



BAE Govan - New Assembly Hall

Geotechnical & Geo-environmental Desk Study

June 2022

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BAE Govan - New Assembly Hall

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Executive Summary

Introduction	Mott MacDonald have been commission by BAE Systems to produce a Phase 1 Geotechnical and Geo-Environmental Desk Study for a proposed new Ship Assembly Hall development within the BAE Govan Shipyard, as part of the BAE Govan Facilities Investment Project. The proposed development requires reclamation of the existing Wet Basin onsite to provide sufficient area to construct the new assembly hall structure.
Site History	The site has been subject to extensive development associated with its continual use as a shipbuilding yard since the Fairfield Shipyard was established in 1864. This has included various building layouts, cranes, railways and other infrastructure. The Wet Basin is shown to have been first excavated in the late 1800s and subsequently developed and widened in the early 1900s, the 1970s and circa 2005.
Published Geology and Ground Conditions	<p>The ground conditions at the site have been inferred from published geological maps and the findings of previous investigations undertaken on the site, and are anticipated comprise the following general sequence:</p> <p><u>On-shore</u></p> <p>Made Ground (1-5m) – associated with historical development of the site comprising hardstanding over GRAVEL of various lithologies.</p> <p>Alluvium (0-1.5m) – Locally absent loose SAND and GRAVEL.</p> <p>Raised Tidal Flat Deposits (0-4m) – Locally absent soft sandy SILT.</p> <p>Raised Marine Beach Deposits (7-25m) – Medium dense SAND.</p> <p>Glaciofluvial Deposits (0-16m) – Locally present SAND with traces of Glacial Till and COBBLES and coarse GRAVEL</p> <p>Glacial Till (0– 8m) – Locally absent stiff very sandy very gravelly CLAY with cobbles and boulders.</p> <p>Limestone Coal Formation (>6m) – interbedded very sandy SILTSTONE and SANDSTONE.</p> <p><u>Overwater within Wet Basin</u></p> <p>Recent Sediment (3-6m) – Very soft to soft organic SILT.</p> <p>Raised Marine Beach Deposits (2-15m) – Medium dense SAND.</p> <p>Glacial Till (1-11m) – Stiff to very stiff very sandy very gravelly CLAY with cobbles and boulders.</p> <p>Limestone Coal Formation (>20m) – interbedded very MUDSTONE and SANDSTONE.</p>
Geo-environmental Risks	<p>Human Health – The ground conditions pose a potential risk to construction workers who may be exposed to contaminants during possible earthworks and excavations or other activities which may generate dust or involve dermal contact. Made ground, basin sediments and organic rich natural deposits (if present) have the potential to generate elevated ground gas concentrations which could pose a risk to future site users and construction workers. The risk is likely to be highest in confined spaces and in the proposed accommodation building.</p> <p>Water Environment – Historical investigations have recorded contaminated sediments within the wet basin associated with the former site use. The contaminated sediments are currently in contact with the River Clyde and overlie the Govan Sand & Gravel superficial groundwater body and potentially pose a risk to these receptors.</p> <p>Asbestos Containing Materials –Asbestos is noted to have been visually identified in the Dames & Moore historical GI undertaken in the west of the site. It is possible that asbestos containing materials could be encountered during future ground investigations as asbestos is often encountered on former shipbuilding sites.</p> <p>Dredging & Offshore Sediment Disposal – Historical marine sampling of shallow sediments in the wet basin has identified contaminant concentrations in excess of ‘Action Level 1’ and ‘Action Level 2’ suggesting some of the material may not be suitable for dredge disposal at sea. Should dredging and disposal of basin sediment become a requirement, it should be completed in accordance with the Marine Scotland guidance.</p> <p>Waste classification and disposal – There is potential for the proposed enabling works to generate surplus waste soil. It is recommended that sampling and testing of the soils in the west of the site is completed to facilitate waste classification and to confirm chemical composition of soils. Re-use of potential site won contaminated soils should be in accordance with waste legislation.</p>
Geotechnical Risks	<p>The following key geotechnical-related risks have been identified from this desk study:</p> <ul style="list-style-type: none"> ● Artificial & Natural Obstructions ● Uncertain and Variable Ground Conditions ● Compressible Soils ● High Permeability Soils ● Variable Rockhead ● Services ● Unexploded Ordnance
Recommendations	Based on the ground risks and pollutant linkages identified and outlined in this desk study report, it is recommended that additional work is undertaken to characterise the ground and groundwater conditions at the site within key areas of proposed development. The work includes obtaining additional historical ground investigation records and structural as-built records of the existing quay walls / wharfs, and the undertaking of project specific surveys including an onshore and overwater ground investigation, a bathymetric survey and a Sub-bottom profiling survey of the Wet Basin.

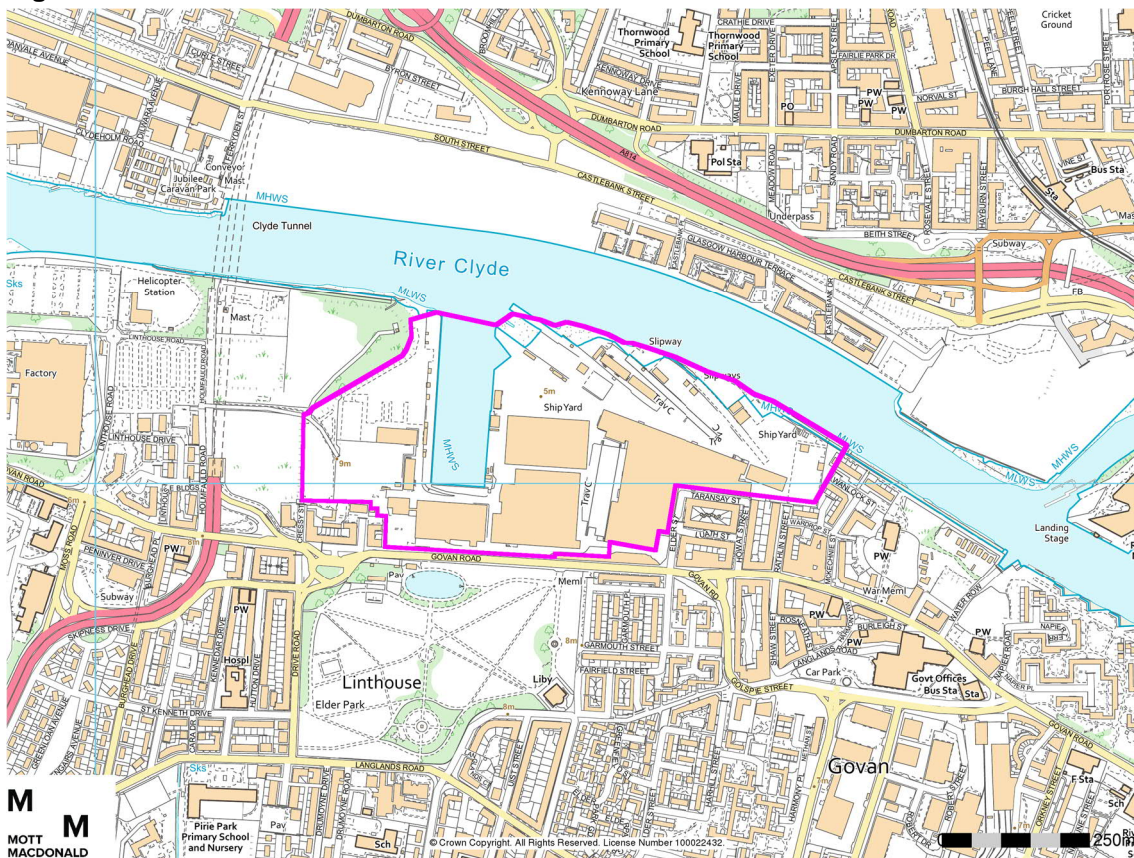
1 Introduction

1.1 Background and Scope

Mott MacDonald have been commissioned by BAE Systems to produce a Phase 1 Geotechnical and Geo-Environmental Desk Study for a proposed new Ship Assembly Hall development located within the BAE Govan Shipyard, as part of the BAE Govan Facilities Investment Project.

The location of the BAE Govan Shipyard is highlighted in Figure 1-1.

Figure 1-1: Site Location Plan

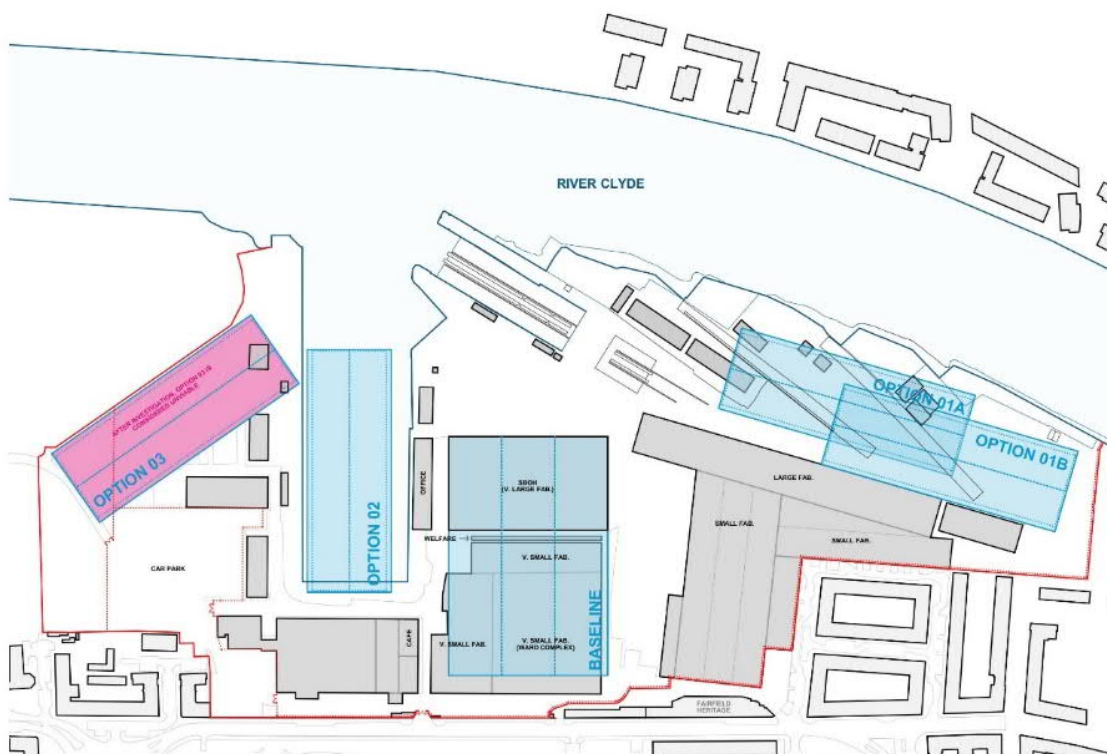


Source: Envirocheck Report 293036501_1_1. BAE Govan Shipyard site as highlighted.

1.2 Nature of Proposed Development

Several option locations were considered for the development of the new Ship Assembly Hall (namely, *Baseline*, *Option 01A*, *Option 01B*, *Option 02*, and *Option 03*) which are indicatively depicted in Figure 1-2. The option favoured by BAE Systems is Option 02, associated with infilling / reclamation of the existing Wet Basin at the site. As such, this option forms the basis on which the desk study has been produced.

Figure 1-2: Potential Site Development – Option Locations



Source: Mott MacDonald, 2022. Showing indicative locations considered for new Ship Assembly Hall.

Design of the proposed Ship Assembly Hall at the Option 02 location is at the conceptual / outline stage of development, but is understood to generally comprise:

- Approximately 90m wide steel pile closure structure at the northern end of the existing Wet Basin, to form a new quay edge / river wall and accommodate the land reclamation behind.
- Approximately 17,500m² (90m x 195m) of land reclamation from the existing Wet Basin, by sequential infilling (potentially in conjunction with prior ground improvement of in-situ soils (and accumulated sediments) and/or dredging works within the Wet Basin; subject to the findings of project-specific geotechnical and contaminated land ground investigations). Dewatering within the Wet Basin may be undertaken, subject to the ground conditions and the suitability of design.
- An approximately 200m long Ship Assembly Hall structure to be built at the newly formed ground level, locally straddling the existing quay walls to the west to accommodate positional requirements at the site. Building foundations are to be piled through the land reclamation to transfer heavy loads to depth below ground level and to meet serviceability performance criteria for the ship building facility.
- Accommodation block attached to the western side of the Ship Assembly Hall, located outside of the existing Wet Basin footprint. Likely to also have piled foundations.

In addition to the above, there will be the potential requirement for a temporary contractor's compound and construction laydown area to be located on the land to the west of the existing Wet Basin within the BAE site.

Conceptual design proposals at the time of writing are included in **Appendix A**.

1.3 Report Objectives

The purpose of this Geotechnical and Geo-Environmental Desk Study is to summarise information on potential ground conditions and ground contamination that may be encountered during the proposed site development works for Option 02 at the BAE Govan Shipyard.

This desk study initially reviews and summarises information for the BAE Govan Shipyard in general (in Section 2 and 3) prior to focusing on the geotechnical and geo-environmental aspects specifically around the existing Wet Basin (in Section 4 to 8).

The key objectives of this desk study are as follows:

- Review and summarise readily available site-specific information (including data on historical land use and ground conditions).
- Develop a preliminary ground model that will present the ground conditions anticipated within and around the Wet Basin.
- Establish the geological and hydrogeological conditions at the site using existing available information.
- Identify site specific geotechnical hazards, which may place a constraint or risk upon the proposed redevelopment.
- Develop a preliminary conceptual site model and identify potential pollutant linkages which could exist at the site following redevelopment.
- Undertake a Preliminary Contaminated Land Risk Assessment (CLRA).
- Provide outline recommendations for further assessments and surveys, including project-specific ground investigations for ground characterisation purposes.

1.4 Methodology

This desk-based review and report have been completed in accordance with the methodology for geotechnical desk studies outlined within 'Eurocode 7 – Geotechnical Design Parts 1 and 2 (BS EN 1997-1 & BS EN 1997-2) and the 'Maritime Works – Code of practice for geotechnical design' (BS 6349-1-3:2021).

A preliminary contaminated land risk assessment has been undertaken as part of this report and has been produced in general accordance with the following guidance documents and standards:

- Model procedures for the management of land contamination - CLR11, September 2004 [Withdrawn]
- Land Contamination Risk Management (LCRM), April 2021
- BS10175:2011 (+A2:2017), Investigation of Potentially Contaminated Sites, Code of Practice, December 2017
- CIRIA C552, Contaminated Land Risk Assessment – A Guide to Good Practice, January 2001.

A site walkover was undertaken by Mott MacDonald (geotechnical and geo-environmental engineers) on 9th March 2022 and key observations made during this site reconnaissance are summarised herein.

1.5 Sources of Information

The following sources of information were used in the preparation of this report.

Information specific to the BAE Govan Shipyard:

- Arch Henderson (Date unknown). "Contamination Surveys" Report reference not provided.
- Arch Henderson (2005). Existing Layout of Slipway Showing Existing Levels. Drawing 05099-007.
- Arch Henderson (2005). *Borehole Logs for June 2005 Sheet 1*. Drawing 05099-008.
- Arch Henderson (2005). *Borehole Logs. Sheet 2*. Drawing 05099-009 Rev A.
- Arch Henderson (2005). *Borehole Logs. Sheet 3*. Drawing 05099-010. Rev A.
- Arch Henderson (2005). *Borehole Logs. Sheet 4*. Drawing 05099-011 Rev A.
- Aspect Surveys (2021). *Bathymetric Survey. River Clyde, Govan Basin*. HM 1005-2-1.
- Babbie, Shaw and Morton (1974). *Reconstruction of East Wharf. Location Plan*. Drawing C3197/1R.
- Babbie, Shaw and Morton (1975). *Reconstruction of East Wharf. Rock Anchor Details*. Drawing C3197/27R.
- Bam Ritchies (2009). *BVT Surface Fleet, Govan. For Arch Henderson. Ground Investigation Report*. Report Ref. 3785.
- Bam Ritchies (2014). *BAE Govan Environmental Study for Arch Henderson. Ground Investigation Report*. Report Ref. 5298.
- Dames & Moore / URS (2000). *Stage II Environmental Site Investigation. BAE Systems Govan Shipyard Glasgow. Final Interpretative Report for Clydeport PLC and BAE Systems Marine YSL*. Report ref. 44701.002.
- EnviroCentre Limited, 2020. *BAE Systems. Best Practicable Environmental Options (BPEO) Report – Scotstoun and Govan*. Report Ref. 9278
- Hydracrat Limited (1990). *Factual Site Investigation report. Tank Assembly Shop Foundations*. Report Ref. 4095.
- IKM Consulting Limited (2004). *Curry & Brown. BAE Systems Marine, Govan Site Investigation Report*. Report Reference 1121.
- Raeburn Drilling and Geotechnical Limited (2006). *BAE Systems Marine Limited. SBOH Lay Down Area Govan Shipyard Glasgow. Report on Ground Investigation*. Report Ref. 19379.
- Ritchies (2005). *Arch Henderson & Partners. BAE Govan Slip 1. Ground Investigation Report*. Report Ref. 0839.
- Zetica (2015). *Sitesafe UXO Desk Study for BAE Systems Surface Ships, River Clyde, Glasgow*. Report Reference P5169-15-R1-A.
- Structural Soils (2022). *Govan Facilities Investment Fund. Draft interpretive Report on Ground investigation*. Report Ref. 541812.

