaining the confidentiality of its user name and password if using GroundSure's internet ordering service and accepts responsibility for all activity that occurs under such account and password.

4 Reliance

4.1 Upon full payment of all relevant fees and subject to the provisions of these terms and conditions, the Client and Beneficiary are granted an irrevocable royalty-free licence to access the information contained in a Report, Mapping or in a report prepared by GroundSure in respect of or arising out of Consultancy Services. The Services may only be used for the benefit of the Client and those persons listed in clauses 4.2 and 4.3.

4.2 In relation to Data Reports, Mapping and Risk Screening Reports, the Client shall be entitled to make Reports available to (i) the Beneficiary, (ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate), (iv) the first purchaser or first tenant of the Site (v) the professional advisers and lenders of the first purchaser or tenant of the Site. Accordingly GroundSure shall have the same duties and obligations to those persons in respect of the Services as it has to the Client and those persons shall have the benefit of any of the Client's rights under the Contract as if those persons were parties to the Contract. For the avoidance of doubt, the limitations of GroundSure's liability as set out in clauses 7 and 11.6 shall apply.

4.3 In relation to Consultancy Services, reliance shall be limited to the Client, Beneficiary and named parties on the Report.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise agreed in writing with GroundSure, any other party considering the information supplied by GroundSure as part of the Services, including (but not limited to) insurance underwriters, does so at their own risk and GroundSure has no legal obligations to such party unless otherwise agreed in writing.

4.5 The Client shall not and shall not knowingly permit any person (including the Beneficiary) who is provided with a copy of any Report, (except as permitted herein or by separate agreement with GroundSure) to,: (a) remove, suppress or modify any trade mark, copyright or other proprietary marking from the Report or Mapping; (b) create any product which is derived directly or indirectly from the data contained in the Report or Mapping; (c) combine the Report or Mapping with, or incorporate the Report or Mapping into any other information data or service; or (d) re-format or otherwise change (whether by modification, addition or enhancement) data or images contained in the Report or Mapping.

4.6 Notwithstanding clause 4.5, if the Client acts in a professional capacity, it may make reasonable use of a Report and/or findings made as a result of Consultancy Services to advise Beneficiaries. However, GroundSure shall have no liability in respect of any opinion or report given to such Beneficiaries by the Client or a third party.

5 Fees and Disbursements

5.1 GroundSure shall charge the Client fees at the rate and frequency specified in the Contract together, in the case of Consultancy Services, with all proper disbursements incurred by GroundSure in performing the Services. For the avoidance of doubt, the fees payable for the Services are as set out in GroundSure's written proposal, Order Website or Order acknowledgement form. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services.

5.2 Unless GroundSure requires prepayment, the Client shall promptly pay all fees disbursements and other monies due to GroundSure in full without deduction, counterclaim or set off together with such value added tax or other tax as may be required within 30 days from the date of GroundSure's invoice or such other period as may be agreed in writing between GroundSure and the Client (**"Payment Date"**). GroundSure reserves the right to charge interest which shall accrue on a daily basis from 30 days after the date of Payment Date until the date of payment (whether before or after judgment) at the rate of five per cent per annum above the Bank of England base rate from time to time.

5.3 In the event that the Client disputes the amount payable in respect of GroundSure's invoice it shall notify GroundSure no later than 28 days after the date thereof that it is in dispute. In default of such notification the Client shall be deemed to have agreed the amount thereof. As soon as reasonably practicable following receipt of a notification in respect of any disputed invoice, a member of the management team at GroundSure shall contact the Client and the parties shall use all reasonable endeavours to resolve the dispute.

6 Intellectual Property and Confidentiality

6.1 Subject to the provisions of clause 4.1, the Client and the Beneficiary hereby acknowledge that all Intellectual Property in the Services and Content are and shall remain owned by either GroundSure or the Data Providers and nothing in these terms purports to transfer or assign any rights to the Client or the Beneficiary in respect of the Intellectual Property.

6.2 The Client shall acknowledge the ownership of the **Third Party** Content where such **Third Party** Content is incorporated or used in the Client's own documents, reports, systems or services whether or not these are supplied to a third party.

6.3 Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client acknowledges that the proprietary rights subsisting in copyright, database rights and any other intellectual property rights in respect of any data and information contained in any Report are and shall remain (subject to clause 11.1) the property of GroundSure and/or any third party that has supplied data or information used to create a Report, and that these conditions do not purport to grant, assign or transfer any such rights in respect thereof to a Client and/or a Beneficiary.

6.5 The Client shall (and shall procure that any recipients of the Report as permitted under clause 4.2 shall):

(i) not remove, suppress or modify any trademark, copyright or other proprietary marking belonging to GroundSure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the data contained in the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);
(iv) not combine the Services with or incorporate such Services into any other information data or service; and
(v) not reformat or otherwise change (whether by modification, addition or enhancement), data contained in the Services (save that those acting in a professional capacity to the Beneficiary shall not be in breach of this clause 6.5(v) where such reformatting is in the normal course of providing advice based upon the Services),
in each case of parts (iii) to (v) inclusive, whether or not such product or report is produced for commercial profit or not.

6.6 The Client and/or Beneficiary shall and shall procure that any party to whom the Services are made available shall notify GroundSure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

6.8 Save as otherwise set out in these terms and conditions, any information provided by one party ("**Disclosing Party**") to the other party ("**Receiving Party**") shall be treated as confidential and only used for the purposes of these terms and conditions, except in so far as the Receiving Party is authorised by the Disclosing Party to provide such information in whole or in part to a third party.

7 Liability

THE CLIENT'S ATTENTION IS DRAWN TO THIS PROVISION

7.1Subject to the provisions of this clause 7, GroundSure shall be liable to the Beneficiary only in relation to any direct losses or damages caused by any negligent act or omission of GroundSure in preparing the GroundSure Materials and provided that the Beneficiary has used all reasonable endeavours to mitigate any such losses.

7.2GroundSure shall not be liable for any other losses or damages incurred by the Beneficiary, including but not limited to:
(i) loss of profit, revenue, business or goodwill, losses relating to business interruption, loss of anticipated savings, loss of or corruption to data or for any special, indirect or consequential loss or damage which arise out of or in connection with the GroundSure Materials or otherwise in relation to a Contract;
(ii) any losses or damages that arise as a result of the use of all or part of the GroundSure Materials in breach of these terms and conditions or contrary to the terms of the relevant User Guide;
(iii) any losses or damages that arise as a result of any error, omission or inaccuracy in any part of the GroundSure Materials where such part is based on any Third Party Content or any reasonable interpretation of Third Party Content. The Client accepts, and shall procure that any other Beneficiary shall accept, that it has no claim or recourse to any Data Provider in relation to Third Party Content; and/or
(iv) any loss or damage to a Client's computer, software, modem, telephone or other property caused by a delay or loss of use of GroundSure's internet ordering service.

7.3 GroudSure's total liability in contract, tort (including negligence or breach of statutory duty), misrepresentation, restitution or otherwise, arising in connection with the GroundSure Materials or otherwise in relation to the Contract shall be limited to £10 million in total (i) for any one claim or (ii) for a series of connected claims brought by one or more parties.

7.4 For the duration of the liability periods set out in clauses 7.5 and 7.6 below, GroundSure shall maintain professional indemnity insurance in respect of its liability under these terms and conditions provided such insurance is readily available at commercially viable rates. GroundSure shall produce evidence of such insurance if reasonably requested by the Client. A level of cover greater than GroundSure's current level of cover may be available upon request and agreement with the Client.

7.5 Any claim under the Contract in relation to Data Reports, Mapping and Risk Screening Reports, must be brought within six years from the date when the Beneficiary became aware that it may have a claim and in no event may a claim be brought twelve years or more after completion of such a Contract. For the avoidance of doubt, any claim in respect of which proceedings are notified to GroundSure in writing prior to the expiry of the time periods referred to in this clause 7.5 shall survive the expiry of those time periods provided the claim is actually commenced within six months of notification.

7.6 Any claim under the Contract in relation to Consultancy Services, must be brought within six years from the date the Consultancy Services were completed.

7.7 he Client accepts and shall procure that any other Beneficiary shall accept that it has no claim or recourse to any Data Provider or to GroundSure in respect of the acts or omissions of any Data Provider and/or any Third Party Content provided by a Data Provider.

7.8 Nothing in these terms and conditions:
(i) excludes or limits the liability of GroundSure for death or personal injury caused by GroundSure's negligence, or for fraudulent misrepresentation; or
(ii) shall affect the statutory rights of a consumer under the applicable legislation.

8 GroundSure right to suspend or terminate

8.1 In the event that GroundSure reasonably believes that the Client or Beneficiary as applicable has not provided the information or assistance required to enable the proper performance of the Services, GroundSure shall be entitled on fourteen days written notice to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 GroundSure may additionally terminate the Contract immediately on written notice in the event that:
(i)the Client shall fail to pay any sum due to GroundSure within 28 days of the Payment Date; or
(ii)the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an Administration Order made against it or if a Receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or
(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or
(iv)the Client or the Beneficiary breaches any material term of the Contract (including, but not limited to, the obligations in clause 4) incapable of remedy or if remediable, is not remedied within 14 days of notice of the breach.

9 Client's Right to Terminate and Suspend

9.1 Subject to clause 10.2, the Client may at any time after commencement of the Services by notice in writing to GroundSure require GroundSure to terminate or suspend immediately performance of all or any of the Services.

9.2 The Client waives all and any right of cancellation it may have under the Consumer Protection (Distance Selling) Regulations 2000 (as amended) in respect of the Order of a Report/Mapping. This does not affect the Beneficiary's statutory rights.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination or any suspension of the Services, GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client/Beneficiary any property of the Client/ Beneficiary in GroundSure's possession or control.

10.2 In the event of termination/suspension of the Contract under clauses 8 or 9, the Client shall pay to GroundSure all and any fees payable in respect of the performance of the Services up to the date of termination/suspension. In respect of any Consultancy Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination/suspension of the Contract.

11 General

11.1 The mapping contained in the Services is protected by Crown copyright and must not be used for any purpose outside the context of the Services or as specifically provided in these terms.

11.2 GroundSure reserves the right to amend these terms and conditions. No variation to these terms shall be valid unless signed by an authorised representative of GroundSure.

11.3 No failure on the part of GroundSure to exercise and no delay in exercising, any right, power or provision under these terms and conditions shall operate as a waiver thereof.

11.4 Save as expressly provided in clauses 4.2, 4.3, 6.3 and 11.5, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

11.5 The Secretary of State for Communities and Local Government acting through Ordnance Survey may enforce breach of clause 6.1 of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

11.6 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:
(i) the Client or Beneficiary's failure to provide facilities, access or information;
(ii) fire, storm, flood, tempest or epidemic;
(iii) Acts of God or the public enemy;
(iv) riot, civil commotion or war;
(v) strikes, labour disputes or industrial action;
(vi) acts or regulations of any governmental or other agency;
(vii) suspension or delay of services at public registries by Data Providers; or
(viii) changes in law.

11.7 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

11.8 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email and on the second working day after the day of posting if sent by first class post.