General Information Sources:

- BRE Construction Division (2005). *BRE Special Digest 1: Concrete in aggressive ground*. [Online].
- British Geological Survey (2022). *Geology of Britain Viewer* (Available at: https://mapapps.bgs.ac.uk/geologyofbritain/home.html?&_ga=2.225408858.15302335.1628582443-858418438.1626707224) [Accessed: April 2022]
- British Geological Survey (2022). *BGS Lexicon of Named Rock Units*. BGS Technologies. Available from <https://www.bgs.ac.uk/technologies/the-bgs-lexicon-of-named-rock-units/>. Last accessed April 2022.
- British Geological Survey (1994). *Glasgow. Scotland Sheet 30E. Drift Geology. 1:50,000*. (Keyworth, Nottingham: British Geological Survey.)

- British Geological Survey (1993). *Glasgow*. Scotland Sheet 30E. Solid Geology. 1:50,000. (Keyworth, Nottingham: British Geological Survey.)
- CLAIRE (1995). *Department of Environment Industry Profiles*. [Online]. Available: <https://www.claire.co.uk/useful-government-legislation-and-guidance-by-country/198-doe-industry-profiles>. [Accessed April 2022].
- Coal Authority Interactive Map Viewer (Available from <http://mapapps2.bgs.ac.uk/coalauthority/home.html>) [Accessed March 2022].
- Description of 'Fairfield Shipping and Engineering Co. Ltd, Plans of Fairfield Titan Crane, 1906 - 1979. West Dunbartonshire Council Archive Services - Clydebank. GB 593 GDC15' on the Archives Hub website, [<https://archiveshub.jisc.ac.uk/data/gb593-gdc15>], (date accessed :05/04/2022)
- Hall, I. H. S., Browne, M. A. E., and Forsyth, I. H. (1998). *Geology of the Glasgow District*. Memoir of the British Geological Survey Sheet 30E (Scotland) (London. British Geological Survey)
- Scottish Environment Protection Agency (SEPA) (2022), "Flood Hazard and Flood Risk Information", (Available at <https://map.sepa.org.uk/floodmaps>) [Accessed April 2022].
- Scottish Environment Protection Agency (SEPA) (2022), "Online Water Classification Hub", (Available at: <https://www.sepa.org.uk/data-visualisation/water-classification-hub/>) [Accessed: March 2022].
- UK Health and Security Agency (2022), "UK Maps of Radon" (Available at <https://www.ukradon.org/information/ukmaps>) [Accessed April 2022].
- UKWIR (2010). *Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites*.
- Zetica (2022). Unexploded Bomb Risk maps (Available at: www.zetica.com) [Accessed: March 2022].

Additionally, the following project-specific information has been obtained by Mott MacDonald for the site:

- Landmark Information Group (March 2022), BAE Govan, Envirocheck Report. Report Number 293036501_1_1, for Mott MacDonald.
- The Coal Authority (April 2022). Consultants Coal Mining Report, Site at Govan, Glasgow. Report Ref. 510003023969001.
- Zetica UXO, (21 February 2022). Pre-Desk Study Assessment (PDSA), BAE Govan 210222 (E11620-22), for Mott MacDonald.
- Zetica UXO (28 April 2022). Desk Study and Risk Assessment. BAE Govan. For Mott MacDonald Report Ref. P11620-22-R1-A.

1.6 Limitations

This desk study report is focused on development Option 02 (Wet Basin) at the BAE Govan site, as outlined in Section 1.2. If the works proposals change significantly during subsequent stages of the project development, then it is recommended that the findings, including conclusions and recommendations, of this desk study are reviewed to ensure their appropriateness and validity.

This report covers desk-based geotechnical and geo-environmental considerations, and as such does not represent a detailed study (including condition assessment) of existing and historical marine infrastructure / quay walls at the site. Site reconnaissance was limited to land-based visual inspection only. The nature and condition of marine structures should be evaluated separately via over-water access for visual examination, measurement, and potential non-destructive testing of structures for characterisation purposes.

Assessment of the risk from or related to asbestos, asbestos containing materials (ACMs), nuclear or radioactive emissions, or any incident of toxic mould is out with the scope of this report.

Assessment of Unexploded Ordnance (UXO) risk to the site is informed by specialist inputs from UXO industry experts 'Zetica'.

To the extent that this desk-based review and resulting report is based on information supplied by other parties, Mott MacDonald accepts no liability for any loss or damage suffered by the client or others stemming from conclusions based on data supplied by the client and/or third parties.

2 BAE Govan - Site Overview

2.1 Site Setting

A site walkover of the BAE Govan site was conducted by Mott MacDonald (geotechnical and geo-environmental engineers) on 9th March 2022. Key photographs (limited due to security reasons) taken during site reconnaissance are presented in **Appendix B**.

A general description and summary of pertinent site information is given in Table 2.1 (with salient site features highlighted in Figure 2-1) based on the following data sources:

- Observations made during the (land-based) site walkover
- Readily available (online) site data and project information provided by BAE Systems
- Envirocheck report obtained by Mott MacDonald, as included as **Appendix C**.

Table 2-1: Site Information Summary

ASPECT	DETAILS
Site Name	BAE Systems Govan Shipyard
Site Location	Located on the banks of the River Clyde at BAE's Govan Shipyard site, approximately 4.3km west of Glasgow City Centre.
Local Authority	Glasgow City Council
National Grid Reference	NGR 254782, 666141 (approximate centre of the site)
Site Area	Approximately 23ha
Access & Security	Vehicular access to the site can be gained from the south, via the Govan Road, or from the west via Holmfauld Road.
Land Use & Ground Cover	The site is an operational ship building yard located on the southern banks of the River Clyde. Ground cover at the site predominantly comprises hard standing (concrete and tarmac of various ages) and buildings of various size and age utilised for ship building activities with a large Wet Basin (90m x 270m) located in the centre west of the site. The land in the northwest of the site is free of hardstanding and is indicated to comprise a gravel and/or soil surface.
Existing Site Infrastructure	<p>The BAE Govan site has undergone redevelopments since its construction in the late 1800s, as summarised in Section 2.2. Currently, the main infrastructure present within the site is as follows (with reference to Figure 2.1):</p> <ul style="list-style-type: none"> • Wet Basin (approx. 90m wide and 270m long) with perimeter quay walls around the west, south and east sides. Open at the north where the basin connects to the River Clyde. • Vessel Transfer Quay (RoRo load-out facility) located at the north-eastern end of the Wet Basin, for movement of new vessels onto waterside transport barge. • Main launch slipway (No.1) which is no longer in use, in addition to four historical disused slipways (and associated infrastructure) on the edge of the River Clyde. • Ship Block Outfit Hall (SBHO) • Ward Complex (Stores, steel outfit shop, sawmill, stores main office, module hall) • Site Offices • Fabrication Shed • Retaining Wall – present between western edge of Wet Basin and higher ground to the west towards the site boundary.
Topography and Bathymetry	At the site, the correlation between Admiralty Chart Datum (CD) and Ordnance Datum (OD) is 0.0m CD = -2.39m OD or +2.39m CD = 0.0m OD.

ASPECT	DETAILS
	<p>The open areas of the site to the north of the Fabrication Shed and the land immediately around the Wet Basin is generally flat at approximate elevation of +5m OD. The land level rises to the south of the site to around +6.2m OD.</p> <p>The land to the west of the Wet Basin is at an elevation of +7.1m to +8.1m OD and is supported by a retaining wall to facilitate the change in ground levels locally. The ground behind the retaining wall rises to a level of around +9.4m OD on the western boundary of the site.</p> <p>The riverbed levels within the Wet Basin are recorded to vary (from Clydeport 2021 bathymetric survey data) ranging from -2.4mOD (-0.0m CD) to -10m OD (-7.6m CD). Generally, riverbed levels are deeper in the northwest of the basin and shallower in the east and towards the southern boundary. Reference should be made to the bathymetric survey drawing for specific details and riverbed level contouring within the Wet Basin.</p>
Hydrology	<p>The Inner Clyde Estuary is the nearest surface water feature, located within and immediately north of the site. It is tidally influenced and flows north-west towards the Irish Sea. The Inner Clyde Estuary is classed as a transitional water body (Water Body ID: 200510). It is directly connected to the Govan Wet Basin. The Inner Clyde Estuary is a moderate quality surface water body which is classed as being severely modified in response to man-made alterations.</p> <p>An unnamed watercourse is located 300m to the southwest of the site that is a tributary of the River Clyde.</p>
UKHO Tide Water Levels	<p>berth-data-sheet-bae-govan-v2-sep-2020.pdf</p> <p>The tide water levels are as follows:</p> <ul style="list-style-type: none"> ● Mean High Water Springs (MHWS) +4.8m CD (+2.4 OD) ● Mean High Water Neaps (MHWN) +3.9m CD (+1.5m OD) ● Mean Low Water Neaps (MLWN) +1.8m CD (-0.6m OD) ● Mean Low Water Springs (MLWS) +0.7m CD (-1.7m OD) <p>The water levels indicated are predicted tidal levels based on Admiralty data. Actual water levels on site can vary from these due to meteorological conditions and other effects.</p>
Flooding	<p>Scottish Environment Protection Agency Flood Hazard and Flood Risk Information indicates that small localised areas within the site are indicated to at risk at flooding from surface water, whilst the areas of the site immediately adjacent to the Wet Basin and in front of the SBOH and Fabrication Sheds are indicated to be a risk of coastal flooding.</p>
Utilities & Services	<p>The site is known to be underlain by the following services and utilities for which plans are available:</p> <ul style="list-style-type: none"> ● Natural Gas Pipelines ● Oxygen Supply Lines & Air Supply Lines ● Water Mains and Hydrants ● Drainage ● Argosshield Supply and Distribution Lines ● High voltage electrical cables <p>The available plans are not exhaustive and an up-to-date utility survey for the site is understood to be planned as part of this project (results not available at the time of writing).</p>
Surrounding Area	<p>North – The site is bounded by a series of slipways and dockland beyond which is the River Clyde and residential development.</p> <p>South – Govan Road bounds the site to the south, beyond which is Elder Park to the south-west and residential housing to the south-east.</p> <p>East – Residential housing and the River Clyde bounds the site to the east.</p> <p>West – The west of the site is covered by open ground and hardstanding.</p>
Site Reconnaissance Observations	<p>With reference to the site photographs in Appendix B:</p> <p>The quay edge structures around the perimeter of the Wet Basin appear to be formed of varying types of steel piles (including steel sheet piles) along the West, South and East sides. It is notable that the piles forming the eastern quay wall (in part) are raking / angled towards the Wet Basin into the water.</p>

Figure 2-1: BAE Govan Shipyard – Site Features Plan



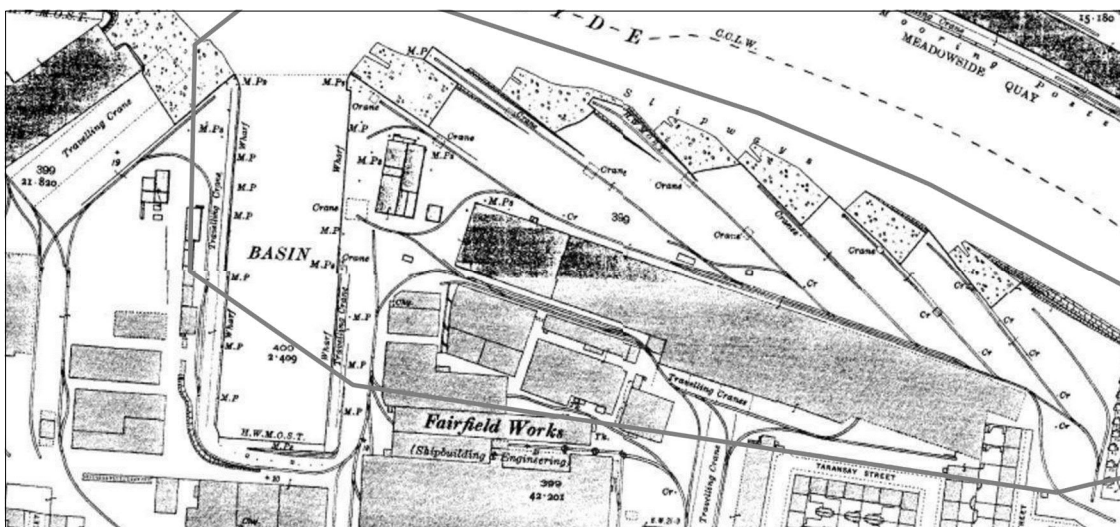
Source: ESRI Mapping. [Note: Building annotations taken from 2017 'Govan Site – General Arrangement – Yard Layout'].

2.2 Review of Site History

The site history for the BAE Govan site, formerly the Fairfield Shipyard, has been derived and collated from information and drawings contained within the *Envirocheck Report (2022)* (historical mapping at 1:2,500 and 1:10,000 scales) and the *Zetica Sitesafe - UXO Desk Study report (2015)*. Notable observations are listed below:

- Earliest historical mapping from 1862 indicates the site area initially comprised an area of open land surrounding Fairfield House (located in the centre of the site) with the Govan Silk Factory (and associated gasometer) covering the eastern section of the site area. The River Clyde is shown to be situated immediately north of the site area.
- In 1864, the Fairfield Shipyard was established on the site. Later mapping from 1895 shows the development of the shipyard into the Fairfield Shipbuilding and Engineering Works, which included a wet basin, workshops, travelling cranes and a gasometer in the south of the site. The Govan Silk Factory remained operational in the east of the site area with the new residential properties located immediately south of the site area for shipyard workers.
- The 1896 map appears to indicate that the wet basin had been excavated out of the riverbank / riverside, since it was not present on the 1862 map. The wet basin is shown as irregular in its geometry and does not appear to have hard edge structures at that time.
- The 1914 map records a timber yard to the west of the wet basin and a refuse heap in the west of the site. A sand pit is located 50m north west of the site. The off-site sand pit has extended by 1934 and a new large shipyard building is located norther west of the site.
- Historical mapping from 1934 (see Figure 2.2) shows the construction of a series of slipways (dry dock areas) on the banks of the River Clyde to increase the capacity of the shipyard. During WWII, the shipyard constructed several naval vessels, including destroyers, aircraft carriers and torpedo boats. The area of the Govan Silk Factory is shown to have been demolished and replaced to the east by workshops and residential housing to the south-east of the shipyard
- The 1934 map, extracted in Figure 2.2 below, shows the wet basin as having a regular geometry and apparent hard edge structures. Mooring points are shown around the basin perimeter in addition to the presence of static cranes and travelling cranes along the east and west quaysides.

Figure 2-2: Fairfield Shipyard, 1934



Source: Extract of Zetica (2015) Report Ref. P5169-15-R1-A

- In the immediate period post-WWII, historical mapping from 1951 shows no significant developments to the shipyard and whilst shipbuilding continued during this period, the number of vessels built was significantly reduced. In 1968, the Fairfield Works became amalgamated into the nationalised Upper Clyde Shipbuilders (UCS) which went bankrupt approximately 3 years later and became part of Govan Shipbuilders in 1972. It was subsequently nationalised as part of British Shipbuilders in 1977 and later denationalised in 1988 when the shipbuilding yard was sold to Norwegian company, Kvaerner (Zetica, 2015).
- No significant changes are recorded in the historical mapping up to and including present day. In 1999, Kvaerner sold the Fairfield Works to BAE Systems Marine, subsequently BAE Systems Surface Ships. Since this acquisition, the workshops on the site have been modernised or replaced with no significant changes being made to the general layout of the site.
- Table 2.2 provides specific details into the history of the Wet Basin site (Option 2 site boundary in Figure 2,1), which is the area of focus for the proposed development of the New Assembly Hall.

Table 2-2: Features of Historical Mapping for Wet Basin

Map Year & Source	On-Site Features	Off-Site Features
1858-1861 [Envirocheck 1:2500]	<ul style="list-style-type: none"> The site is undeveloped agricultural land 	<ul style="list-style-type: none"> Fairfield house is located to the east of the site The River Clyde is located immediately north of the site flowing east to west
1895-1896 [Envirocheck 1:2500]	<ul style="list-style-type: none"> The west basin has been excavated and has irregular geometry and no hard edge structures Mooring posts located along edges of wet basin. Travelling Crane sidings along eastern edge of wet basin with buildings beyond A footbridge recorded across northern edge of wet basin. 	<ul style="list-style-type: none"> An unnamed building and gasometer recorded approximately 60m south of wet basin. Numerous buildings associated with Fairfield Shipyard surround the site
1913 & 1932-1934 [Envirocheck 1:2500, 1:10,560]	<ul style="list-style-type: none"> The southwest corner of the Wet Basin has been extended southwards and the western side extended westwards. The basin now appears to have hard edges. Mooring posts remain located along edges of wet basin. Travelling Crane railway sidings extend along east, south and west edge of wet basin and junction off into the west of the site. Unnamed buildings and a timber yard are located west of the wet basin Spoil and sand pits are located approximately 130m west of wet basin which extends further west outside of shipyard boundary. 	<ul style="list-style-type: none"> Gasometer no longer recorded on mapping.
1948-1949, 1950-1951 & 1951-1966 [Envirocheck 1:2500]	<ul style="list-style-type: none"> A tank is recorded within 30m west of the current wet basin edge (~165m up from southern basin boundary). Two tanks and a chimney are recorded within 50m east of wet basin (~90m up from southern basin boundary). Two tanks are located 20m east of the southeastern corner of the wet basin Travelling Crane railway sidings remain present in similar positions as shown in previous mapping. 1951-1966 mapping shows presence of bollards along southern edge of wet basin. 	<ul style="list-style-type: none"> Multiple Refuse Heaps recorded immediately adjacent west and north-west of the site, intersecting the site boundary. Sand pit also recorded within approximately 100m west of site boundary.
1961-1971 & 1976 [Envirocheck 1:2500]	<ul style="list-style-type: none"> Travelling Crane railway sidings, buildings and tanks remain present in similar positions as shown in previous mapping. Bollards are recorded to remain present along southern edge of wet basin. 	<ul style="list-style-type: none"> The refuse Heaps are no longer recorded to be present in areas adjacent west and north-west of the site. Mapping instead shows raised land suggesting that the material has been spread to form a platform.
1979-1992 & 1992 [Envirocheck 1:2500]	<ul style="list-style-type: none"> Travelling Crane railway sidings are no longer recorded. The tanks to the east on the basin are no longer recorded Bollards are recorded to remain present along southern edge of wet basin. New Training Centre building recorded approximately 120m west of wet basin (~65m up from south basin boundary). 	<ul style="list-style-type: none"> Linthouse Football Ground recorded on raised ground approximately 1000m west of western site boundary, where the site access road meets Holmfauld Road present day.
1992-Present Day [Envirocheck 1:2500]	<ul style="list-style-type: none"> 2005 aerial mapping shows the area west of the Wet Basin to be used as a yard for storage of containers and miscellaneous items. The ground appears to be surfaced in a mixture of hardstanding and rough ground. This remains the case in 2022 	<ul style="list-style-type: none"> 2005 and 2022 aerial mapping shows area of former Refuse Heaps and Sand/Spoil pits to be covered by grass and trees. The training centre in the west of the site and Linthouse Football Grounds are no longer present by 2022.

2.3 Regulatory Information & Consultations

Table 2-3: Regulatory Information (BAE Govan Site)

Aspect	Comment
Agency & Hydrological	
Discharge Consents	<p>Two (2 nr.) discharge consents are recorded within the site as follows:</p> <ul style="list-style-type: none"> Strathclyde Regional Council associated with the discharge of storm sewage overflow at Elder Street, Glasgow, into the River Clyde (discharge type is unrecorded). Strathclyde Regional Council associated with the storm sewage overflow at Elder Street into the River Clyde (discharge type is sewage effluent discharge-surface water). <p>The licence status of these discharge consents is not supplied. The granting authority for these are SEPA, West Region.</p> <p>An additional eight (5 nr.) discharge consents are recorded within 250m of the site boundary which include mostly include a sewage effluent discharge type but also records trade effluent and surface waters discharge types. A further one (1 nr.) discharge consent was recorded within 500m and a further five (5 nr.) within 1000m.</p> <p>Further details of these can be found in the Site Sensitivity Datasheet contained within the Envirocheck Report.</p>
Ordnance Survey (OS) Watercourses	<p>There are no OS Watercourses recorded within the site boundary. However, there is one (1 nr.) recorded within 250m of the site classed as a tidal river. A further five (5 nr.) were recorded within 500m classed as inland rivers and another eleven (11 nr.) within 1000m classed as either inland or tidal rivers. All watercourses form part of the Glasgow Coastal catchment area.</p>
Integrated Pollution Control	<p>There is one (1 nr.) integrated pollution control (dated 1996 and registered to Kvaerner Govan Ltd) recorded within the site for Part A Processes (coating processes & printing).</p> <p>An additional integrated pollution control is recorded 19m south east of the site, registered to BAE Systems Marine Ltd for Part A processes.</p>
Local Authority Pollution Prevention & Controls (LAPPC)	<p>There are no LAPPC Permits recorded within the site boundary. However, there are two (2 nr.) recorded within 30m of the site which are for Kvaerner Limited, relating to Air Pollution Control associated with coating manufacturing and coating of metal & plastic..</p> <p>An additional two (2 nr.) LAPPC Permits are recorded within 250m of the site.</p>
Prosecutions Relating to Authorised Processes	<p>There are no prosecutions recorded within the site boundary or within 1000m of the site related to authorised processes.</p>
Prosecutions Relating to Controlled Waters	<p>There are no prosecutions recorded within the site boundary or within 1000m of the site related to controlled waters.</p>
Registered Radioactive Substances	
<p>There is one (1 nr.) radioactive substance recorded to have been registered on-site in November 1994. The registration was under S7 or S10 RSA for the keeping and use of radioactive material or apparatus for one or more tracer test sources dated pre-April 1991. The current status of the registered radioactive substance is unknown.</p>	
Hazardous Substances	
<p>There are no Planning Hazardous Substances Consents registered to the site. However, three (3 nr.) Planning Hazardous Substances Consents are recorded within 250m north of the site across the River Clyde at Express Fuels (Glw/ Scotland) Limited containing 'liquefied extremely flammable gas (including LPG) and natural gas (whether liquefied or not).</p>	
Waste	
Registered Waste Treatment or Disposal Sites	<p>Two (2 nr.) registered waste treatment or disposal sites are recorded within 250m of the site boundary, one of which is currently operational and the other has a lapsed licence and is currently not operational. A further five (5 nr.)</p>

Aspect	Comment
	registered waste treatment or disposal sites are recorded within 1000m of the site.
Registered Waste Transfer Sites	There is one (1 nr.) registered site recorded 338m north-east of the site, dated June 1996, which may not currently be actively accepting waste. It was authorised to accept inert construction, demolition and excavation waste between 10,000-25,000 tonnes per year. An additional four (4 nr.) waste transfer sites have been recorded within 1000m of the site.
Potentially Infilled Land (Water)	There are no areas of potentially infilled land (water) recorded within the site boundary. There are several other areas within 1000m, predominantly south of the site, which have recorded unknown filled ground (pond, marsh, river, stream, dock etc).
Potentially Infilled Land (Non-Water)	There are no areas of potentially infilled land (non-water) recorded within the site boundary. Two (2 nr.) areas of unknown filled ground are recorded within 250m of the site with a further two (2 nr.) areas within 1000m of the site boundary. Information on BGS mineral sites is detailed in Section 3.3.2.
Industrial Land Use	
Contemporary Trade Directory Entries	A number of trading company entries have been recorded within 50m of the site boundary including garage services, tyre dealers and shipbuilders. Within 250m of the site, other trading company entries include damp and dry rot control, blast cleaning and cladding suppliers and installers.
Manufacturing and Production	Six (6 nr.) points of interest have been recorded within 250m of the site classified as unspecified works or factories. An additional eight (8 nr.) points of interest were recorded within 500m with a further thirty-eight (38 nr.) within 1000m of the site boundary.
Sensitive Land Use	
No areas of sensitive land use were recorded within the site, or within 500m of the site boundary.	

2.4 Local Authority Consultations

At the time of writing, numerous attempts have been made to contact the Petroleum Officer and Contaminated Land Officer at Glasgow City Council, however no contact has been established.

2.5 Unexploded Ordnance Risk

The Zetica Unexploded Bomb (UXB) Risk map for the BAE Govan site shows the site to be low risk with 'less than 15 bombs per 100acre or less'. Therefore, the risk from unexpected bombs is generally expected to be low.

Nonetheless, a project-specific Pre-Desk Study Assessment (PDSA) was obtained from Zetica for the Wet Basin, Slipway No.1 and the existing Ward Complex and SBOH. This notes the following on the site and is provided in **Appendix D**:

- A shipyard was constructed on the site by Fairfield Shipbuilding & Engineering Company pre-WWI that built several commercial and navy vessels.
- During WWI several strategic targets were located in the vicinity of the site.
- During the interwar years Fairfield Shipyard continued to manufacture some navy vessels.
- During WWII Fairfield Shipyard manufactured a variety of vessels for the Royal Navy including destroyers and aircraft carriers. Several strategic targets were located in the vicinity of the site and the site was located within the Large Burgh of Glasgow which officially recorded 246No. High Explosive Bombs with a bombing density of 6.3 bombs per 405 hectares. Readily available records indicate several HE bombs fell in close proximity to the site.

- Post WWII the site manufactured naval vessels in smaller numbers and was acquired by BAE Systems in 1999 to manufacture surface ships.

The assessment concludes by recommending that “a *detailed desk study is commissioned to assess and potentially zone, the Unexploded Ordnance (UXO) level of the site.*”

A detailed desk study and risk assessment was obtained from Zetica UXO for the BAE Govan Option 2 development area and is provided in **Appendix D**. The aim of this report was to obtain a representative view of the UXO hazard for the Site and its surrounding area in accordance with the Construction Industry Research and Information Association (CIRIA) C681 ‘Unexploded Ordnance (UXO) - A Guide for Construction Industry’ and C754 ‘Assessment and Management of Unexploded Ordnance (UXO) Risk in the Marine Environment’. The report identified no significant sources of UXO hazard on the site and states that no additional measures are considered essential to reduce the UXO risk on the Site to As Low As is Reasonably Practicable (ALARP).

3 Published Geology – BAE Govan

3.1 Geology

A review of the geology of the BAE Govan site has been undertaken based on available BGS mapping, memoirs and historical borehole records and the information provided in the Envirocheck (2022) report. The information is summarised below.

3.1.1 Topsoil

Given the industrial history of the site and its current use as a shipyard, comprising buildings and predominantly hardstanding, no significant topsoil is expected to be encountered.

3.1.2 Artificial Ground

Geological mapping indicates that Made Ground is present across the site. The BGS Lexicon describes the Made Ground as “an area where the pre-existing (natural or artificial) land surface is raised by artificial deposits”. The Made Ground material is highly likely to be associated with the former industrial uses of the site.

3.1.3 Superficial Deposits

The Envirocheck Geological Mapping Datasheets are provided in **Appendix C** with an extract provided below in Figure 3-1. Geological mapping indicates that the superficial deposits onsite at surface have been replaced by Made Ground, however the BGS Geindex online viewer indicates that undifferentiated recent sediment is present onsite.

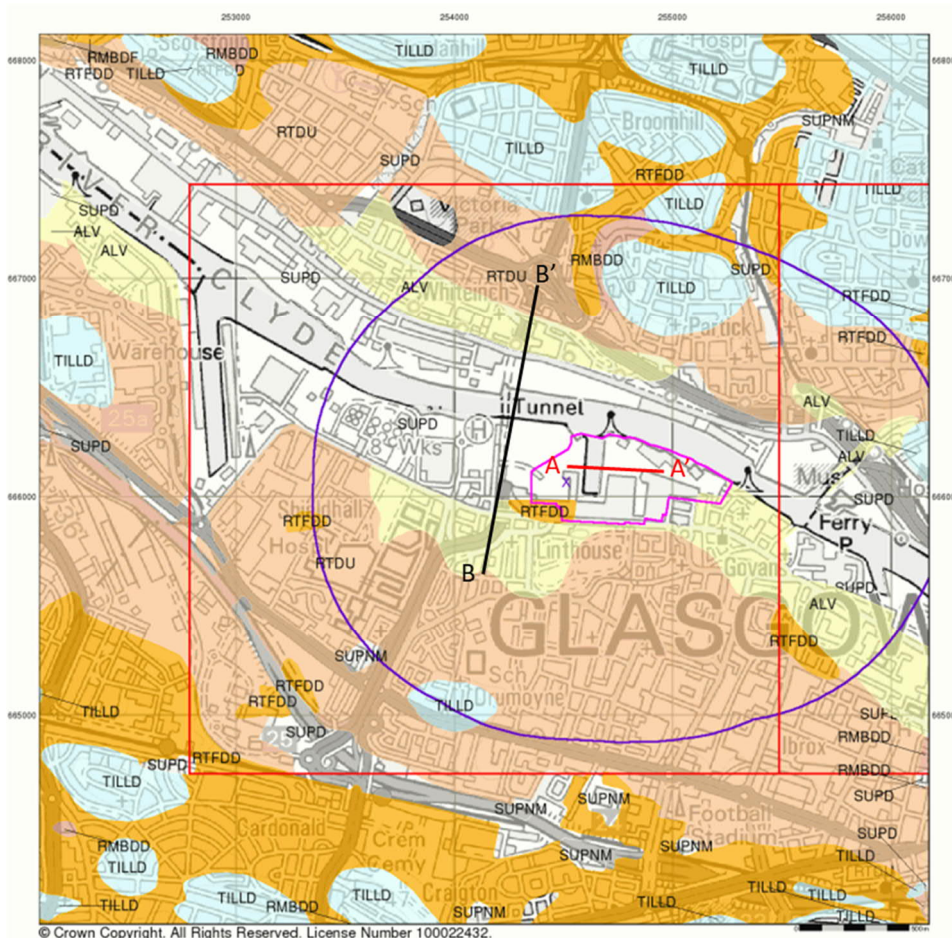
Holocene aged Alluvium is indicated to be present at surface immediately south of the site and north of the River Clyde, and Quaternary Undifferentiated River Terrace Deposits are shown to outcrop slightly further to the south and north.

A small pocket of Devensian aged Raised Tidal Flat Deposits are present at surface in the southwest corner of the site, with further local outcrops present within a 1km of the site boundary in all directions. A small pocket of Devensian Raised Marine Beach Deposits outcrop north of the River Clyde alongside Devensian Glacial Till.

The BGS Lexicon describes the soils on site as follows:

- **Alluvium:** ‘unconsolidated detrital material deposited by a river, stream or other body of running water... Normally soft to firm consolidated, compressible silty clay, but can contain layers of silt, sand, peat and basal gravel. A stronger, desiccated surface zone may be present.’
- **Raised Tidal Flat Deposits:** “Silt, clay and fine-grained sand with lenses of gravel”
- **River Marine Beach Deposits:** “Gravel and sand, commonly silty. Gravel typically cobble grade, poorly sorted, clast supported with subangular to rounded clasts. Sand mainly medium-grained.”
- **Glaciofluvial Deposits:** “deposited by meltwater streams. Includes mostly coarse-grained sediments (i.e., sand and gravel) with some finer-grained layers (i.e. clay and silt). Sand and gravel, locally with lenses of silt, clay or organic material.”
- **Glacial Till:** ‘unsorted and unstratified drift, generally over-consolidated, deposited directly by and underneath a glacier without subsequent reworking by water from the glacier. It consists of a heterogenous mixture of clay, sand, gravel, and boulders varying widely in size and shape (diamicton).’

Figure 3-1: Superficial Geological Map

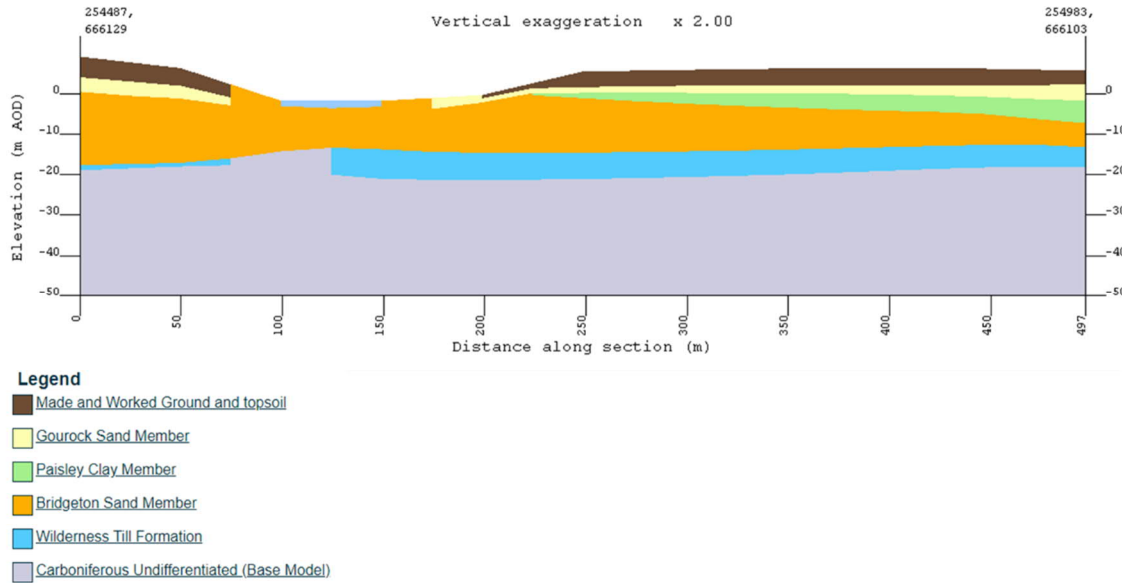


Source: Adapted from Landmark Envirocheck Report Geology Datasheet Ref. 100107212-001, 2022

A geological section derived from the BGS Urban Interactive Model of Greater Glasgow is shown in, the alignment of which is provided in Figure 3-2. (Section A - A'). It should be noted that this section is based on a generalised geological model constrained by data availability. However, it indicates that the superficial geology on site is indicated to comprise Made Ground over the Gourrock Sand Member, the Paisley Clay Member, the Bridgeton Sand Member and the Wilderness Till, which is locally absent.