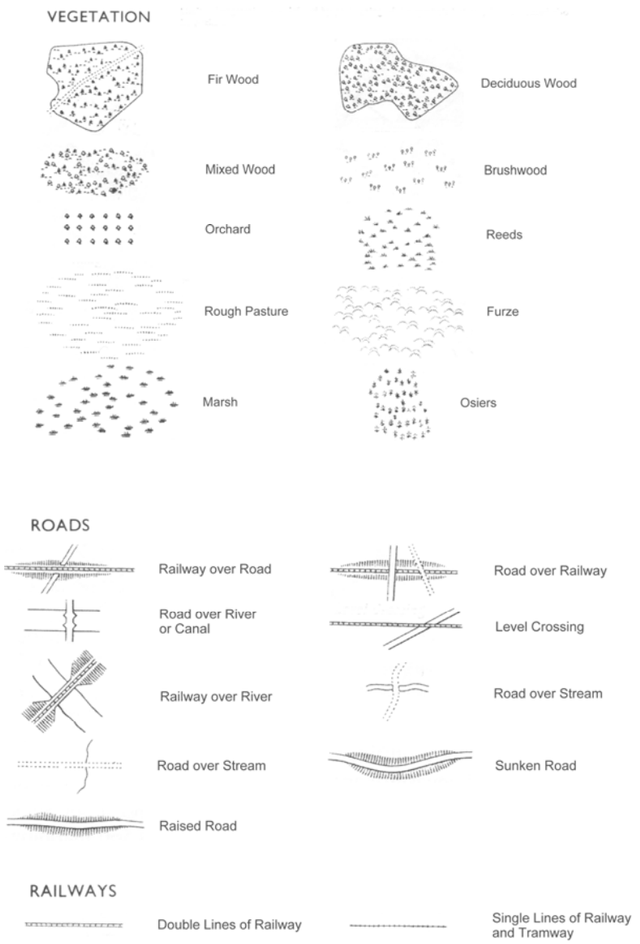
11.9 The Contract constitutes the entire contract between the parties and shall supersede all previous arrangements between the parties.

11.10 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

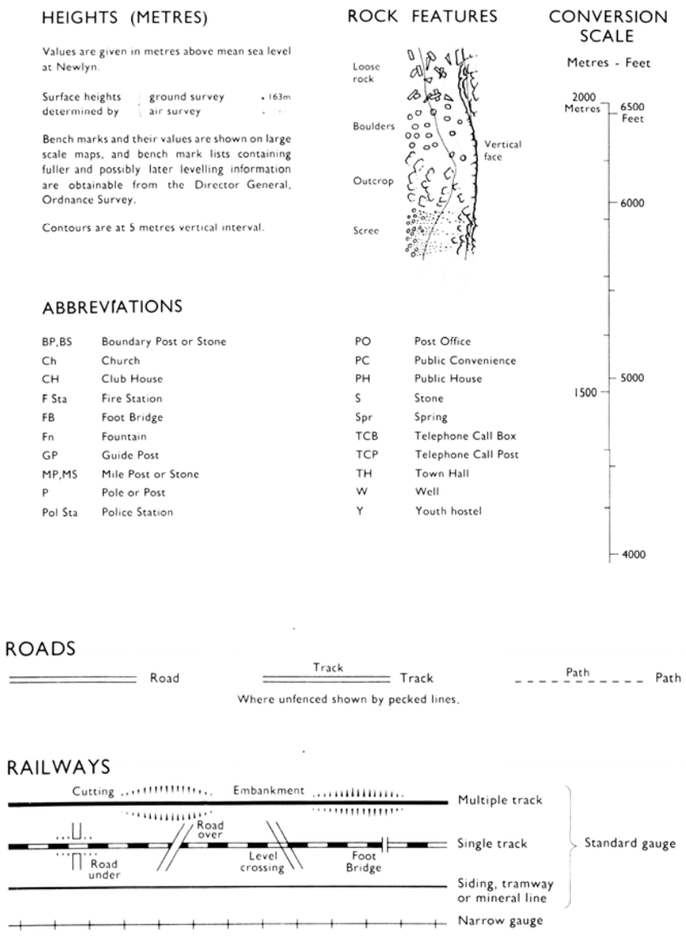
11.11 These terms and conditions shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with these terms and conditions shall be subject to the exclusive jurisdiction of the English courts.

11.12 If the Client or Beneficiary has a complaint about the Services, notice can be given in any format eg writing, phone, email to the Compliance Officer at GroundSure who will respond in a timely manner.

County Series 1:10,560 scale



National Grid 1:10,000 scale



GroundSure

Historical Map Pack Legend

County Series & National Grid

1:10,560 scale & 1:10,000 scale

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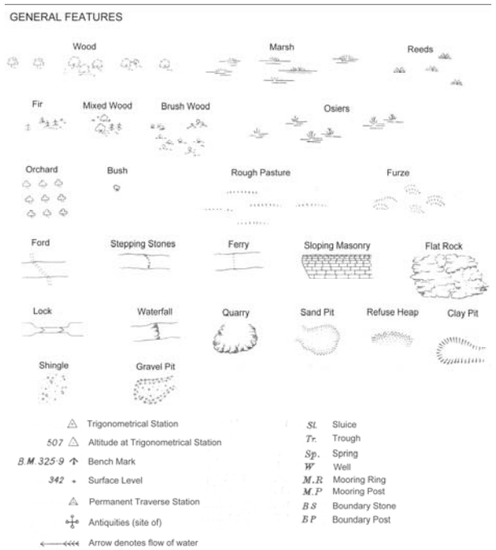
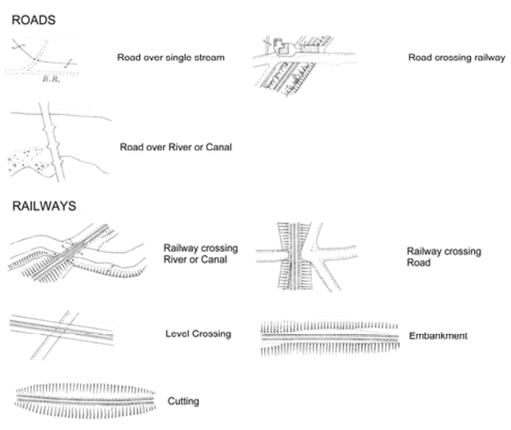
If you have a query regarding any of the maps provided please contact GroundSure's technical helpline. We will endeavour to answer any queries you may have.

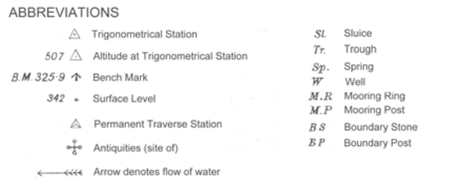
Technical Helpline

Tel:01273 819 700
maps&data@groundsure.com
www.groundsure.com

County Series 1:2,500 scale







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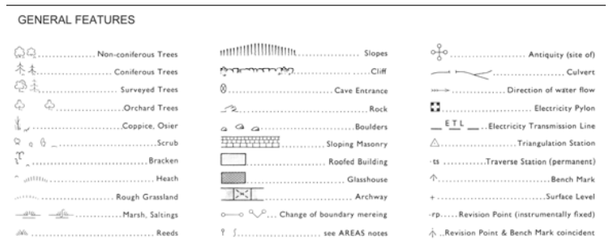

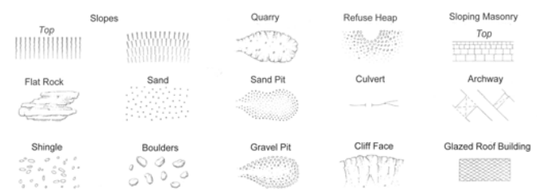

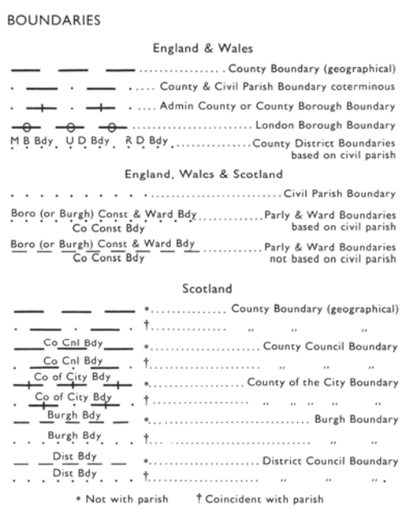

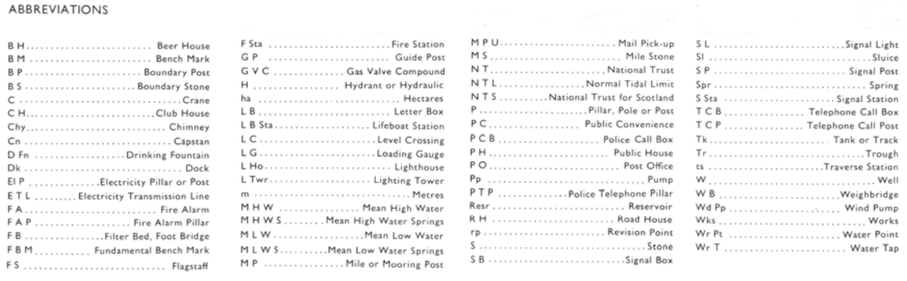

Historical Map Pack Legend

County Series

1:1,250 scale

~

County Series & National Grid

1:2,500 scale

Information present on these legends is sourced from the same Ordnance Survey mapping as the maps used in this product.

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Technical Helpline:

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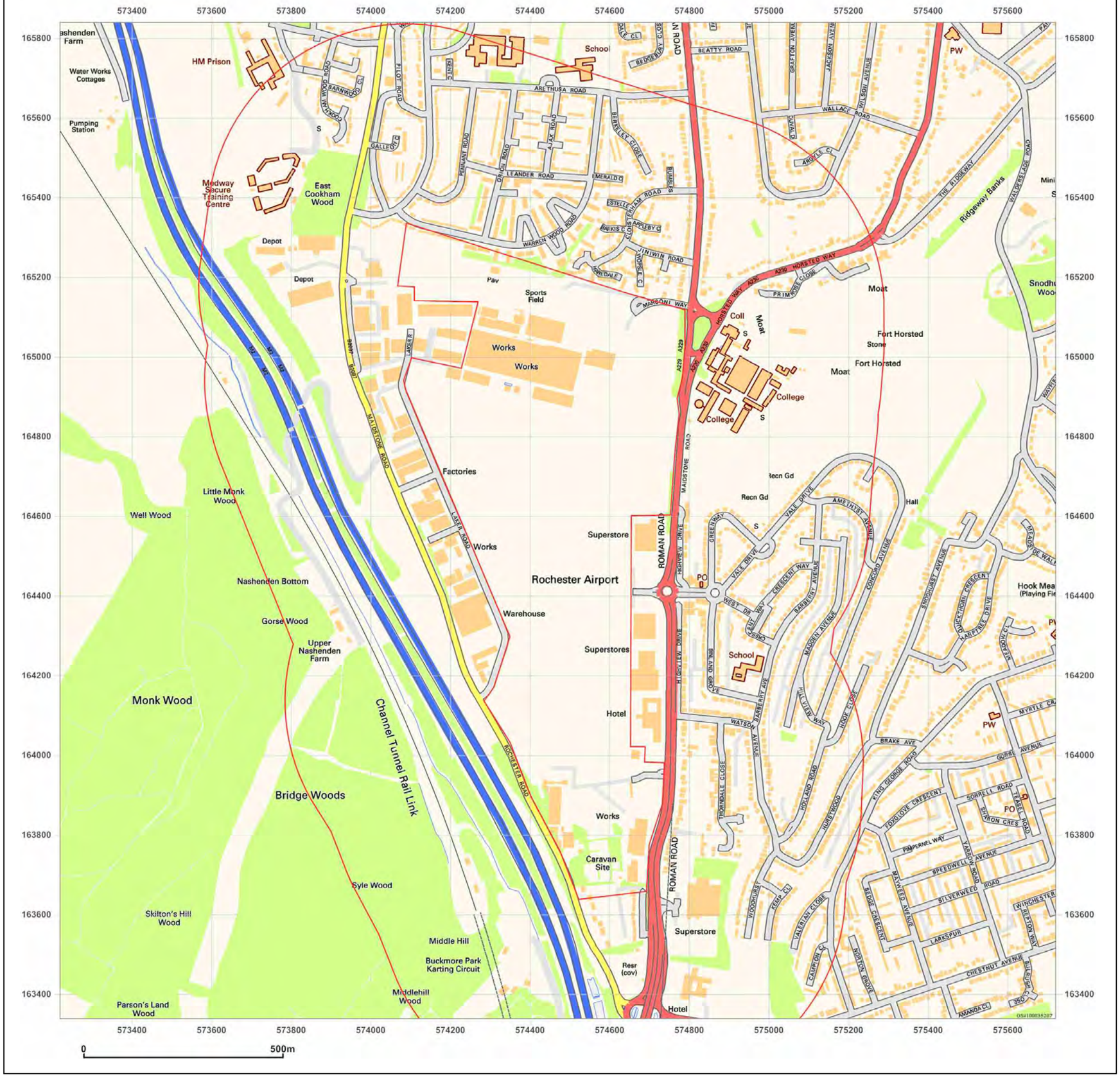
maps&data@groundsure.com
www.groundsure.com