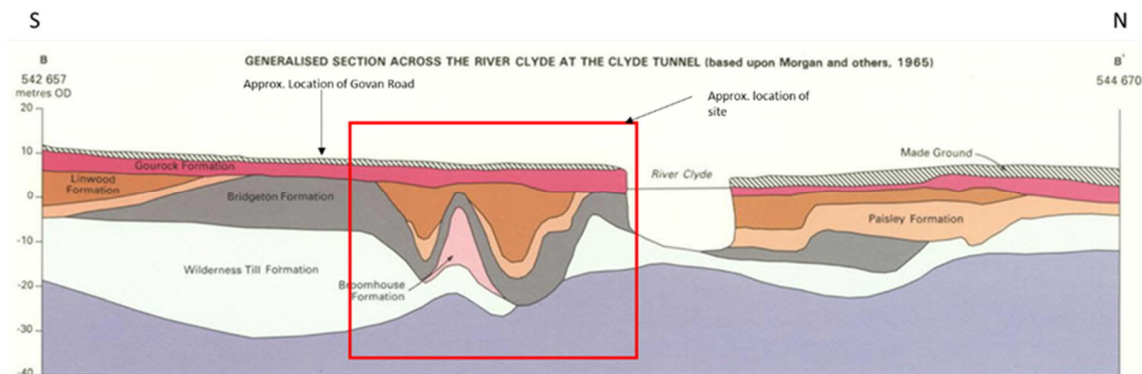
A generalised BGS cross-section along the alignment of the Clyde Tunnel is presented on the BGS Drift Geology map (Sheet 30E) and shown in Figure 3-3. The alignment of this section is 175m west of the site as shown in Figure 3-1. (Section B - B'). This section indicates that the superficial geology comprises Made Ground and the Flandrian aged Gourrock Formation at surface, which is underlain by the Devensian aged Linwood, Paisley and the Bridgeton Formations of varying thicknesses and depth. The Broomhouse Formation and the Wilderness Till Formation are Glacial Deposits present at the base of the succession. The Broomhouse Formation material in the section comprises a buried esker ridge that was met within the excavation of the Clyde Tunnel (Hall et al, 1998). This is reported to be at least 15m high and in cross section 27m wide at the top and 48m wide at the base with a WNW trend.

Figure 3-2: BGS Urban Interactive Synthetic Section (Section A-A')



Source: Vertical scale is 2x horizontal. British Geological Survey © UKRI 2022

Figure 3-3: Geological Section Along Clyde Tunnel (Section B-B')



Source: Based upon BGS Drift Geology Map Sheet 30E, 1994, with the permission of the British Geological Survey

A review of the BGS Memoir for the Glasgow district indicates that the Devensian Glacial Till was deposited beneath an ice sheet during the Dimlington Stadial (13,500 to 27,500 Before Present (BP)) with the Glaciofluvial Deposits (Broomhouse Formation) likely to have been deposited during the initial stages of deglaciation around 13,500 BP. Meltwater was initially ponded by north-westward retreating ice occupying the Glasgow area which eventually collapsed allowing sea to flood the lower ground of Glasgow up to an elevation of around 45m OD, which resulted in the deposition of the Linwood, Paisley and Bridgeton Formations. Sea level is then indicated to have dropped during Loch Lomond Stadial before the climate started to improve from 10,000 BP with the main marine Flandrian transgression commencing around 8000 years ago resulting in the deposition of the Gourock Formation. Thereafter sea level fell in stages to present OD.

It is noted that there is inconsistency between the names of the mapped superficial units shown in the BGS Geological Maps and on the BGS Geindex viewer and those shown in the cross

sections in Figure 3-2 and Figure 3-3 and discussed in the BGS memoir. A summary of the geological units is provided below in Table 3.1.

Table 3-1: Superficial Deposits Beneath Site

BGS Stratigraphic Unit	BGS Lexicon Code	Formation Name	Age	Provenance	Main Lithology
Made Ground	MGR	-	Holocene	Anthropogenic	Variable
Recent Sediment	SUDP	-	Holocene	River/Marine	Clay and Silt
Alluvium	ALV	Gourock Sands Member	Quaternary	Marine	Sand and Gravel
Raised Tidal Flat Deposits	RTFDD	Linwood Member	Devensian	Marine	Clay and Silt
Raised Tidal Flat Deposits	RTFDD	Paisley Member	Devensian	Marine	Clay and Silt
Raised Marine Beach Deposits	RMBDD	Bridgeton Sand Member (BRON)	Devensian	Marine	Sand and Gravel
Glaciofluvial Sands and Gravels	GFDUD	Broomhouse (BHSE)	Devensian	Glacial	Sand and Gravel
Glacial Till	TILLD	Wilderness Till (WITI)	Devensian	Glacial	Diamicton

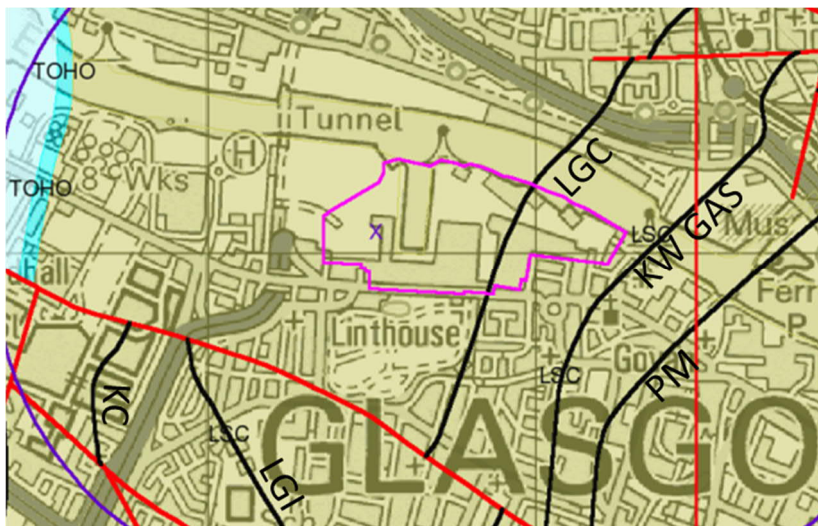
3.1.4 Bedrock

The bedrock geology beneath the site is indicated to comprise the Limestone Coal Formation (LSC) of the Clackmannan Group as shown in Figure 3-4. Despite its name the Limestone Coal Formation contains few Limestones with the BGS memoir (Hall et al, 1998) describing the lower part of the formation, which is indicated to be present beneath the site, as interbedded dark grey mudstones with siltstones and sandstones, with clayband ironstones and blackband ironstones.

As shown on Figure 3-4 the Lower Garscadden Coal (LGC) is conjectured to subcrop at surface through the east of the BAE Govan site, >200m east of the Wet Basin, trending southeast-northwest. The Knightswood Gas Coal (KW GAS) is coal is conjectured to subcrop on a similar trend around 50m east of the BAE Govan Site.

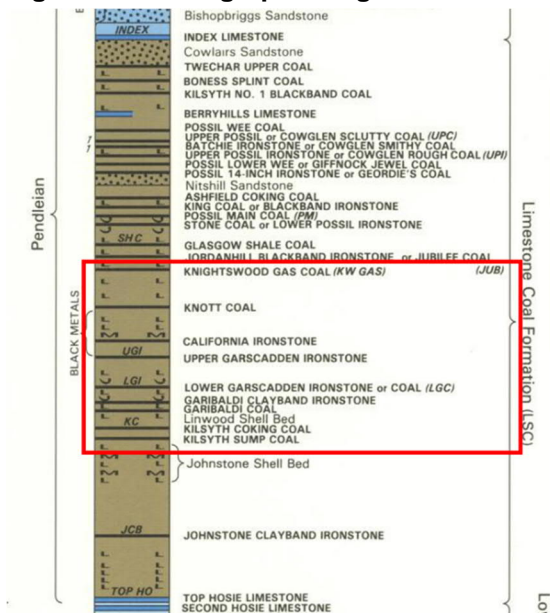
An extract of the stratigraphic log of the area is shown in Figure 3-5 which indicates that LGC is closely underlain by Garibaldi Clayband Ironstone, Garibaldi Coal, Kilsyth Coking Coal (KC) and Kilsyth Sump Coal. Although not mapped these may subcrop and be present beneath the centre and west of the site.

Figure 3-4: Bedrock geology underlying the site



Source: Adapted from Landmark Envirocheck Report Geology Datasheet Ref. 100107212-001, 2022
 PM – Possil Main, KW GAS – Knightswood Gas, LGC – Lower Garscadden Coal, LGI – Lower Gascadden Ironstone, KC – Kilsyth Coking Coal.

Figure 3-5: Stratigraphic Log of Limestone Coal Formation



Source: Based upon BGS Solid Geology Map Sheet 30E, 1993, with the permission of the British Geological Survey

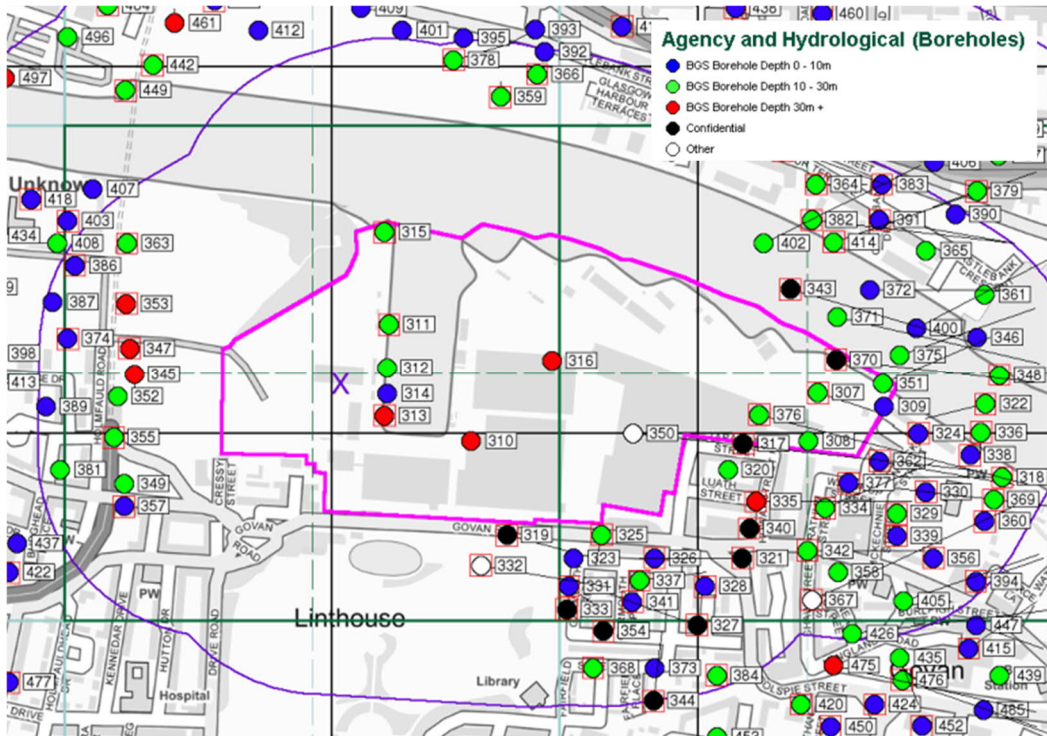
3.1.5 Structural Geology

A northwest – southeast trending fault is indicated to be located 400m south of the site that is downthrown to the southwest. The solid geology is indicated to dip gently (~5°) to the east or southeast (BGS, 1993).

3.1.6 British Geological Survey (BGS) Boreholes

The BGS holds records of 17 historical exploratory holes undertaken within the site boundary (see extract in Figure 3-6) and over 50 additional records available within 250m of the site boundary. A summary of these records available for the site are provided in Table 3-2.

Figure 3-6: BGS Historical Borehole Records



Source: Adapted from Landmark Envirocheck Report Borehole Map Slice Ref. 100107212-001, 2022
Ordnance Survey © Crown Copyright. All rights reserved. Licence number 100026791.

Table 3-2: BGS Historical Borehole Records

Map ID (Figure 3-6)	BGS Reference	Drilled Length	Year	Borehole Name	Status
307	NS56NE2277	12	1964	Govan Riverside BH1	Available
307	NS56NE3783/1	12	1964	Govan BH 1	Available
307	NS56NE3479	15	2005	River Clyde (Glasgow) Projects RCFMS JBH19	Available
308	NS56NE3783/4	12	1964	Govan BH 4	Available
309	NS56NE4050/DZ19	4	Not supplied	Govan Riverside DZ19	No scan available
310	NS56NW325	232	1867	Fairfield	Available
311	NS56NW7787/1	25.41	1975	Govan West Wharf 1	Available
311	NS56NW7787/4	25	1975	Govan West Wharf 4	Available
312	NS56NW7787/2	30	1975	Govan West Wharf 2	Available
313	NS56NW7787/3	32	1975	Govan West Wharf 3	Available
313	NS56NW7787/6	36	1975	Govan West Wharf 6	Available
314	NS56NW7787/BC1	6	1975	Govan West Wharf Dc1	Available
315	NS56NW12557/G	24	1974	Govan Shipyard	Available
315	NS56NW12557/H	25	1974	Govan Shipyard	Available
316	NS56NW788	123.9	1892	Fairfield Shipbuilding Yard BH	Available
317	NS56NE8527/1	Not Supplied	Not Supplied	Howat Street 1	Confidential
317	NS56NE8527/2	Not Supplied	Not Supplied	Howat Street 2	Confidential

In addition to the above, the BGS holds the records of a ground investigation undertaken by Hydracrat Limited in 1990 on behalf of Kvaerner Govan Limited for a Tank Assembly Shop Foundation design by the existing Fabrication Shed. This investigation comprised five boreholes advanced to depths of between 32m and 44m bgl.

The borehole records available in the west of the site show these holes were advanced in the 1970s for Govan West wharf / quayside, whilst those in the east are indicated to be advanced predominantly in the 1960s. Two borehole records available in the centre of the site were advanced in 1867 and 1892 for Fairfield Ship Building Yard.

A detailed review of the borehole records is given in Section 5 of this report however the logs indicate a general ground sequence of Made Ground overlying silt and clay then loose to medium sand and gravel above stiff to very stiff Glacial Till. Where encountered, bedrock comprises siltstone and sandstone present around 22m to 29m bgl. Possible evidence of a buried esker feature, comprising Glaciofluvial deposits, is encountered in the west of the site comprising sand with cobbles and traces of grey Glacial Till.

3.2 Hydrogeology

3.2.1 Superficial Despots

The site is underlain by the Govan Sands and Gravel superficial groundwater body (ID: 150779) which is classified as poor-quality.

3.2.2 Bedrock Deposits

The site is underlain by the Clackmannan Group which is classified as a moderately productive aquifer with generally low yields, aside from where mining activity has occurred, in which flow rates of up to 10 L/s can be expected. The site is associated with the Glasgow and Motherwell ground water body (ID: 150677) which is classified as a poor-quality ground water body.

3.2.3 Source Protection Zones

No Source Protection Zones are shown to be present within 1km of the site.

3.2.4 Groundwater Flooding

The entire site is indicated to have potential for groundwater flooding to occur at surface.

3.2.5 Groundwater Vulnerability

The Envirocheck Site context sheets indicates that the bedrock beneath the site is moderately permeable.

3.3 Mining and Worked Ground

3.3.1 Coal Mining

The Coal Authority Interactive Viewer shows that the site falls within a Coal Reporting Area, however, the only coal outcrop mapped close to the site is that associated with the Knightswood Gas Coal located 50m east of the BAE Govan site. No recorded or probable past shallow coal workings are recorded by the Coal Authority in close proximity to the site. In addition, no recorded underground workings at any depth are recorded beneath, or in close proximity to the site.

A High-Risk Development Area, associated with the conjectured Knightswood Gas Coal Seam is located approximately 50m to the east. No mine entries are recorded within 500m of the site boundary.

The BGS memoir for the Glasgow area (Hall et al, 1998) reports in the lower part of the Limestone Coal Formation only the Kilsyth Coking coal has been mined, to a limited extent. Although not mapped it is possibly present beneath the site.

Given the limited reported working of the Kilsyth Coking Coal, and the fact that it is not mapped beneath the site, it is considered unlikely that this seam, if present, has been worked in the local area. It is also considered the depth to rockhead (>20m bgl) results in only a very low risk of the potential for unrecorded ancient workings beneath the site.

A Coal Authority Consultants Coal Mining report (The Coal Authority, 2022), obtained by Mott MacDonald and provided in **Appendix J**, states there are no recorded past underground workings, no probable unrecorded workings, no mine entries within 100m of the site, and no recorded opencast workings. It also reports that no site investigations (for coal mining), no remediation and no damage notices or claims for coal mining related subsidence on, or within, 50m of the site. There are no plans of any future coal mining on the site.

3.3.2 Non-Coal Mining

The BGS memoir for the Glasgow District (Hall et al, 1998) reports that ironstones within the Limestone Coal Formation have been much exploited in the Glasgow area. The Garibaldi Clayband Ironstones, and the Lower and Upper Garscadden Blackband Ironstones which are all likely present beneath the site, were the most extensively extracted of these. However, the BGS hold no plans of any ironstone workings beneath the site.

Three BGS Mineral Sites are recorded within 250m of the site boundary to the west and northwest. The closest of these are recorded 110m and 150m east of the site and are associated with Linthouse Sand Pit which were opencast workings for sand that have now ceased operation. The third site is located north of the River Clyde and referred to as a Wharf for Riskend Aggregates Ltd. Operation here has also ceased.

3.4 BGS Ground Stability Hazards

As shown in Table 3-3 BGS ground stability hazards range from 'very low' to 'moderate'.

Table 3-3: Ground Stability Hazards

Ground Stability Hazard	Risk
Compressible ground	Very Low – onsite Moderate – associated with mapped Alluvium. Alluvium is also known to be present on site, so a moderate risk is likely present on site also.
Collapsible ground	Very Low
Landslides	Very Low
Ground dissolution	No data available – considered to be low
Running sand	Very Low – onsite Low – associated with mapped Alluvium. Low risk also likely to be present on site.
Shrinking or swelling clay	Very low.

3.5 Radon

The site is located in the lowest probability radon area at less than 1%. As such, radon protection measures are not likely required for the proposed site development

4 Historical Ground Investigations

4.1 Historical Ground Investigations

BAE Systems have provided several historical records for ground investigations previously undertaken at the site. These are listed in Table 4.1.

A summary of the available historical exploratory investigation locations (including the records held by the BGS) relevant to the proposed Option 2 development is presented in Figure E.1 (**Appendix E**), with the logs provided in **Appendix F**. Figure E.1 also illustrates the investigation locations that are understood to have been undertaken but for which factual records are not available at the time of writing.

Table 4-1: Historical Ground Investigations

Consultant / Contractor	Report Ref / Year	Investigation Purpose	Investigation Techniques	MM Comments / Observations
Fairfield Shipbuilding & Engineer Co.	Unknown / 1904	Unknown – Report not available.	Cable Percussion x 3 to max 20m bgl.	Historical Borehole Records taken from Arch Henderson Drawing No. 822. No factual report or testing available. Co-ordinates estimated from Arch Henderson Drawing 05099-007 (2005).
Babtie, Shaw & Morton	Unknown / 1954 / 1982	Unknown – Report not available.	Cable Percussion x 3 to max 21m bgl.	Historical Borehole records taken from Arch Henderson Drawing C4475/2. No factual report or testing available. Co-ordinates estimated from Arch Henderson Drawing 05099-007 (2005).
Dames & Moore	44701-002 / 2000	Unknown – Only very limited extracts of report available.	Cable Percussion x 5 to max 9.0m bgl	Original investigation included 49 Cable Percussion boreholes to a maximum depth of 31.8m bgl, 26 Window Sampl Boreholes to a maximum depth of 7m bgl, and 15 trial pits, with associated soil testing and water monitoring however only the limited data below is available. <ul style="list-style-type: none"> - 14 x Trial Pit Logs (TPB-TPO), 40 x Boreholes (BH101 to BH138) available in limited report extract - 4 x Boreholes (BH141, BH142, BH162 & BH164) are available from Arch Henderson Drawing 05099-10 - 1 x Borehole (BH139) available in Structural Soils Report No. 541812 from 2022. - Groundwater testing (2 samples)
BAE Systems Environmental Services	A232-00-R3-A / 2002	Unknown – Report not available.	Cable Percussion x 2 to max 11m bgl.	Borehole logs available from Arch Henderson Drawing 05099-09 (2005). No factual report or testing available. Co-ordinates estimated from Arch Henderson Drawing 05099-007 (2005).

Consultant / Contractor	Report Ref / Year	Investigation Purpose	Investigation Techniques	MM Comments / Observations
<i>Client:</i> Currie & Brown <i>Consultant:</i> IKM Consulting Limited <i>Contractor:</i> Soil Mechanics.	1121 / 2004	For the design of an extension to Tank Assembly Shop (TAS) within the BAE Systems Marine Complex	Trial Pits x 10 to max 4m bgl Cable Percussion x 3 to max 27.8m bgl Cable Percussion with rotary coring to max 37.1m bgl CPT x 3 to max 22.5m bgl	No co-ordinates or ground levels provided. Co-ordinates estimated from borehole plans and levels from available topographic plans. Soil and water contamination testing in selected exploratory holes
<i>Client:</i> BAE Systems Marine Ltd <i>Consultant:</i> Arch Henderson & Partners <i>Contractor:</i> BAM Ritchies	0839 / 2005	Proposed Upgrade of Slipway No.1.	Cable Percussion with rotary coring x 3 to max 40.9m bgl	No co-ordinates or ground levels provided. Co-ordinates estimated from borehole plans and levels from available topographic plans. Limited geo-environmental testing
<i>Client:</i> BAE Systems Marine Ltd <i>Consultant:</i> Capita Symonds <i>Contractor:</i> Raeburn Drilling and Geotechnical Ltd	19379 / 2006	For the design and construction of a concrete laydown area (in front of SBOH).	Cable Percussion with Rotary open and core drilling x 13 to max 57m bgl.	No co-ordinates or ground levels provided. Co-ordinates estimated from borehole plans and levels from available topographic plans. Geo-environmental testing of soil & groundwater. Ground gas monitoring
<i>Client:</i> BVT Surface Fleet <i>Consultant:</i> Arch Henderson & Partners <i>Contractor:</i> BAM Ritchies	3785 / 2009	To support proposed new three storey modular buildings (in front of fabrication shed)	Trial Pits x 6 to max 3.5m bgl Cable Percussion x 4 to max 30.5m bgl Cable Percussion with rotary follow x 3 to max 37.2m bgl	Factual Report available with testing data.
<i>Consultant:</i> Arch Henderson	Unknown / 2011	Transfer Quay & Approach	20 x Rotary Holes	No information is available with the exception of the borehole location plan Drawing 115061/001 (Arch Henderson 2011). All locations are located over-water within the Wet Basin.
<i>Consultant:</i> Arch Henderson	Unknown / 2012	Berthing Study	6 x Vibrocores 1.75 – 5.0 m bgl	No report available. Logs and borehole location plan only. All locations are located over-water within the Wet Basin.

Consultant / Contractor	Report Ref / Year	Investigation Purpose	Investigation Techniques	MM Comments / Observations
<i>Contractor:</i> Structural Soils				Geo-environmental sediment testing
<i>Consultant:</i> Arch Henderson	Unknown / 2012	Sampling for Clydeport Licence	2 x Cable Percussion	No information is available with the exception of the borehole location plan Drawing 115061/404 (Arch Henderson 2012). All locations are located over-water within the wet basin.
<i>Client:</i> BAE Systems Surface Ships Ltd <i>Consultant:</i> Arch Henderson & Partners <i>Contractor:</i> BAM Ritchies	5298 / 2014	No proposals provided. (Area in front of SBOH and Fabrication Shed)	Cable Percussion Boreholes x 2 to max 4.1m bgl Cable Percussion with rotary follow-on x 19 to max 40.2m bgl	Factual Report available with testing data Geo-environmental testing, gas monitoring
<i>Client:</i> BAE Systems <i>Consultant:</i> Arch Henderson & Partners <i>Contractor:</i> Structural Soils	541812 / 2022	Upgrading of existing ship building facilities. (Existing SBOH and Ward Buildings)	Cable Percussion x 3 to max 23.0m bgl Cable Percussion with rotary follow-on x 6 to max 50.0m bgl CPTs x 6	Factual Report available with testing data, including Diver monitoring data. Cable Percussion holes terminated due to encountering rising sands. Contains record of Cable Percussion with rotary follow-on borehole undertaken in 2019 (BH4, 31m) by Structural Soils and five Dames & Moore Investigation locations from 2000. No report is available for these positions. Geo-environmental testing, gas monitoring

4.2 Other Existing Site Survey Information

4.2.1 Site Elevation Datum (Chart and Ordnance Datum)

For the purposes of this desk study, and future assessments, it is proposed to use Ordnance Datum (OD) as the default reference for site elevations. The correlation between Chart Datum (CD) and Ordnance Datum (OD) is -2.39m at Govan (i.e., 0.0m CD = -2.39m OD or +2.39m CD = 0.0m OD).

4.2.2 Topography

A Topographic Survey of the BAE Govan site is available in DWG format; however no information is provided on who undertook the survey or when it was undertaken. This survey indicates the ground surface surrounding the wet basin to be relatively flat varying between +4.6m OD and +5.2m OD. West of the basin the ground level increases gradually to +9.1m OD, whilst to the east the land remains around +5m OD. South of the basin the land rises to around +7.6m OD in the west and +6.4m OD in the east.

4.2.3 Bathymetry

Several bathymetric surveys have been undertaken at the Govan site. The most recent of these was undertaken by Aspect Surveys in 2021 and is displayed in Figure 4.2. In summary, the riverbed level within the Wet Basin varies from a minimum of 0m CD (-2.4m OD) at the southern boundary of the basin to a maximum of -7.6m CD (-10.0m OD) in the centre-west of the basin. The southern half and the north-eastern side of the basin is general shallower, -0.0 m CD to -5.0m CD (-2.4m OD to -7.4m OD) whilst the northwest of the basin is deeper, -5.0m CD to -7.6m CD (-7.4m OD to -10m OD).

4.2.4 Geophysical Survey (Sub-bottom profiling)

An over-water Geophysical Survey of the BAE Govan site was undertaken in March 2015 by Aspect Surveys, however this only covered the northern extent of the Wet Basin along with the River Clyde. This survey comprised sub-bottom profiling by means of seismic reflection to seek to determine the depths to 'significant seismic reflectors', particularly those that can be correlated to changes in geological strata. This identified Horizon 1 which is interpreted as the base of a well-stratified layer of sediment, however this horizon is missing from the Drawings provided in the Appendix of the report.

4.2.5 Mining Stability Report

A Mining Stability Report has been undertaken by JWH Ross in 2013 (Report Ref. 101525/GL/JWHR/R1) for the northeast area of the site on land east of the Wet Basin, encompassing the SBOH, Slipway No. 1 and the Fabrication Shed. This utilised available mining information and available ground investigations for the site up to the report year of 2013.

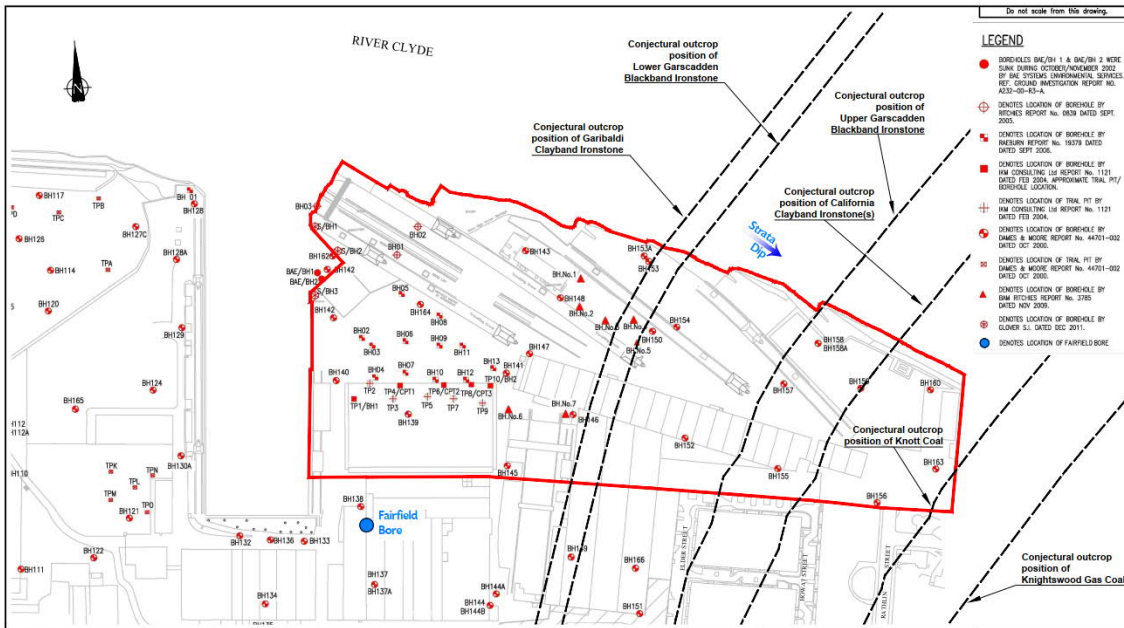
The report states that the Knightswood Gas Coal is considered to be the lowest coal seam of past economic significance within the Limestone Coal Group and considering the conjectural outcrop position is to the east of the site boundary (see Figure 4-1) and that it dips to the east, it is not considered to be present beneath the site.

The report goes on to state that below the horizon of the Knightswood Gas Coal there are several named ironstone seams (and associated thin coals), listed below, of past economic significance that likely subcrop in an approximately north-south direction through the site (Figure 4.1). However, with the exception of the Lower Garscadden Blackband Ironstone these are not mapped. No evidence of any workings of these seams was identified in the report.

- California Clayband Ironstone(s)
- Upper Garscadden Blackband Ironstone
- Lower Garscadden Blackband Ironstone
- Garibaldi Clayband Ironstone

The report concludes that the site (as denoted by the red line boundary in Figure 4-1) may be regarded as minerally stable.

Figure 4-1: Mining Report Site Plan



Source: Extract of JWH Ross Drawing 101525/9001 presented in Report 101525/GL/JWHR/R1

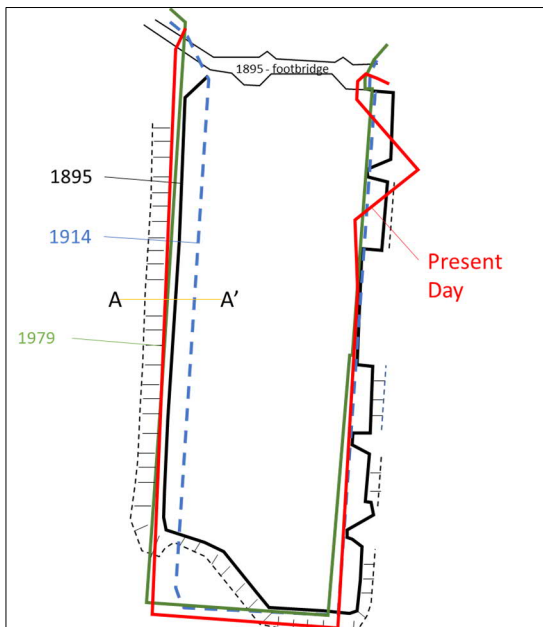
5 Review of Wet Basin History

The existing Wet Basin at the BAE Govan site, which is proposed to be infilled / reclaimed as part of the New Assembly Hall development, has undergone several changes in layout and size since its original formation, as interpreted by MM and summarised below (and illustrated in Figure).

Historical plans and photographs (from online archive sources) indicate that the land presently comprising the Wet Basin originally comprised flat agricultural fields bounded to the north by the River Clyde. The basin is understood to have been formed in the late 1800s (circa 1864) as an open excavation, assumed to predominantly comprise cut side slopes / revetments with possible localised dock walls and retaining walls on the eastern side. A footbridge was present across the basin entrance at the north adjacent to the River Clyde.

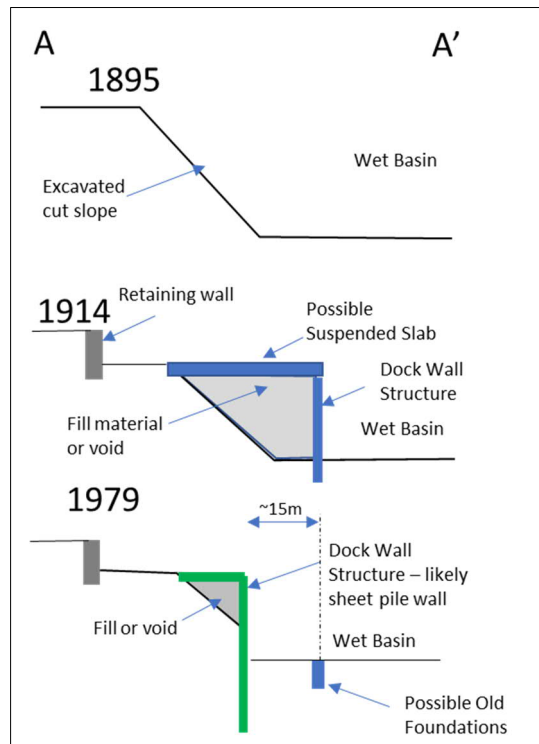
By 1912-1914 the basin is shown to have been extended to the south in the southwest corner and the west, east, and south sides of the basin are all indicated to be bounded by quayside edge structures / dock walls. Historical photographs indicate that these quay edge structures may have been of an open-front suspended deck & sloping revetment type (possible timber construction) although this is not conclusive due to lack of detailed record information. The west quay structure is suspected to have been constructed at the base of the pre-existing cut slope, resulting in either void space beneath the suspended deck or else infill as indicatively depicted in Figure 5.2. The footbridge at the entrance to the basin is indicated to have been demolished.