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Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301
Grid Ref: 574470, 164589

Map Name: National Grid

Map date: **2012**

Scale: 1:10,000

Printed at: 1:10,000

N
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2012

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Production date: 11 February 2013

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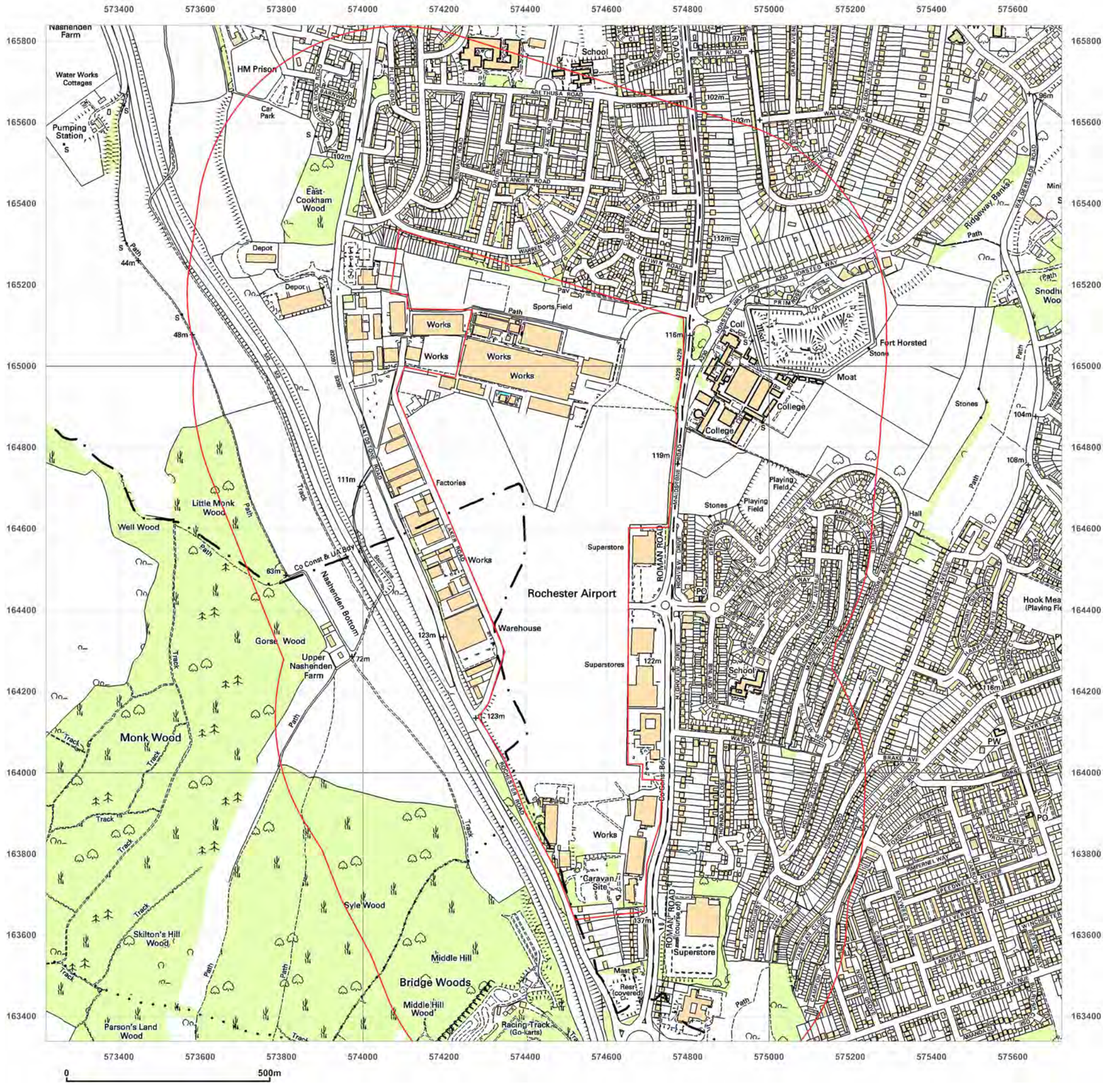

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Site Details:

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Report Ref: EMS-193945_283301
Grid Ref: 574470, 164589

Map Name: 1:10,000 Raster

Map date: **2002**

Scale: 1:10,000

Printed at: 1:10,000

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2002

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Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301
Grid Ref: 574470, 164589

Map Name: National Grid

Map date: **1985-1990**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1985
Revised 1989
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1988
Revised 1990
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1985
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Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301
Grid Ref: 574470, 164589

Map Name: National Grid

Map date: **1988-1989**

Scale: 1:10,000

Printed at: 1:10,000

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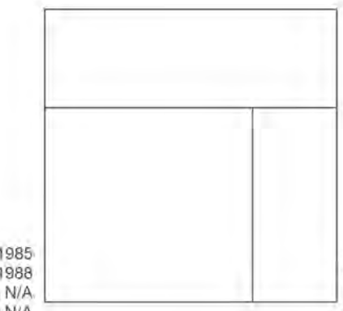

Surveyed 1985
Revised 1988
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1985
Revised 1989
Edition N/A
Copyright N/A
Levelled N/A

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Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301
Grid Ref: 574470, 164589

Map Name: National Grid

Map date: **1979**

Scale: 1:10,000

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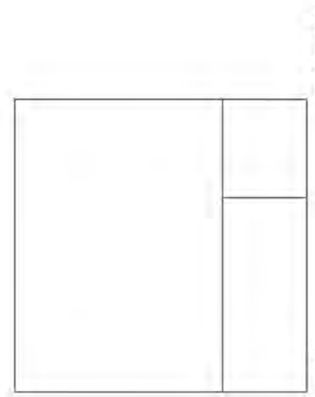

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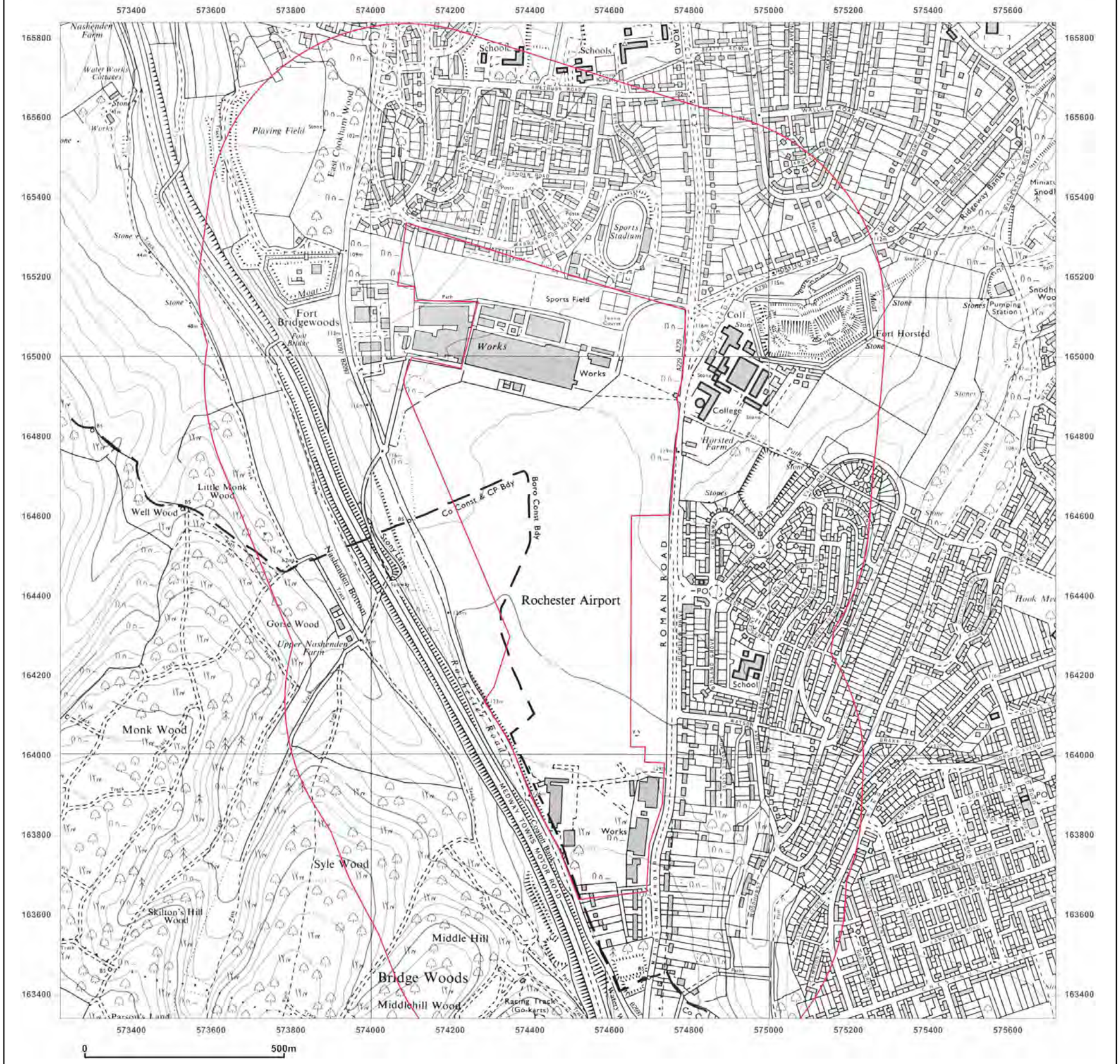

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Site Details:

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Report Ref: EMS-193945_283301
Grid Ref: 574470, 164589

Map Name: National Grid

Map date: **1973-1975**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1972
Revised 1973
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1972
Revised 1973
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Copyright N/A
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Surveyed 1973
Revised 1975
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Production date: 11 February 2013