Figure



Source: Mott MacDonald, 2022

Figure



Source: Mott MacDonald, 2022
 Conjectured wet basin west quay wall development.

No other significant changes are indicated to have occurred to the wet basin until the 1970s, where the plan from 1979 indicates that the western quay wall has been reconstructed

approximately 15m behind the original wall; as such widening the wet basin footprint. This is supported by BGS Historical Borehole records on the western quay drilled in 1974 and 1975 that are recorded to have been drilled for the “*reconstruction of the west wharf*”. Available construction records for the eastern quay (as summarised in Section 5.2) also show that this eastern quay wall was reconstructed in 1974. An indicative section through the western quayside showing conjectured augmentation of the quay structures is present in Figure.

Between 2002 and 2005 further modifications occurred on the northern end of the eastern quay wall which created a V-shaped notch in the previously straight edge structure; thereby locally widened the wet basin. These works formed the RoRo Transfer Quay which is currently in operation at the site.

5.1 Structural Form – West Wharf / Quay

No structural records are available for the West Wharf of the Wet Basin however present-day imagery suggests the structure comprises a steel sheet pile wall, possibly anchored / supported based on the anticipated retained heights and historical loading from travelling cranes. BGS records for the western wharf are recorded to be drilled for the design of a proposed sheet pile wall. A photograph of the West Wharf is provided in **Appendix B** (Photo B.1).

The western wharf wall is indicated to have been reconstructed around the same time as the eastern wharf wall which is detailed below. As such, both east and west edge structures may be of a similar nature / form, but this is not reliably known from the desk-based review undertaken. The length of steel piles and their embedment within the underlying soils, and potentially within rockhead, is unknown at this stage. Also uncertain is the condition of the steel structures with regards to corrosion / deterioration and/or potential damage / distress caused to the infrastructure over its working life. Existing wall anchorages and drainage provisions are unknown.

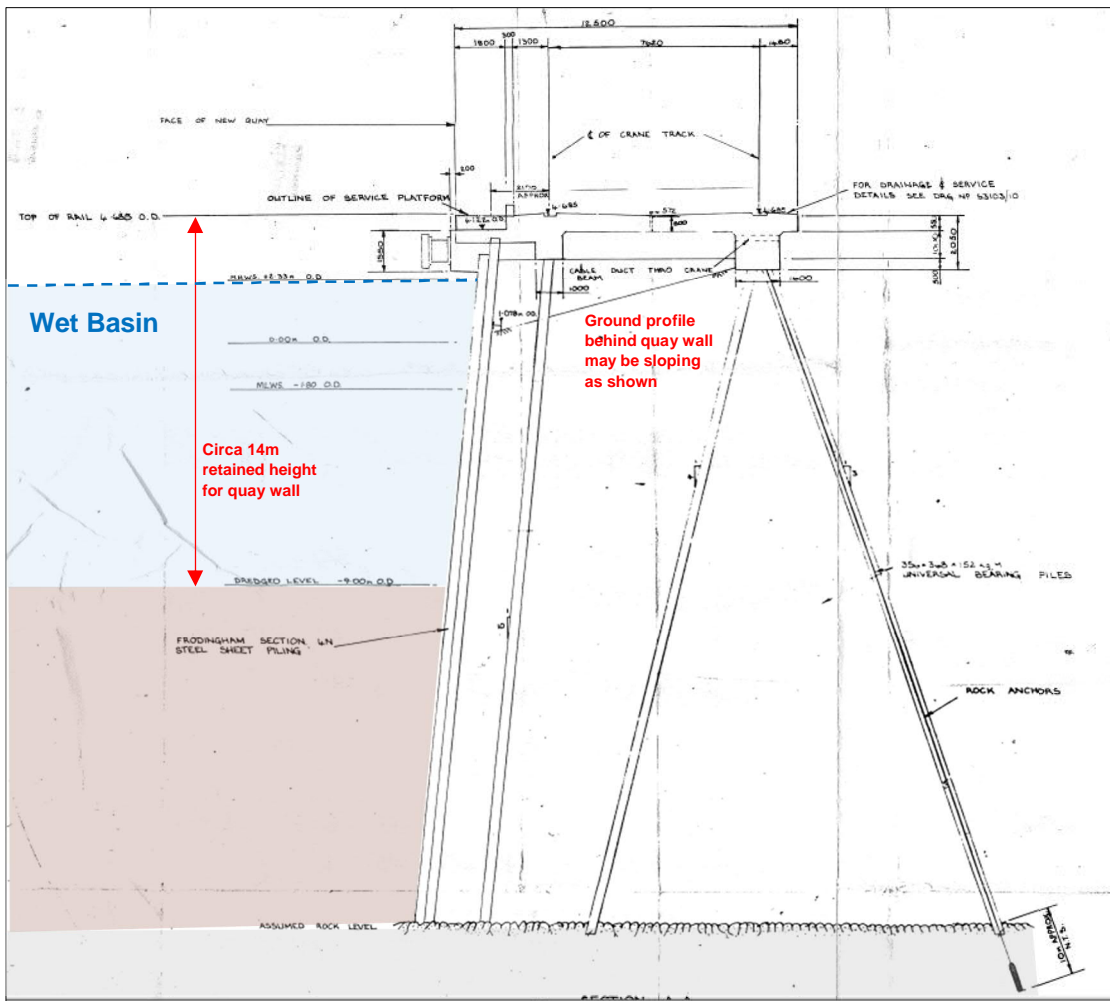
5.2 Structural Form – East Wharf / Quay

As-built drawings are available for the works that took place to reconstruct the southern part of the East Wharf in the 1970s. A cross section of the east wharf is provided in Figure (extract of Drawing C3197/1R. 2R, 1974) showing that the wharf was constructed using a combination of bearing piles, ground anchors, and quay edge wall piles (box piles and sheets).

A quayside travelling crane was constructed on rails above reinforced concrete substructures forming the headworks to the augmented quayside structure. The travelling crane has subsequently been removed and office blocks now constructed on the east quayside. A photo of this section of the east quay wall is provided in **Appendix B** (Photo B.3).

A review of historical maps and satellite imagery for the site indicate that the northern part of the east quay was reconstructed between 2002 and 2005, with possible further work in 2009. No structural records are available for this section of the quay wall, however it is expected that this comprises an anchored / supported sheet pile wall retaining structure.

Figure



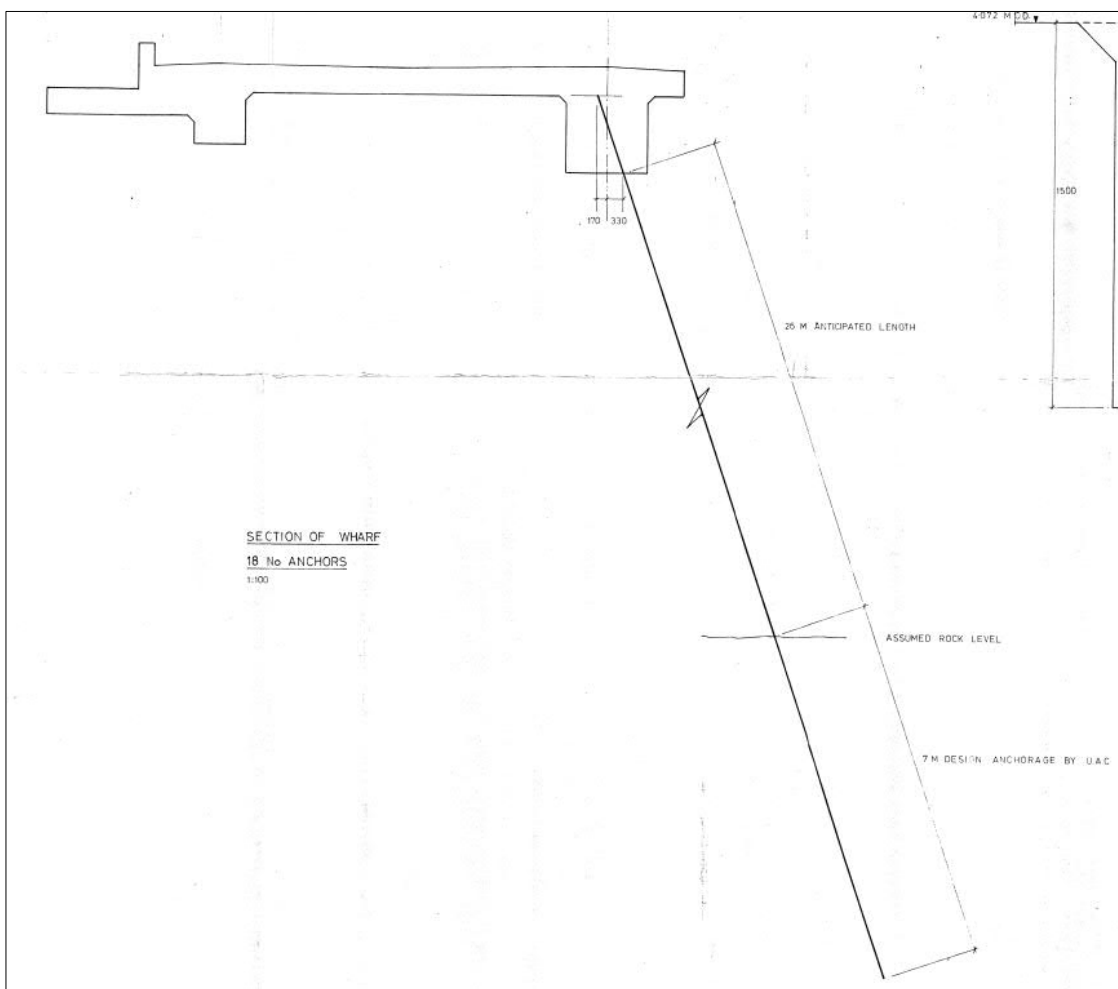
Source: Extract of Babbie Shaw & Morton Drawing C3197/2R, 1974, As-built. [Note: MM annotations added].

Notable observations from Figure 5.3 and Figure 5.4 are as follows:

- Driven steel UC bearing piles, raking in two directions, transfer vertical loads from the quayside travelling crane above. These piles are indicated to be bearing onto underlying bedrock, the elevation of which is not stated. Steel bearing piles are raking at an angle of 1H:4V. Raking bearing piles may provide stability to the quay wall system in lieu of horizontal or inclined ground anchors through the wall face.
- The quay edge is formed from a combination of steel box piles (king piles) with steel sheet pile infills to form a continuous edge structure which is raking into the wet basin. Steel piles are stated as Frodingham Section 4N forming the sheets and box piles, which are raking at an angle of 1H:10V. Raking nature of wall piles is likely to improve the stability of the quay wall system where no traditional deadman or inclined anchor system is apparent.
- A longitudinal section of the quay edge structure indicates the steel box piles to be founded within the underlying bedrock whilst the steel sheet infill piles are terminated at a higher elevation within the soils. Actual elevations of pile toes (either design or as-built levels) are not stated. Lengths of installed piles are unknown.
- Rock anchors (steel strand type) are shown to be present, at a 1H:3V raking angle, socketed into the underlying bedrock by approx. 10m. Anchor lengths are indicated to be around 26m to assumed rockhead, as stated in Figure 5.4.

- All steel piles and strand rock anchors are connected into reinforced concrete head structures near the ground surface.
- Dredge level within the wet basin is shown to be -9.0mOD, however it is unclear what the design dredge level is and what allowances may have been made in the design for potential over-dredge. Such dredge level returns an approximate 14m retained height for the quay wall structure.
- A sloping ground profile may be present immediately behind the quay wall piles, as indicated in Figure 5.3. It is unclear if this void space exists beneath the edge of the reinforced concrete sub-structure or if this area has been infilled.

Figure 5-1: Rock Anchor Details



Source: Extract of Babbie Shaw & Morton Drawing C3197/27R, 1975.

5.3 Structural Form – South Quay

No structural records are available for the southern quay wall at the Wet Basin. A site photograph (Photo B.2, **Appendix B**) shows the wall to comprise of vertical steel sheet piles. However, details such as wall anchorage system, sheet pile type, installed pile lengths and drainage provision are all currently unknown.

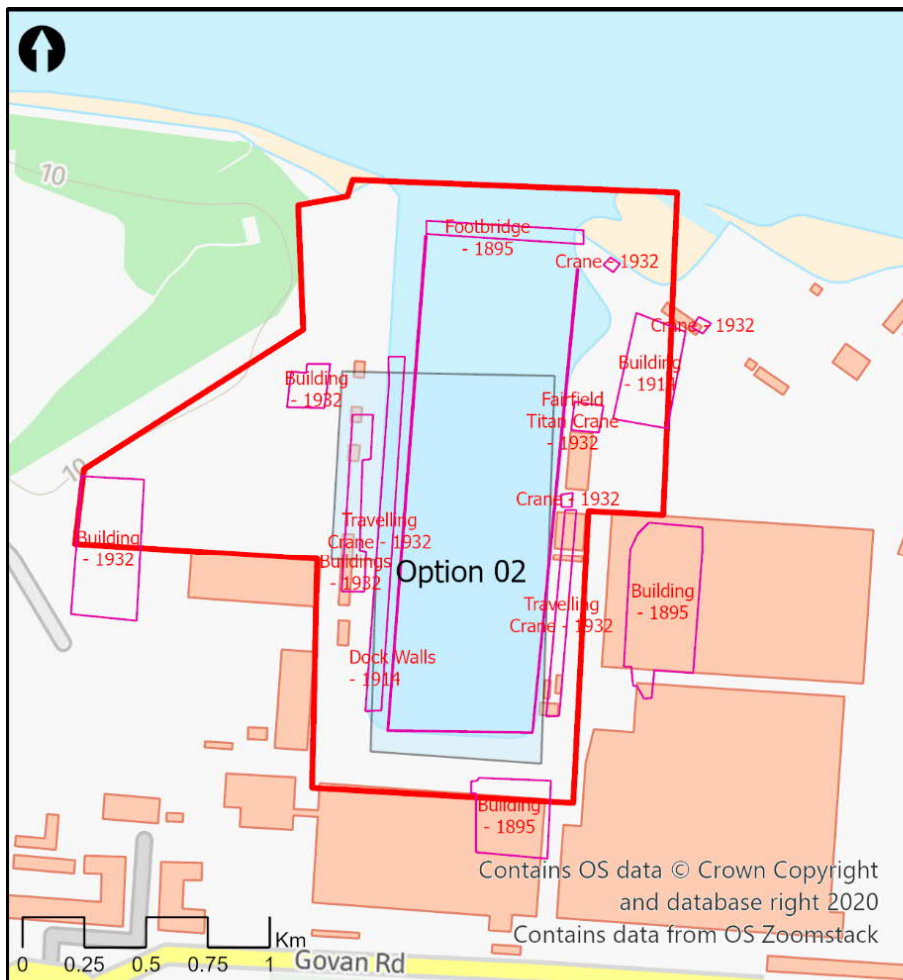
5.4 Historical Structures around the Wet Basin

Historical buildings and structures once present in close proximity to the Wet Basin at the Govan Shipyard are summarised in Figure 5-2, based on a review of historical maps and photographs. These include travelling quayside tower cranes on the east and west sides of the wet basin, various dock yard buildings, a former footbridge across the mouth of the wet basin, and a large static 'Titan Crane' immediately adjacent to the east quay wall.

The Titan Crane (The Fairfield Titan) was constructed in 1911 and was one of the largest cranes in the world for decades after its construction. The crane is reported to have been dismantled in 2007 (Plans of Fairfield Titan, 1906-1979), however its foundations may largely remain in the ground at the quayside (unconfirmed).

The historical quayside infrastructure mentioned above, coupled with the progressive stages of development around the edges of the wet basin since its original formation, are likely to have resulted in the presence of numerous relic sub-surface foundations and buried quay structures / piles which could form obstructions to the proposed new Ship Assembly Hall development.