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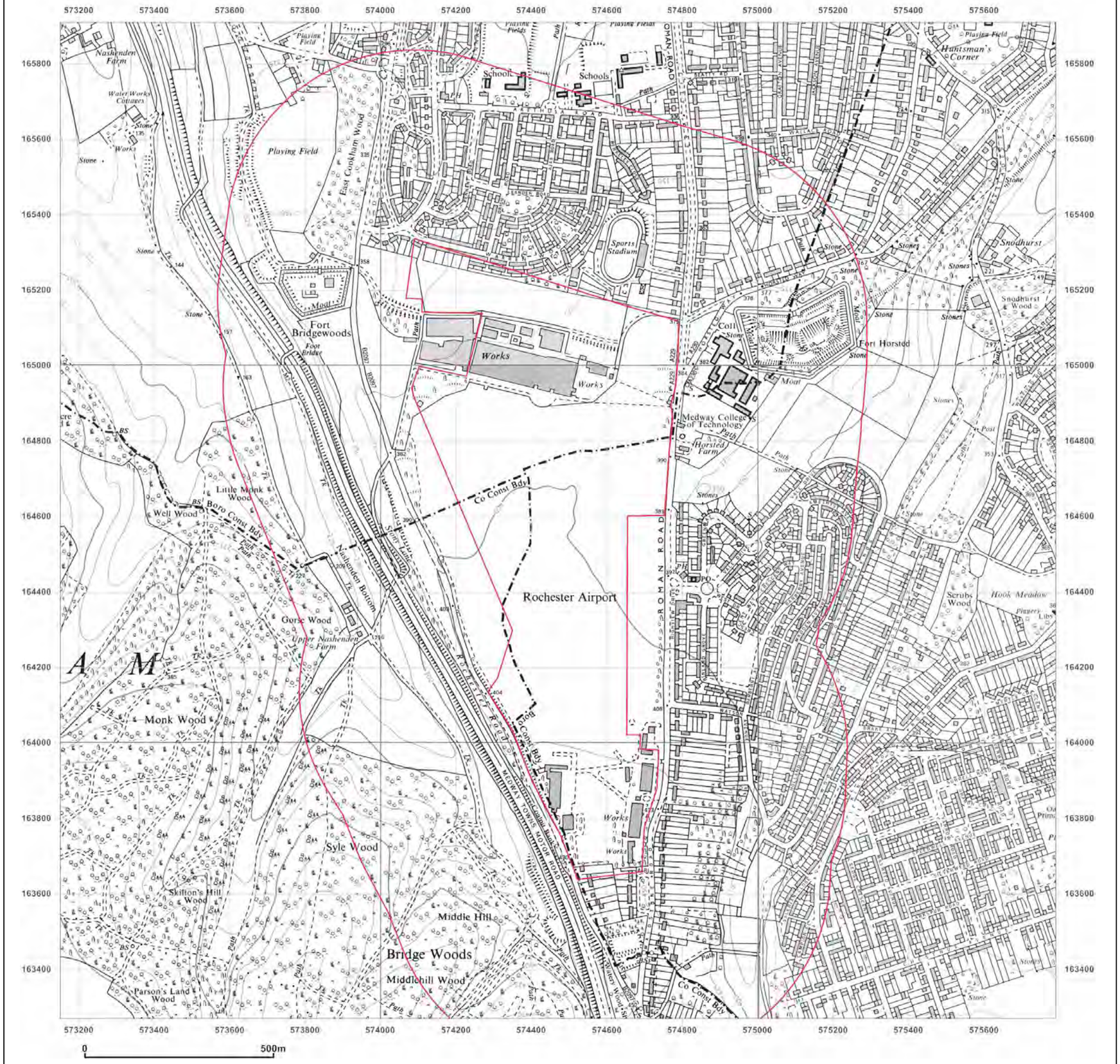

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Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301
Grid Ref: 574470, 164589

Map Name: Provisional

Map date: **1967-1970**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1968
Revised 1968
Edition N/A
Copyright N/A
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Surveyed 1967
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Production date: 11 February 2013

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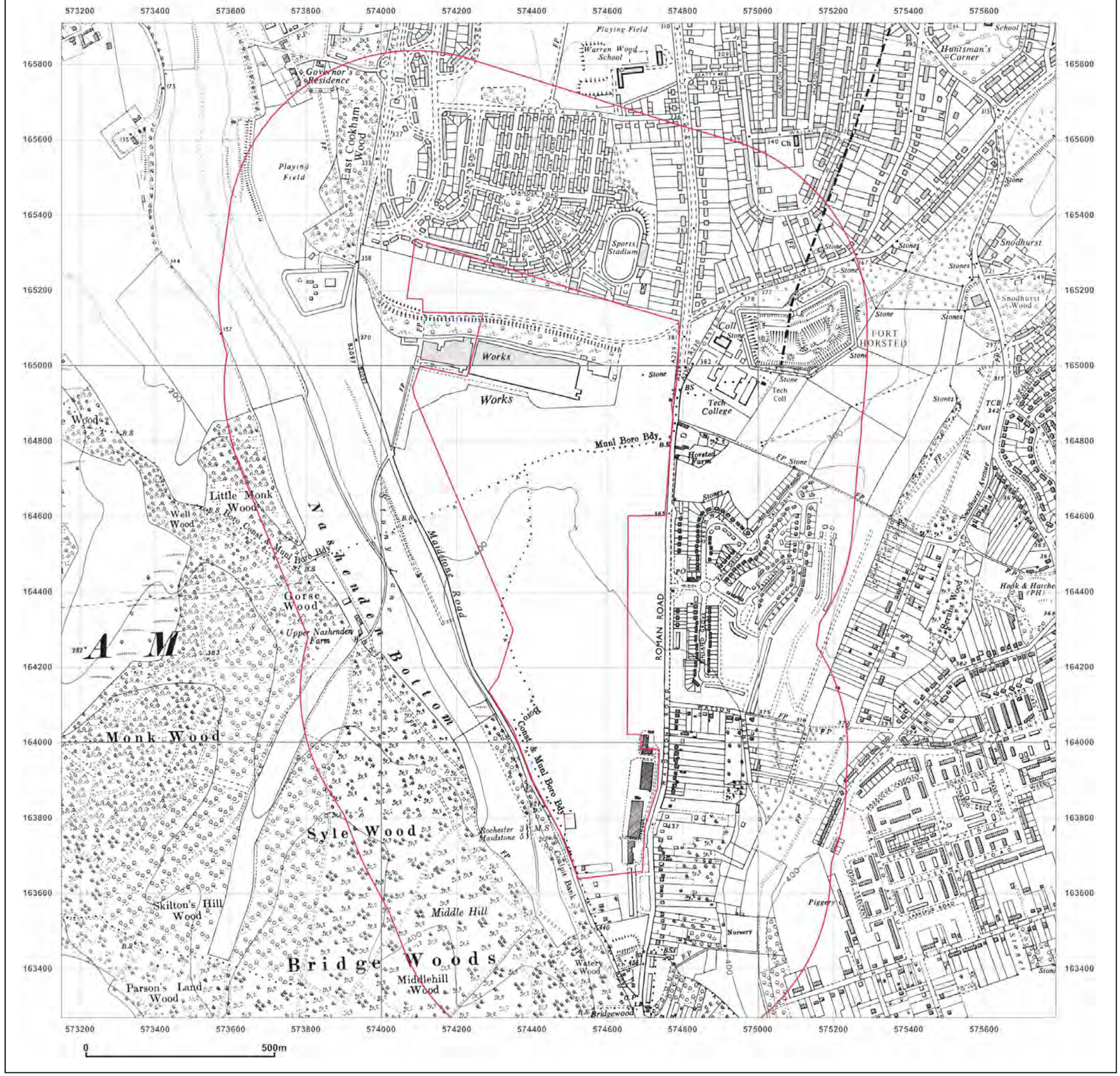

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Site Details:

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Report Ref: EMS-193945_283301
Grid Ref: 574470, 164589

Map Name: Provisional

Map date: **1955**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1863
Revised 1955
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1862
Revised 1955
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1955
Revised 1955
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1955
Revised 1955
Edition N/A
Copyright N/A
Levelled N/A

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Production date: 11 February 2013

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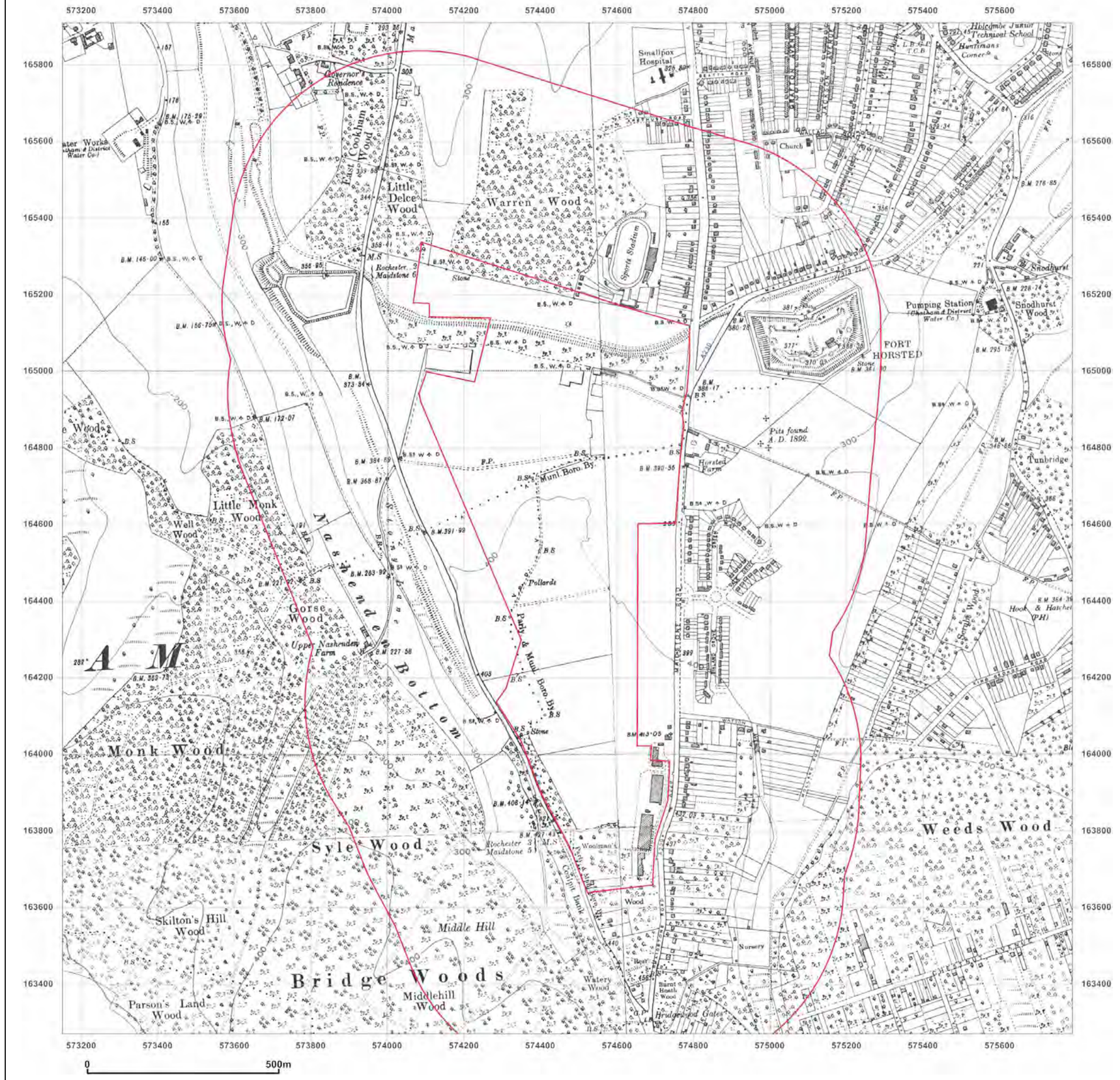

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Site Details:

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Report Ref: EMS-193945_283301
Grid Ref: 574470, 164589

Map Name: County Series

Map date: **1938-1939**

Scale: 1:10,560

Printed at: 1:10,560

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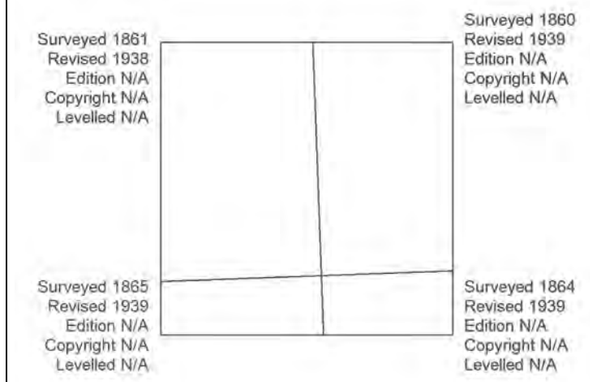

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Production date: 11 February 2013