Figure 5-2: Former Buildings & Structures in Proximity to the Wet Basin



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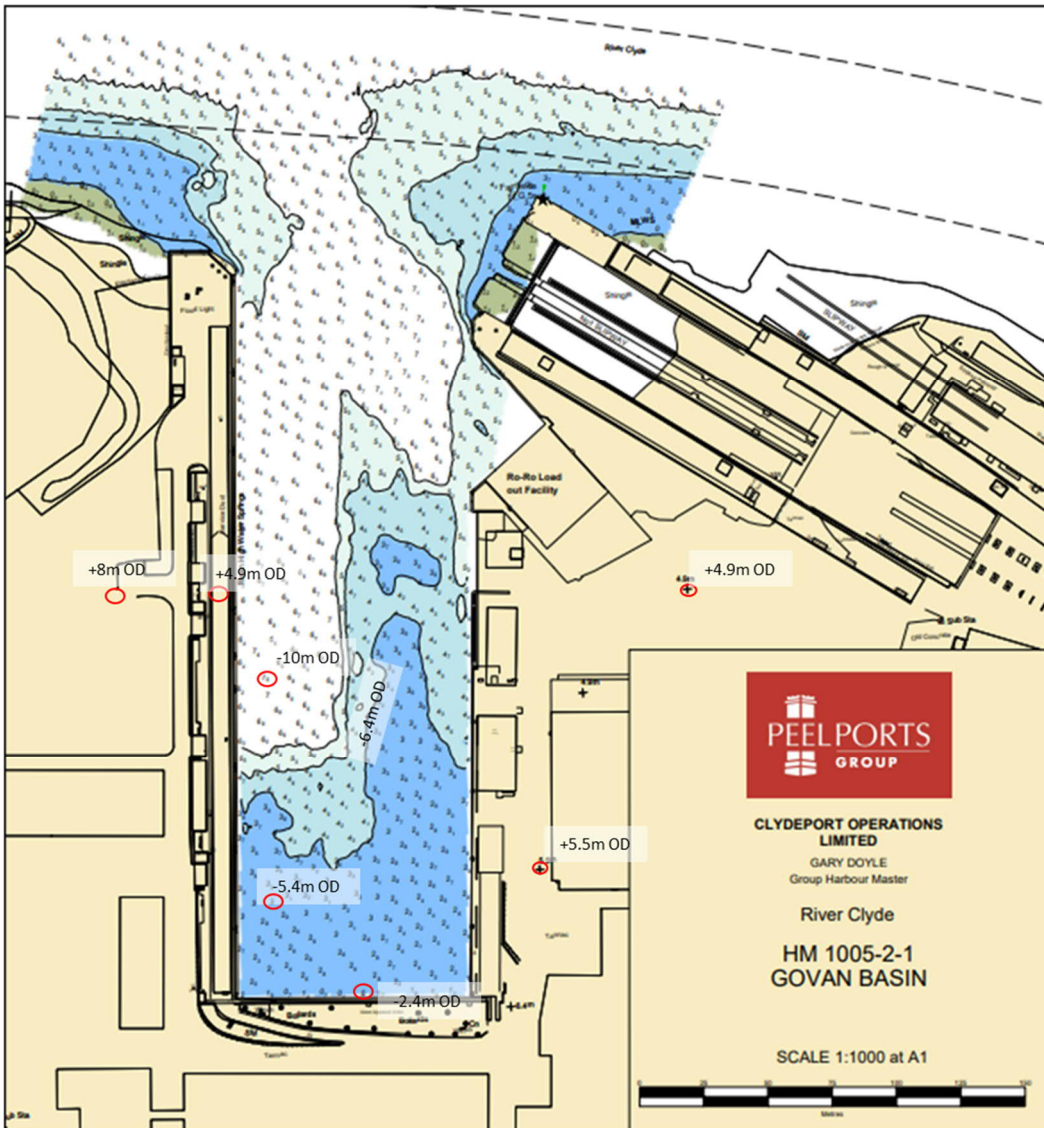
Source: Mott MacDonald, 2022

5.5 Dredging History of the Wet Basin

Available information from historical ground investigations and various bathymetric and topographic surveys indicates recent dredging activities may have occurred within the Wet Basin as summarised below:

- **2004** – A pit was dredged in the north of the Wet Basin to deposit Blast Furnace Slag which was topped with a capping layer as shown in “Dredged Pit Survey” from March 2004 (Arch Henderson, Unknown). The later ‘Post Survey’ plan dated April 2004 reported the slag material had an approximate thickness of 2.0-5.0m, and that riverbed levels in this area are around -5.6m CD.
- **2011** – A bathymetric survey and ground investigation undertaken in 2011 (Arch Henderson, Unknown) identifies the top and base of the slag deposits at -5.64m CD and between -7.0m and -8.14m CD respectively.
- **2012** – A bathymetric survey from June 2012 identifies riverbed levels of around -5.5m CD in the area of the deposited slag materials, and general riverbed levels of between -4.0m CD and -6.5m CD over the rest of the Wet Basin.
- **2012** – A bathymetric survey from July 2012 (Arch Henderson, Unknown) identifies riverbed levels of -7.5m OD in the area of the slag material suggesting that this area has been dredged and the slag material moved / removed.
- **2020** – A plan titled “Dredging Requirements 2021-2024” (Arch Henderson, 2020) indicates that the north and west of the basin is to be dredged to -7m CD. The plan highlights a raised area of the riverbed in the southwest corner of the wet basin that is labelled as “Temporary Slag Disposal Area”. Anecdotal evidence from BAE Systems indicates that contaminated material was deposited in the SW corner of the wet basin due to restrictions associated with disposal of these materials at sea.
- **2021** – A recent bathymetric survey undertaken in the Wet Basin in 2021 (Figure 4.2) identified riverbed levels consistent with the dredging plans from 2020 indicating that dredging has taken place with the basin. The plan shows riverbed levels to be shallowest in the southern half of the wet basin ranging from 0m CD (-2.4m OD) to -3.0m CD (-5.4m OD) and getting progressively deeper towards the north. This is consistent with the suggestion that material has been deposited in the south of the basin.

Figure 5-3: Bathymetric Survey completed by Aspect Surveys in January 2021



Source: Extract of Drawing HM 1005-2-1, Aspect Surveys, 2021 (**Note;** MM added approximate elevations in mOD for riverbed and quayside for appreciation of potential existing steel pile quay wall retained heights).

6 Review of Ground Conditions (Option 02)

The historical site information and BGS geological mapping have been used to infer the potential ground conditions beneath the site, for both the Wet Basin and the quayside areas immediately surrounding the Wet Basin. Preliminary ground models have been developed for both areas and are presented in Table 6.1 to Table 6.3. Illustrative geological profiles through the site have also been produced as presented in **Appendix F**.

A summary of the ground water conditions encountered across site are presented in Section 6.1.4 and obstructions encountered on the site during previous investigations are summarised in Table 6-6 and Table 6-7.

6.1.1 Wet Basin Ground Model

A summary of the ground conditions within the Wet Basin is provided below in Table 6-1. No historical borehole records within the wet basin penetrate through the near surface sediment layer so therefore all strata beneath the sediment are inferred from available boreholes surrounding the wet basin.

Table 6-1: Ground Model – Wet Basin

Strata	Depth to Base (m below riverbed)	Base Elevation (m OD) ¹	Thickness (m)	Typical Description
Sediment ² (SUDP)	3.0 – 6.0	-10 to -13	3.0 – 6.0	Very soft to soft black organic SILT with frequent rootlets and pockets of grey silty sand. Grey very silty fine SAND with occ. Fine gravel
Raised Marine Beach Deposits (RMBDD) ³	5.0 – 21.0	-14 to -22	2.0 – 15.0	Medium dense light brown fine grained silty SAND with occ. Cobbles.
Glacial Till (TILLD) ⁴ ⁵	12.0 – 24.0	-20 to -28	1.0 – 11.0	Stiff to very stiff dark grey sandy gravelly CLAY with low cobble content.
Limestone Coal Fm (LSC)	>57m	<-52	>20	Interbedded moderately strong and strong bedded pale grey fine to coarse SANDSTONE and weak to moderately strong laminated dark grey MUDSTONE.

¹ Base of wet basin typically varies between -3.0m OD and -10.0m OD.

² Base of sediment not proven. Thickness is estimated from available information.

Blast furnace slag material is likely present in the southwest corner of the basin

³ RMBDD thickens to southern end of basin

⁴ TILLD indicated to be thin towards the south and west of the basin.

⁵ Rockhead varies between -28m OD in the northeast of the basin and -18m OD in the centre west of the basin.

6.1.2 Land West of Wet Basin Ground Model

A summary of the ground conditions to the west of the Wet Basin are provided below in Table 6-2.

Table 6-2: Ground Model – Land West of Basin

Strata	Depth to Base (m bgl)	Base Elevation (m OD) ¹	Thickness (m)	Typical Description
Made Ground (MGR)	1.0 – 5.0	0.0 – 4.0	1.0- 5.0	Cobble Setts and Concrete over Loose to medium dense ash, slag, sand, brick, wood and sandy clay fill. Contains rare fibrous material (possibly asbestos)
Alluvium (ALV) ²	4.0	1.0	0.0 – 0.5	Loose dark brown fine to coarse gravelly SAND.
Raised Tidal Flat Deposits (RTFDD) ³	4.0 – 8.0	1.0 to -4.0	0.0 – 4.0	Soft dark grey brown to greenish brown sandy SILT with partings of sand and fine gravel.
Raised Marine Beach Deposits (RMBDD)	9.0 – 27.0	-7.0 to -22.0	7.0 – 18.0	Medium dense light brown medium to fine SAND with occ. gravel.
Glaciofluvial Deposits (GFDUD) ⁵	19.0 – 27.0	-14.0 to -22.0	0.0 – 16.0	Greyish brown medium to coarse SAND with occ. cobbles and coarse gravel and traces of grey Glacial Till. COBBLES and coarse GRAVEL of fine sandstone with greyish brown sand and traces of grey Glacial Till.
Glacial Till (TILLD) ⁶	23.0 – 30.0	-18.0 to -25.0	0.0 – 8.0	Very stiff black to dark grey very sandy very gravelly CLAY with lenses of sand, gravel and cobbles.
Limestone Coal Fm (LSC)	>32.0	<-27.0	>5.0	Interbedded light to dark grey to black very sandy SILTSTONE with occ. sandy bands and light grey slightly micaceous fine to medium SANDSTONE.

¹ Ground level taken as 5m OD.

² Only locally present in north of study area. Replaced by MGR elsewhere

³ Locally absent in centre of area. Thickens to the north.

⁴ Deepen and thicken to south.

⁵ GFDUD only locally present in centre of area. Considered likely to comprise buried esker identified in the Clyde Tunnel excavation to the west.

⁶ Locally absent in centre of area where replaced by Glaciofluvial Deposits.

6.1.3 Land East of Wet Basin (Ground Model)

A summary of the ground conditions to the east of the Wet Basin are provided below in Table 6-3.

Table 6-3: Ground Model – Land East of Basin

Strata	Depth to Base (m bgl)	Base Elevation (m OD) ¹	Thickness (m)	Typical Description
Made Ground (MGR)	1.0 – 2.5	2.5 - 4.0	1.0 – 2.5	Concrete over Medium dense clayey sandy fine to coarse GRAVEL of various lithologies including brick, dolerite and sandstone. Medium dense gravelly SAND with gravel of red brick.
Alluvium ² (ALV)	1.0 – 2.5	2.5- 4.0	0.0 – 1.5	Medium dense slightly sandy GRAVEL of various lithologies.
Raised Tidal Flat Deposits (RTFDD) ³	3.0 – 7.0	3.0 to -2.0	0.0 – 4.0	Soft locally firm grey clayey SILT.
Raised Marine Beach Deposits (RMBDD)	22.0 – 27.0	-18.0 to -22.0	17.0 – 25.0	Medium dense brown silty fine to coarse SAND with occ. cobbles and gravel of sandstone.
Glaciofluvial Deposits (GFDUD) ⁴	25.0 – 30.0	-20.0 to -25.0	0.0 – 6.0	Very dense greyish brown clayey to sandy fine to coarse GRAVEL of mudstone including medium cobble content.
Glacial Till (TILLD) ⁵	30 to 33.0	-25.0 to -28.0	0.0 – 8.0	Very stiff sandy gravelly CLAY with cobbles and boulders
Limestone Coal Fm (LSC)		<-40	>6.0	Medium strong locally strong light grey medium SANDSTONE.

¹ Ground level taken as 5m OD.

² Only locally present in north of study area. Replaced by MGR elsewhere.

³ Locally absent in centre of area. Thickens to the north.

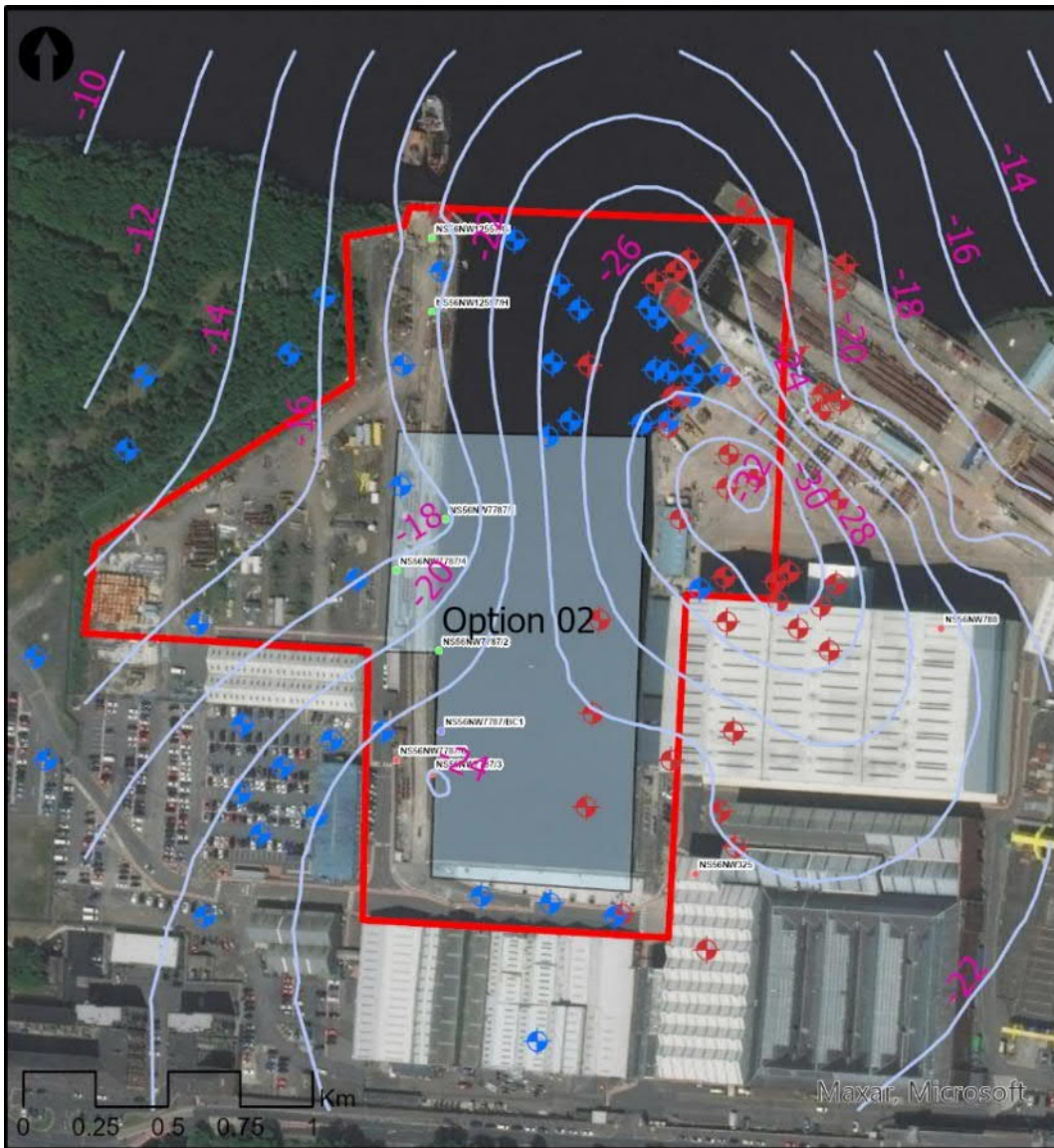
⁴ Locally absent toward north

⁵ Only locally present to north of area. Replaced by overlying Glaciofluvial Deposits elsewhere.

6.1.4 Rockhead

As detailed in the models above rockhead is variable across the site ranging from -18m OD to -28m OD from west to east as shown by the rockhead contour plan in Figure 6-1.

Figure 6-1: Conjectured Rockhead Contours



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Source: Mott MacDonald, 2022. Rockhead levels shown in m OD.

6.1.5 Groundwater

A summary of the groundwater strikes encountered on site are presented in Table 6-4 and the available groundwater monitoring results are presented in Table 6-5. These indicate a typical groundwater level of around 0 to 1m OD.