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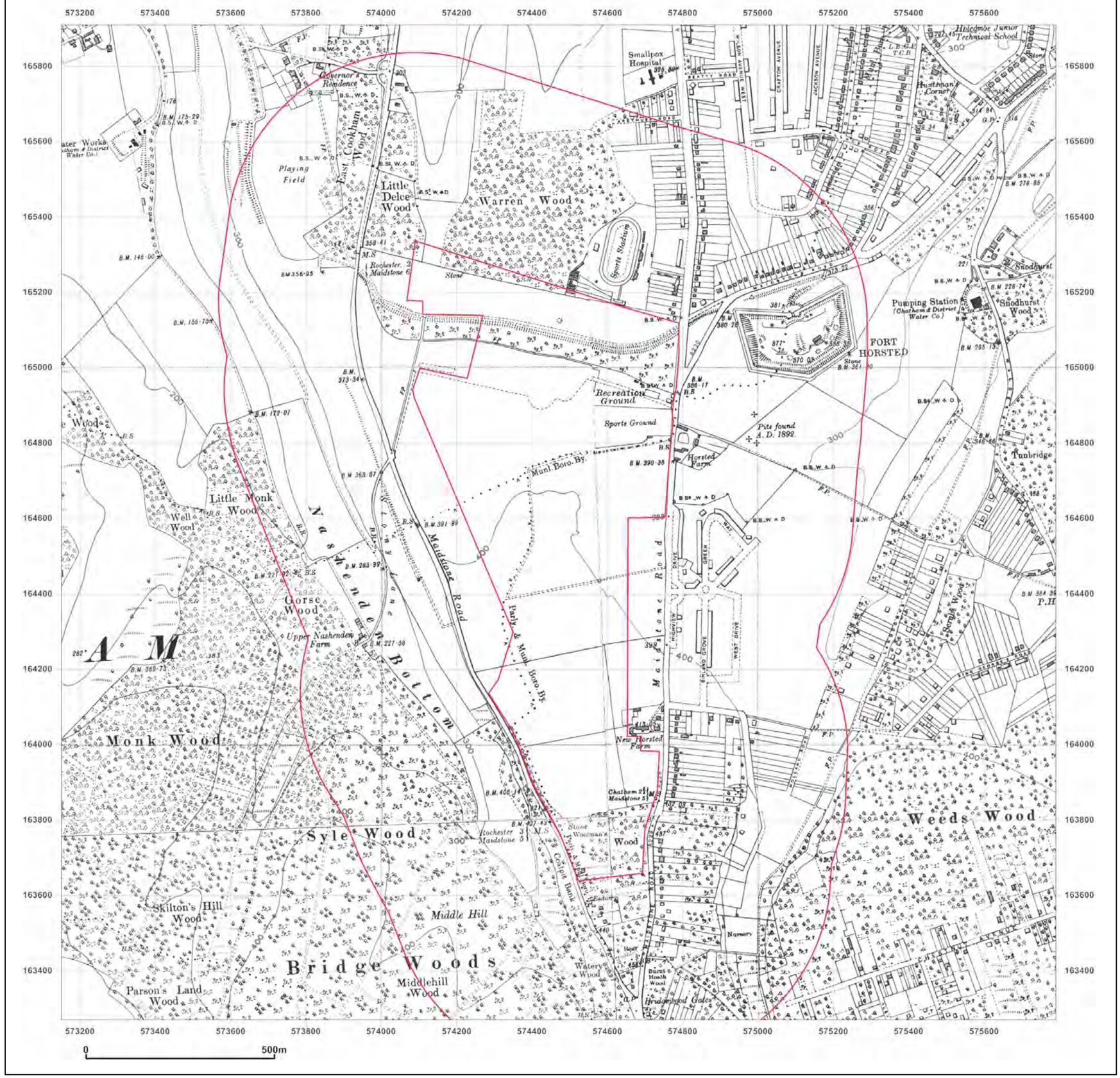

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Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301
Grid Ref: 574470, 164589

Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

N
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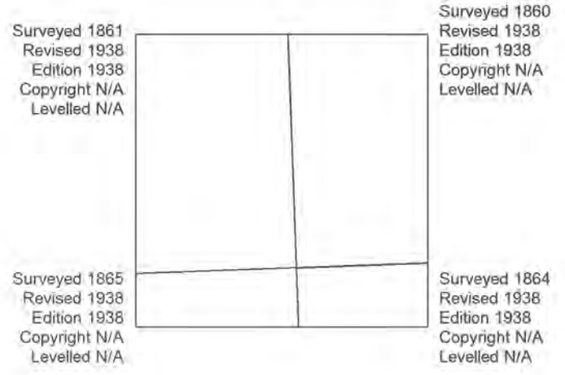

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Production date: 11 February 2013

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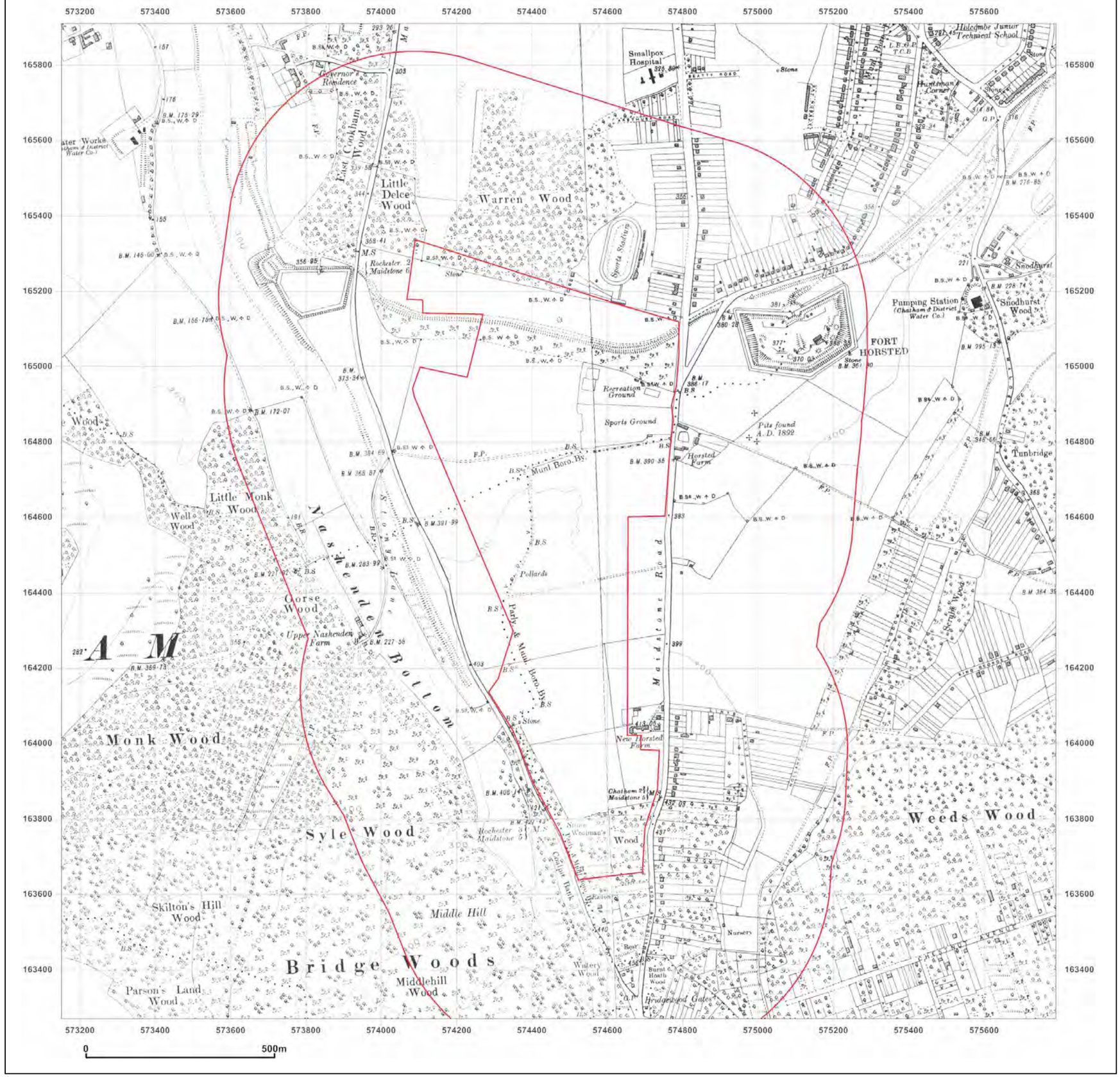

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Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301
Grid Ref: 574470, 164589

Map Name: County Series

Map date: **1932-1933**

Scale: 1:10,560

Printed at: 1:10,560

N
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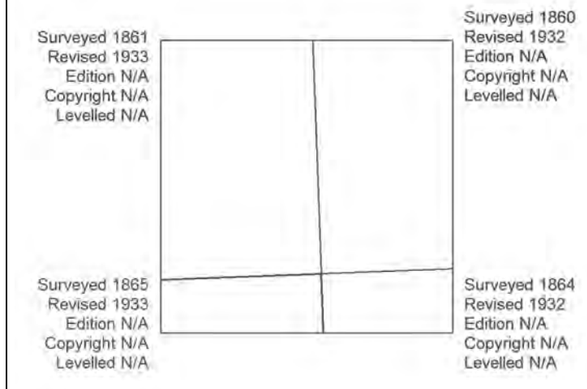

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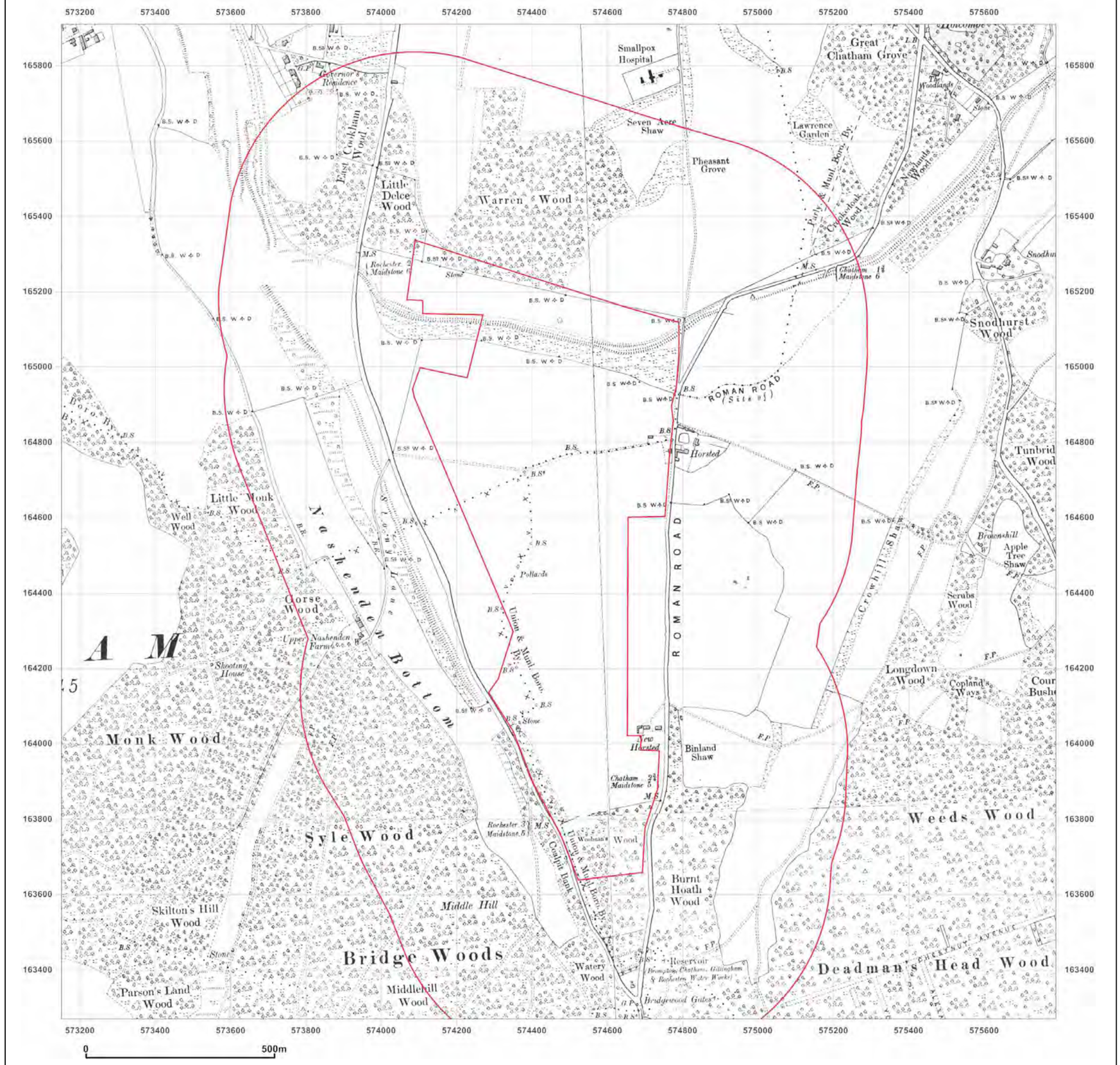

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Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301
Grid Ref: 574470, 164589

Map Name: County Series

Map date: **1907**

Scale: 1:10,560

Printed at: 1:10,560

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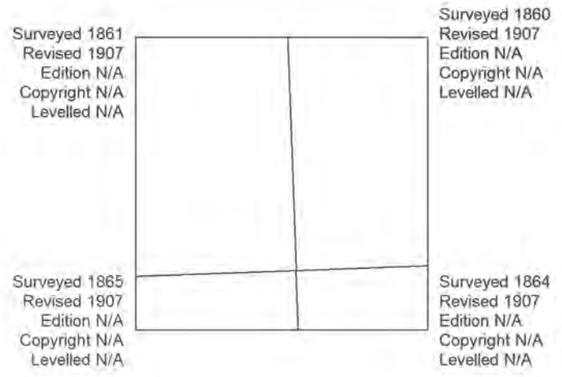

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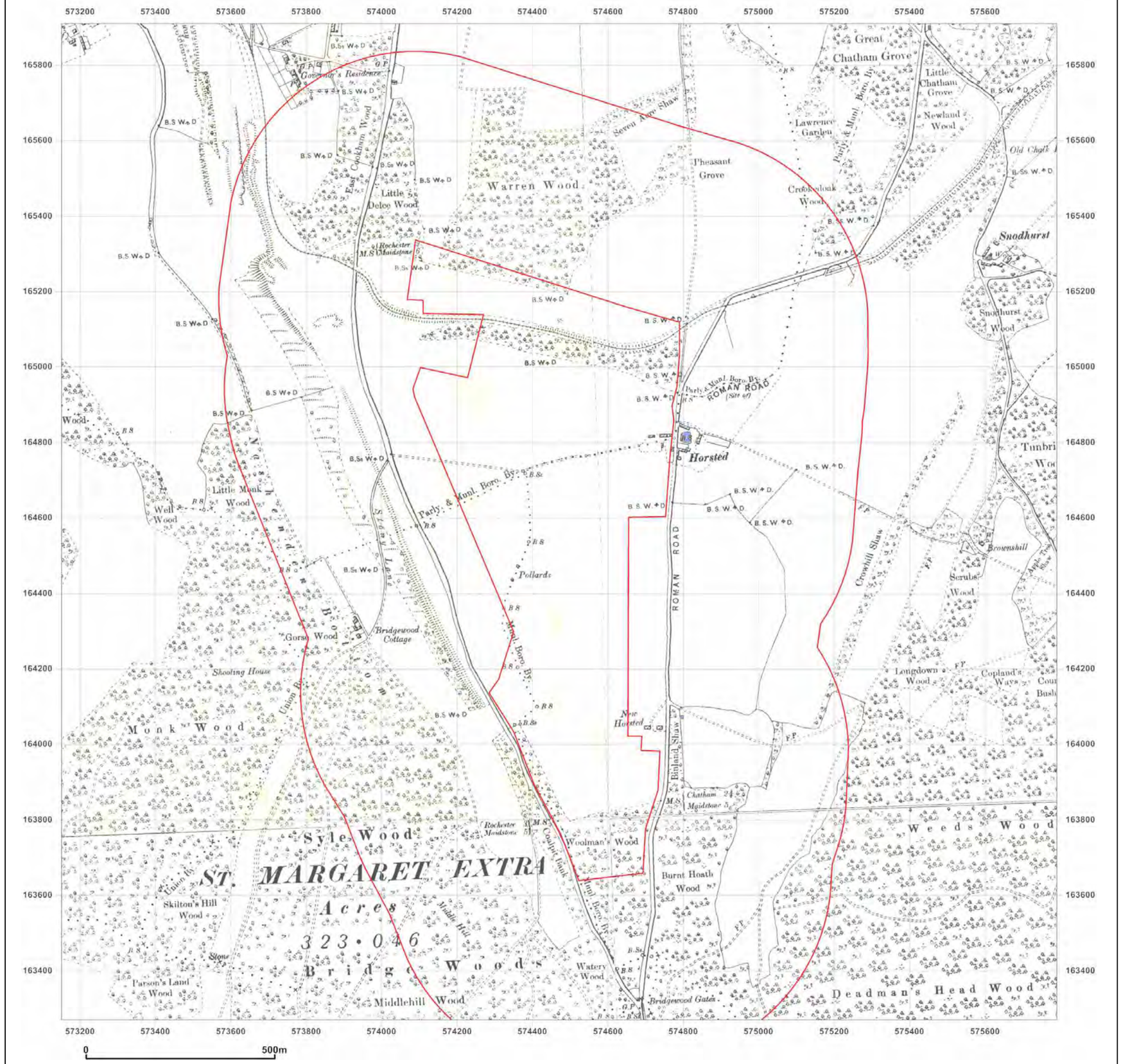

Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301
Grid Ref: 574470, 164589

Map Name: County Series

Map date: **1895-1896**

Scale: 1:10,560

Printed at: 1:10,560

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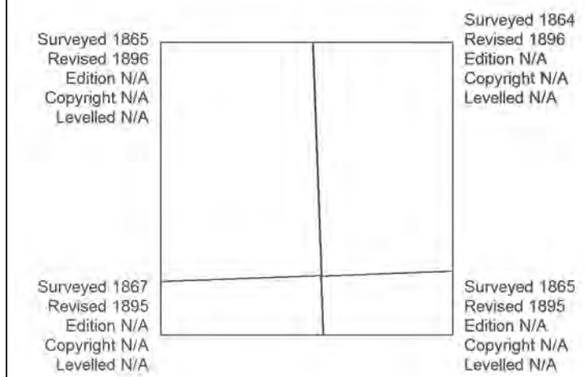

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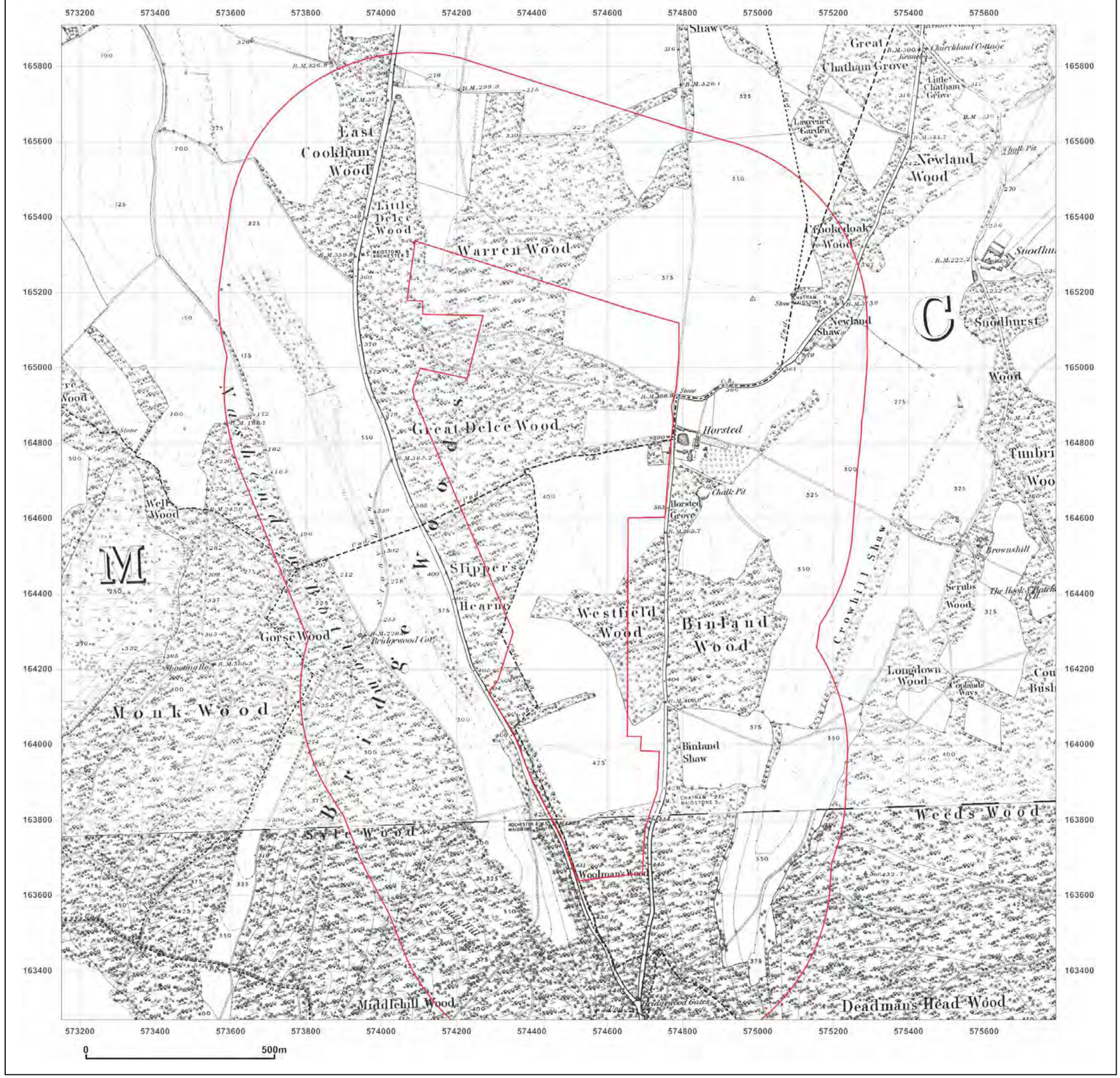

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Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301
Grid Ref: 574470, 164589

Map Name: County Series

Map date: **1865**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1865
Revised 1865
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1865
Revised 1865
Edition N/A
Copyright N/A
Levelled N/A

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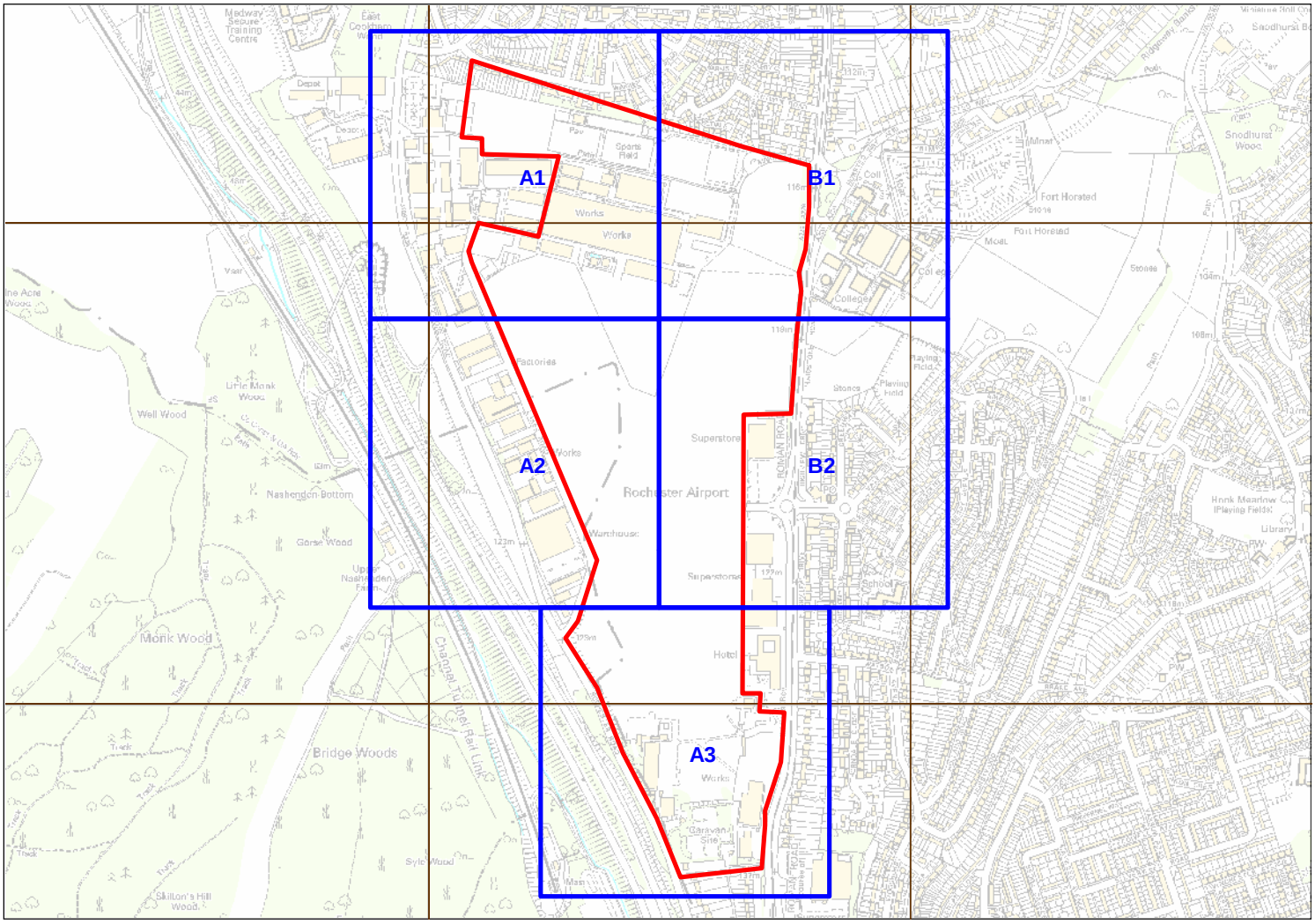
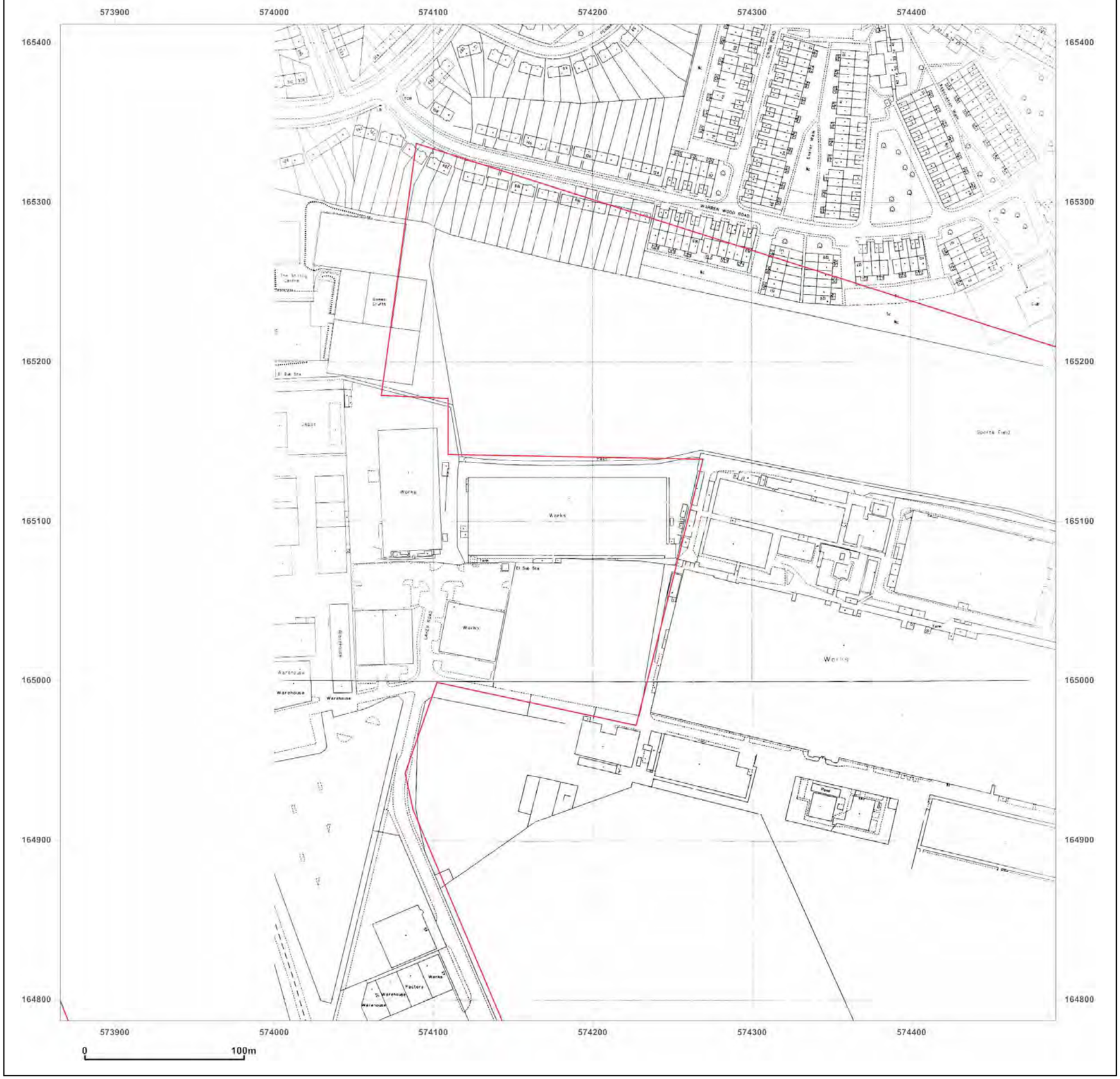

A1
B1
A2
B2
A3
Rochester Airport
Monk Wood
Bridge Woods
Medway Secure Training Centre
Fort Horsted
Snodhurst Wood
Well Wood
Gorse Wood
Nashenden Bottom
Little Monk Wood
Channel Tunnel Rail Link
Skilton's Hill Wood
Sports Field
Works
Factories
Warehouse
Superstore
Hotel
School
College
Caravan Site
Playing Field
Library



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Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301_LS_A1
Grid Ref: 574178, 165099

Map Name: National Grid

Map date: **1993**

Scale: 1:1,250

Printed at: 1:2,500

N
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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

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Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301_LS_A1
Grid Ref: 574178, 165099

Map Name: National Grid

Map date: **1993**

Scale: 1:2,500

Printed at: 1:2,500

N
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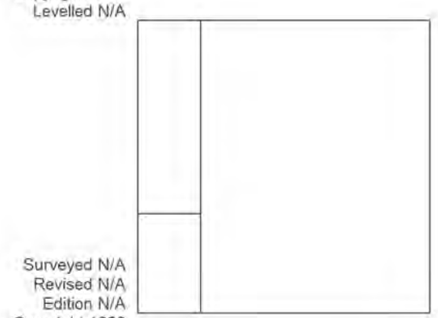
Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

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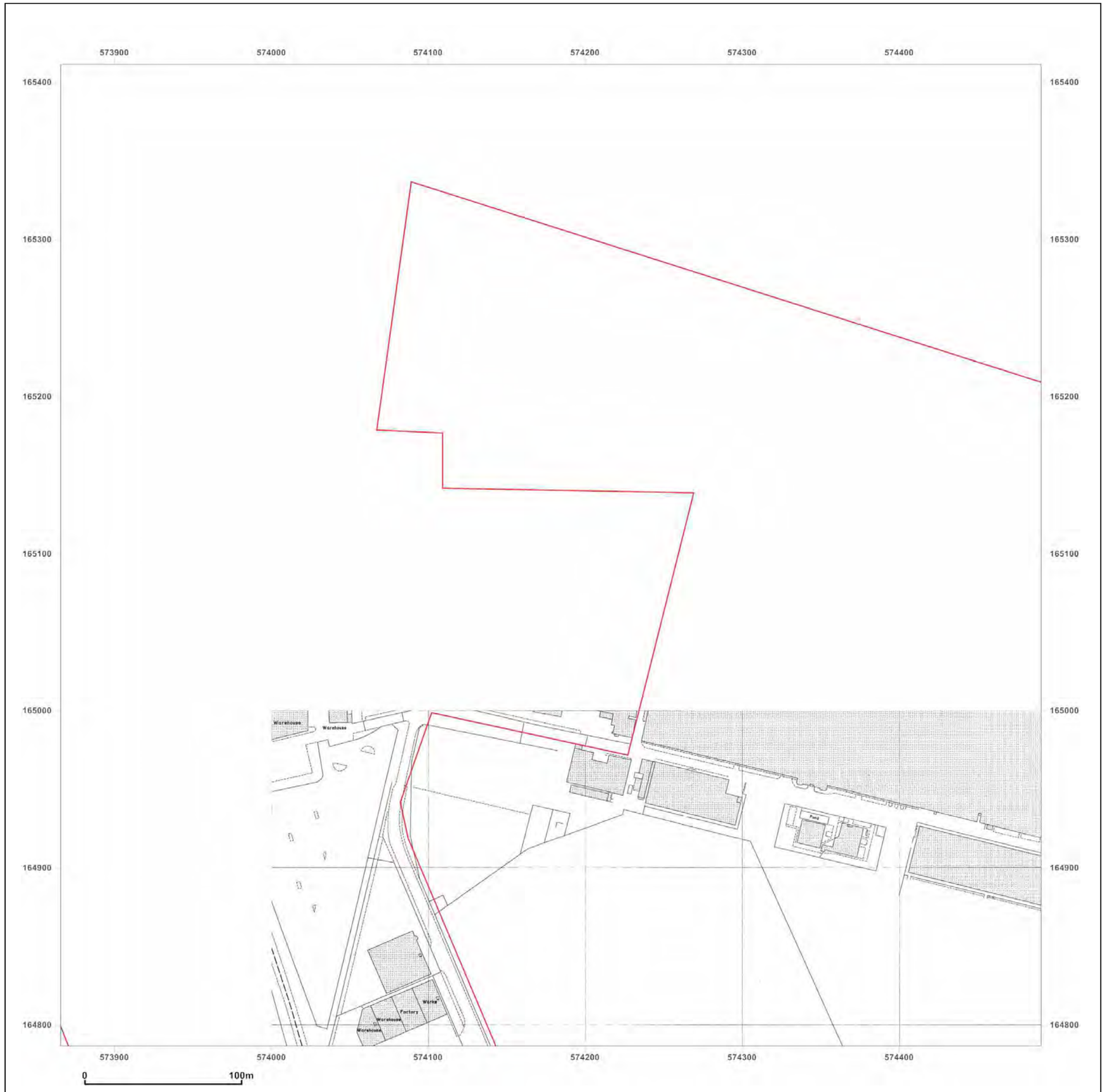

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Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301_LS_A1
Grid Ref: 574178, 165099

Map Name: National Grid

Map date: **1986**

Scale: 1:1,250

Printed at: 1:2,500

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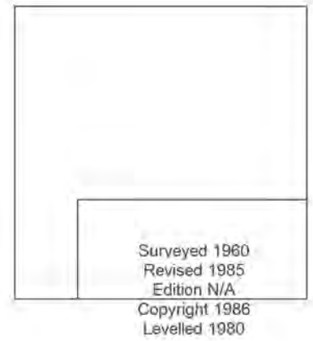

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Production date: 11 February 2013

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Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301_LS_A1
Grid Ref: 574178, 165099

Map Name: National Grid

Map date: **1982-1985**

Scale: 1:1,250

Printed at: 1:2,500

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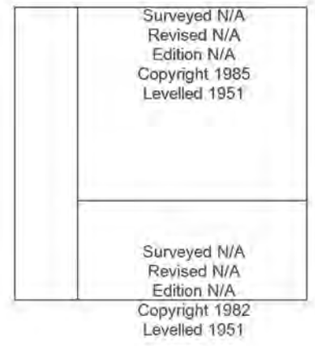

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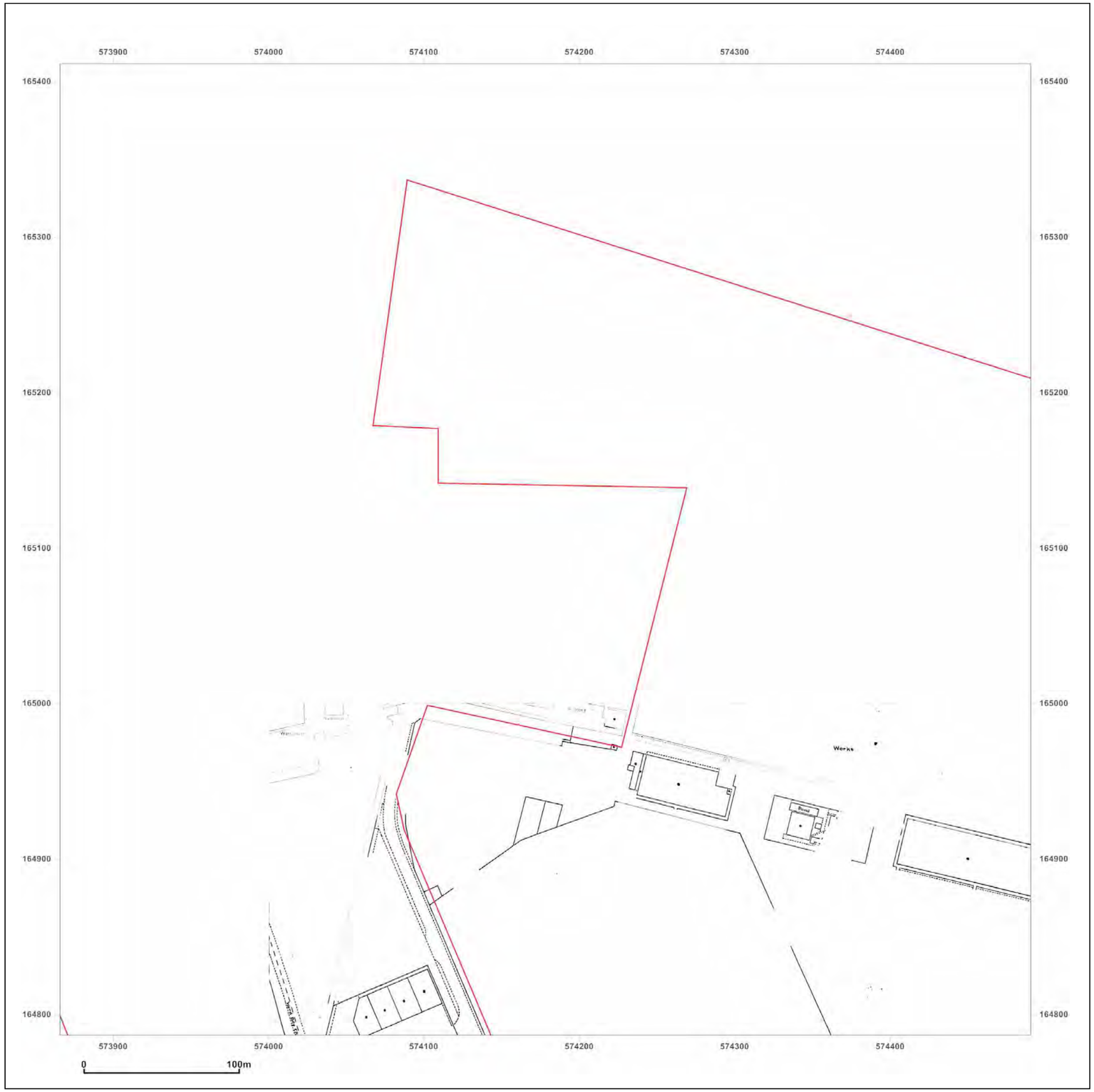

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Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301_LS_A1
Grid Ref: 574178, 165099

Map Name: National Grid

Map date: **1982**

Scale: 1:1,250

Printed at: 1:2,500

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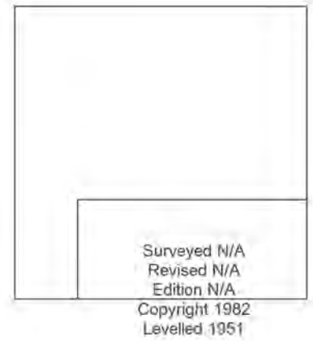

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Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301_LS_A1
Grid Ref: 574178, 165099

Map Name: National Grid

Map date: **1979**

Scale: 1:2,500

Printed at: 1:2,500

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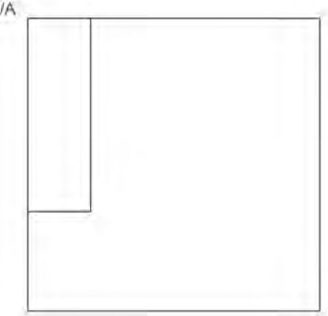
Surveyed 1979
Revised 1979
Edition N/A
Copyright 1979
Levelled N/A



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Production date: 11 February 2013

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Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301_LS_A1
Grid Ref: 574178, 165099

Map Name: National Grid

Map date: **1972**

Scale: 1:1,250

Printed at: 1:2,500

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Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301_LS_A1
Grid Ref: 574178, 165099

Map Name: National Grid

Map date: **1969-1970**

Scale: 1:2,500

Printed at: 1:2,500

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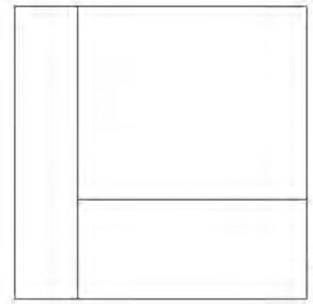

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Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301_LS_A1
Grid Ref: 574178, 165099

Map Name: National Grid

Map date: **1961-1964**

Scale: 1:1,250

Printed at: 1:2,500

N
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Surveyed 1954
Revised 1964
Edition N/A
Copyright 1964
Levelled 1951

Surveyed 1960
Revised 1960
Edition N/A
Copyright 1961
Levelled 1951

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Production date: 11 February 2013

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Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301_LS_A1
Grid Ref: 574178, 165099

Map Name: National Grid

Map date: **1961-1964**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1964
Revised 1964
Edition N/A
Copyright 1965
Levelled 1951

Surveyed 1964
Revised 1964
Edition N/A
Copyright 1964
Levelled 1951

Surveyed 1961
Revised 1961
Edition 1962
Copyright 1962
Levelled 1951

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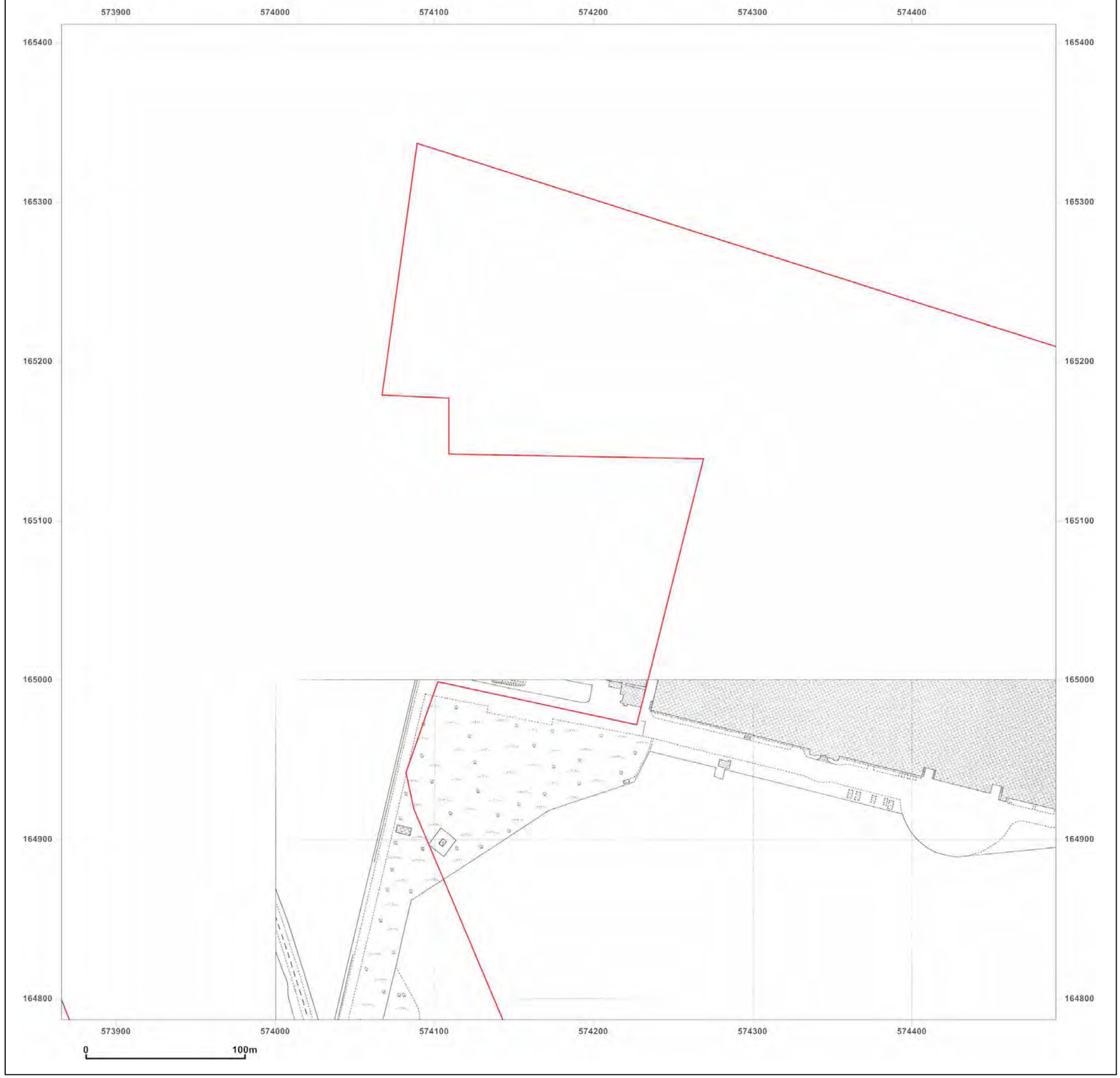

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Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301_LS_A1
Grid Ref: 574178, 165099

Map Name: National Grid

Map date: **1961**

Scale: 1:1,250

Printed at: 1:2,500

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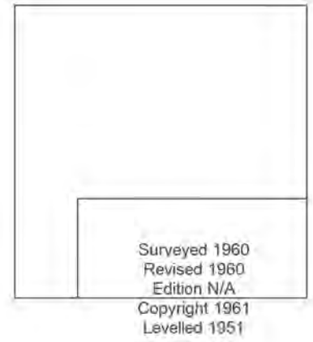

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Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301_LS_A1
Grid Ref: 574178, 165099

Map Name: National Grid

Map date: **1954**

Scale: 1:1,250

Printed at: 1:2,500

N
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Surveyed 1954
Revised 1954
Edition N/A
Copyright N/A
Levelled 1951

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Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301_LS_A1
Grid Ref: 574178, 165099

Map Name: National Grid

Map date: **1954**

Scale: 1:2,500

Printed at: 1:2,500

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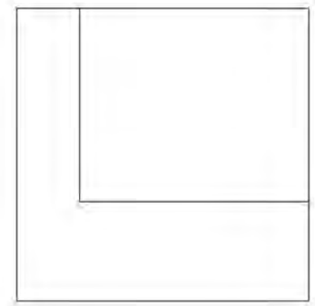
Surveyed 1954
Revised 1954
Edition 1955
Copyright N/A
Levelled 1951



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