Table 6-4: Groundwater Strikes

Borehole ID	Depth of Strike (m bgl)	Elevation of Strike (m OD)	Strata	Comments
West of Wet Basin				

Borehole ID	Depth of Strike (m bgl)	Elevation of Strike (m OD)	Strata	Comments
NS56NW12557-G	9	-4.0	RMBDD	Water seepage
NS56NW12557-H	9.5	-4.5	RMBDD	Water seepage
BH01 (Raeburn 2006)	12	-7.2	RMBDD	Rose to 5.0m overnight
South of Basin				
BH 133 (D&M 2000)	5.8	0.53	RMBDD	-
East of Basin				
BH 01 (Hydracrat 1990)	24.0	-18.5	RMBDD	-
BH 04 (Hydracrat 1990)	37.0	-32.0	LSC	-
BH 141 (D&M 2000)	4.2	1.0	RMBDD	Borehole became damp at 3.0m and wet at 4.2m
BH 162 (D&M 2000)	5.5	-0.6	RTFDD	-
BAE BH1 (BAE 2002)	6.0	-1.1	MGR	Measured at 5.2m upon completion of borehole
BAE BH2 (BAE 2002)	4.5	0.5	RTFDD	Measured at 7.4m upon completion of borehole
BH 1 (IKM 2004)	6.0	-0.9	RTFDD	Entered overnight
BH03 (Raeburn 2006)	12	-7.1	RTFDD	Rose to 9.5m overnight
BH04 (Raeburn 2006)	9.6	-4.6	RTFDD	Rose to 9.2m in 15 minutes
BH05 (Raeburn 2006)	3.8	1.1	ALV	-
	5.0	-0.1	RTFDD	Rose to 4.2m in 20 minutes
BH06 (Raeburn 2006)	11.5	-6.6	RTFDD	Rose to 6.0m overnight
BH07 (Raeburn 2006)	4.0	1.1	RTFDD	-
BH01 (BAM 2013)	9.0	-3.93	RTFDD	Rose to 8.1m after 20 minutes
BH04 (SS 2019)	3.6	1.31	MGR	-

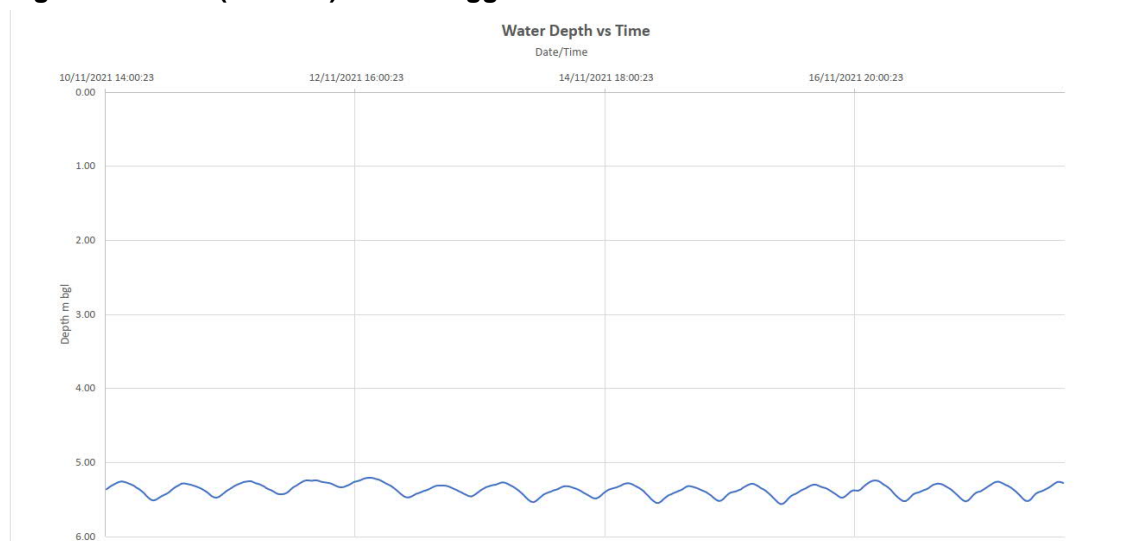
Table 6-5: Groundwater Monitoring

Borehole ID	Top of response zone (m bgl / m OD)	Base of response zone (m bgl / m OD)	Strata	No. of Readings	Min (m bgl/ m OD)	Max (m bgl / m OD)
BH1 (IKM 2004)	1.0 / 4.1	10.0 / -4.9	MGR, RTFDD, RMBDD	2	3.8 / 1.3	4.1 / 1.0
BH04 (Raeburn 2006)	1.0 / 4.0	11.0 / -6.0	MGR, RTFDD	2	4.0 / 1.0	4.0 / 1.0
BH06 (Raeburn 2006)	1.0 / 3.9	11.0 / -6.1	MGR, RTFDD	2	4.0 / 0.9	4.1 / 0.8
BHA (SS 2022)	3.0 / 2.8	9.0 / - 3.2	RMBDD	16	4.4 / 1.4	6.5 / -0.7

In the addition to the standpipe monitoring summarised above a data logger was installed into the RMBDD in BHA (SS 2022) with monitoring undertaken in November 2021. This data shows the groundwater fluctuates by around 0.3m, between 5.2m bgl (0.6m OD) and 5.5m bgl

(0.3mOD) with the peak groundwater levels occurring approximately every 12 hours. This is consistent with the tides within the River Clyde and indicates that the groundwater is in hydraulic connectivity with the River Clyde and the Wet Basin.

Figure 6-2: BHA (SS 2022) – Data Logger Measurements



Source: Report Ref. 541812 Structural Soils, 2022
Response Zone 3.0 to 9.0m bgl within RMBDD. Monitoring period 10/11/2021 to 18/11/2021

6.1.6 Obstructions

Surface and sub-surface obstructions are likely to be present across the site associated with historical and existing structures, historical foundations, and general historical site development as discussed in Section 5. This is evidenced in the boreholes summarised below in Table 6-6.

Table 6-6: Artificial Obstructions

Borehole ID	Top of Obstruction (m bgl / m OD)	Thickness (m)	Strata	Description
BH04 (Hydracrat 1990)	0.3 / 5.2	1.4	MGR	Old Foundations
BH128 (D&M 2000)	2.5 / 2.4	-	MGR	Trial pit terminated due to "very hard...red blaes, gravel and sand"
BH128A (D&M 2000)	2.7 / 2.21	0.7	MGR	Pushing piece of wood
BH132 (D&M 2000)	0.7 / 5.7	0.2	MGR	"old 6" steel pipe and concrete"
BH132 (D&M 2000)	1.7 / 4.7	0.7	MGR	"obstruction pushed"
BH134 (D&M 2000)	0.2 / 6.4	0.3	MGR	"Brick foundation"
BH136 (D&M 2000)	0.8 / 5.6	0.2	MGR	"red brick foundation"
BH136 (D&M 2000)	2.5 / 3.9	0.5	MGR	"pushing boulder"
BAE BH1 (BAE Systems 2002)	4.2 / 0.7	-	MGR	Intact timber structure
TP3 (IKM 2004)	2.6 / 2.5	-	MGR	Trial pit terminated due to presence of a wall
BH01 (Raeburn 2006)	4.5 / 0.3	0.1	MGR	Chiselling required due to steel bars
BH08 (BAM 2013)	4.1 / 0.6	-	MGR	Borehole terminated due to an obstruction
BH10 (BAM 2013)	4.4 / 0.4	1.2	MGR	Chiselling due to ash, slag, metal, glass and timber
BH01 (BAM 2005)	0.5 / 2.0	0.5	MGR	Chiselling required for 1 hour due to cobbles

Borehole ID	Top of Obstruction (m bgl / m OD)	Thickness (m)	Strata	Description
BH02 (BAM 2005)	1.2 / 1.3	0.7	MGR	Chiselling required for 1 hour due to very stiff clay
BH03 (BAM 2005)	1 / -2.2	1	MGR	Chiselling required for 0.5 hours
	2 / -3.2	0.5	MGR	Chiselling required for 0.2 hours

Obstructions encountered within the natural deposits are summarised in Table 6-7 below and are predominantly associated with cobbles and boulders within the Glaciofluvial Deposits and the Glacial Till encountered at the base of the superficial succession.

Table 6-7: Natural Obstructions

Borehole ID	Top of Obstruction (m bgl / m OD)	Thickness (m)	Strata	Description
NS56NW12557	18.0 / -13	1.0	TILLD	"Driving Boulder"
BH142 (Dames and Moore 2000)	3.8 / 0.9	-	RTFDD	Borehole terminated due to obstruction
BH03 (BAM 2005)	15.9 / -17.1	0.6	TILLD	Chiselling required for 1 hour
	17.1 / -18.3	0.4	TILLD	Chiselling required for 1.5 hours
	18.4 / -19.6	0.4	TILLD	Chiselling required for 1 hour
	19.0 / -20.2	0.1	TILLD	Boulder
BH01 (Raeburn 2006)	16.3 / -11.5	0.3	TILLD	Chiselling required due to cobbles and boulders
BH02 (Raeburn 2006)	22.5 / -17.6	0.1	GFDUD	Chiselling required for cobbles and boulders
BH03 (Raeburn 2006)	22.6 / -17.7	-	GFDUD	Chiselling required for cobbles and boulders
BH04 (Raeburn 2006)	25.9 / -20.9	2.25	TILLD	Chiselling required for 2.5 hours
BH05 (Raeburn 2006)	24.2 / -19.3	0.3	TILLD	Chiselling required for cobbles and boulders
BH06 (Raeburn 2006)	25 / -20.1	0.3	GFDUD	Chiselling required for cobbles and boulders
	28.4 / -23.5	-	TILLD	Chiselling required for 1 hour
BH07 (Raeburn 2006)	22 / -16.9	3.5	GFDUD	Chiselling required for cobbles and boulders
	26.4 / -21.3	0.35	GFDUD	Chiselling required for cobbles and boulders
	27.2 / -22.1	0.3	GFDUD	Chiselling required for cobbles and boulders
	27.9 / -22.8	0.45	GFDUD	Chiselling required for cobbles and boulders
	30.0 / -24.9	0.5	GFDUD	Chiselling required for cobbles and boulders
	30.8 / -25.7	0.3	GFDUD	Chiselling required for cobbles and boulders
	32.3 / -27.2	0.2	GFDUD	Chiselling required for cobbles and boulders
BH01 (BAM 2013)	9.5 / -7.0	1.2	RMBDD	"Sandstone obstruction. Presumed COBBLE or BOULDER"
	24.2 / -21.7	0.1	TILLD	Obstruction – no progress.
BHA (SS 2022)	26.8 / -20.96	0.6	GFDUD	Chiselling due to very dense gravel and cobbles
	27.8 / -21.96	0.5	GFDUD	Chiselling due to very dense gravel and cobbles
	28.5 / - 22.66	0.1	GFDUD	Chiselling due to very dense gravel and cobbles
	28.6 / -22.76	0.1	GFDUD	Chiselling due to very dense gravel and cobbles
	28.7 / -22.86	0.2	GFDUD	Chiselling due to very dense gravel and cobbles
	28.9 / -23.06	0.6	GFDUD	Chiselling due to very dense gravel and cobbles
	29.5 / -23.66	0.6	GFDUD	Chiselling due to very dense gravel, cobbles and boulder clay

Borehole ID	Top of Obstruction (m bgl / m OD)	Thickness (m)	Strata	Description
BHB (SS 2022)	20.0 / - 13.29	-	RMBDD	"Borehole terminated at 20.00m depth due to rising sands and slow progress"

6.1.7 Mining

Three 0.6m to 1.2m thick ironstone bands were encountered between 63.8m and 66.8m bgl, and a 2.7m seam of mudstone and coal was encountered at a depth of 118m bgl in the Fairfield Borehole NS56NW325, drilled in 1867.

No other evidence of coal seams, ironstone bands or workings were encountered in any of the other available historical borehole records.

7 Preliminary Contaminated Land Risk Assessment (Option 02)

7.1 Historical Geo-Environmental Investigations

Historical ground investigations completed at the site are summarised in Section 4. Those that include geo-environmental testing and monitoring data are summarised in Table 7.1. A GI location plan and additional exploratory hole information is provided in **Appendix E**. It should be noted that no chemical testing or gas monitoring data is available for the area of land west of the wet basin.

Table 7-1: Summary of Historical Geo-environmental Investigations

Consultant / Contractor	Report Ref / Year	Investigation Location	MM Comments
Dames & Moore	44701-002 / 2000	On-land – east of wet basin.	No records or factual report are currently available, however groundwater contamination testing is known to have been carried out on two samples.
IKM Consulting Ltd.	1121 / 2004	On-land – east of wet basin.	Soil contamination testing carried out in TP2, TP3 & TP4. Soil and water contamination testing carried out in TP1/BH1.
BAM Ritchies	0839 / 2005	On-land – east of wet basin (upgrade of Slipway No.1.)	Soil contamination testing carried out on one sample. No water or gas level readings recorded.
Raeburn Drilling & Geotechnical Ltd	19379 / 2006	On-land – east of wet basin (in front of SBOH).	Soil contamination testing carried out on 25 samples with groundwater sampling undertaken on 4 samples. Groundwater & gas installations in 5 boreholes with 2 monitoring visits undertaken.
Structural Soils	Unknown / 2012	Over-water – within wet basin.	Soil contamination testing carried out in six locations. Samples were tested for the assessment of potential dredging disposal.
Arch Henderson/Structural Soils	2004, 2011, 2012	Over-water – within wet basin	Summary factual report of soil contamination testing undertaken within the Wet Basin in 2004, 2011 and 2012
BAM Ritchies	5298 / 2014	On-land – east of wet basin.	Soil contamination testing carried out on 52 samples. Groundwater & gas installations in 4 boreholes with 1 monitoring visit undertaken.
EnviroCentre	9278 / 2020	Over-water – within wet basin	Report on marine sediment testing at BAE Govan (including the wet basin) and BAE Scotstoun EnviroCentre commissioned by Arch Henderson on behalf BAE to update the Best Practicable Environmental Option Assessment (BPEO) in support of maintenance dredging on the River Clyde
Structural Soils	541812 / 2022	On-land – east of wet basin (existing SBOH and ward buildings)	Soil contamination testing on 18 samples and on 3 groundwater samples. Groundwater & gas installations in 3 boreholes with 5 monitoring visits. Data loggers installed in 3 boreholes. Asbestos screening carried out on 25 samples with no positive detections.

7.2 Visual and Olfactory Evidence of Contamination

Visual and olfactory evidence of contamination noted within the historical borehole records is summarised in Table 7.2. A borehole location plan is presented in Appendix E.

Table 7-2: Visual and Olfactory Evidence of Contamination

Borehole ID	Depth (m bgl / m OD)	Strata	Description
East of Wet Basin			
BAE BH1 (BAE 2002)	3.0 / 1.9	MGR	Organic odour and possibly oily sheen noted from 3.0m
	4.0 / 0.9	MGR	Organic and oily odour noted
BH4 (1982)	0.15 / 4.68	MGR	Black oil
BH162 (D&M 2000)	0.42 / 4.45	MGR	Hydrogen Sulphide odour from slag
BH142 (D&M 2000)	3.2 / 1.5	RTFDD	Organic odour
TP1 (IKM 2004)	1.0 / 4.1	ALV	Solvent odour
TP 2 (IKM 2004)	0.5 / 4.05	ALV	Sewer/organic odour
BHB (SS 2022)	0.35 / 6.36	MGR	Slight hydrocarbon odour
	0.45 / 6.26	MGR	Slight hydrocarbon odour
	1.0 / 5.71	MGR	Slight sulphur odour
BH4 (SS 2022)	2.7 / 2.21	MGR	Slight odour of TCP
	4.8 / 0.11	RTFDD	Hydrocarbon odour
West of Wet Basin			
BH120 (D&M 2000)	2.0 / 9.4	MGR	Occasional clumps of white fibrous material (suspected asbestos containing material)
	4.0 / 7.4	MGR	A little softened fibrous board (suspected asbestos containing material)
BH124 (D&M 2000)	0 / 8.48	MGR	Traces of fibrous material (possible asbestos containing material)
BH127C (D&M 2000)	6.6 / 5.73	MGR	Little suspected asbestos containing fibres at 6.6-6.8m
BH128A (D&M 2000)	1.5 / 3.41	MGR	Occasional fibres (possible asbestos containing material) and a slight creosote odour
South of Basin			
BH134 (D&M 2000)	4.2 / 2.41	MGR	Very strong hydrocarbon odour and oily sheen

7.3 Historical Wet Basin Sediment Testing - Summary

Chemical testing of wet basin sediment has been undertaken to inform disposal options for dredged sediment. Section 5.5 provides details of basin dredging and infilling, and can be broadly summarised as follows:

- There is evidence to suggest slag was placed in the west of the wet basin in 2004. This was subsequently dredged and deposited in the southwest corner of the wet basin in 2012.
- The western and northern extent of the wet basin has been subject to recent dredging, possibly in 2020.
- The eastern and southern extent of the wet basin do not appear to have been dredged in the recent past.

A summary of the two most recent marine sediment testing reports is presented below. The location of sampling and testing locations within the wet basin is shown on Figure 7.2.

Figure 7-1: Historical Dredging & Chemical Testing Locations



Source: ESRI Mapping

Two action levels (AL1 and AL2) are used to assess the suitability of marine disposal of dredged sediment material:

- Sediment with contaminant concentrations below AL1 is generally considered to be below background levels for contamination and is suitable for disposal at sea.
- Concentrations between AL1 and AL2 indicate additional risk assessment and testing may be required to assess suitability for sea disposal
- Concentrations above AL2 is generally considered unlikely to be suitable for disposal to sea without further testing, risk assessment and consultations with Marine Scotland.

7.3.1 EnviroCentre – Best Practicable Environmental Options Report (2020)

EnviroCentre were commissioned by Arch Henderson on behalf of BAE to undertake a Best Practicable Environmental Option Assessment (BPEO) in support of maintenance dredging on the River Clyde under the 'Dredging and Deposit of Solid Waste in the Territorial Sea and UK Controlled Waters Adjacent to Scotland Marine (Scotland) Act 2010'. The assessment included testing at three sample stations (shallow grab samples, S11, S12, S13) within the wet basin, as shown on Figure 7.2.

Chemical analysis records failures against Action Level 1 (AL1) for contaminants including metals, total hydrocarbons and PAHs. No exceedances were recorded against Action Level 2 (AL2) as shown in Table 7.3 and Table 7.4.

It should be noted that the samples were located in the north and west of the west basin, i.e. areas that have been subject to regular dredging and maintenance and therefore more likely to be representative of recently deposited sediment.

Table 7-3: Chemical Analysis Screening Summary – EnviroCentre Report (2020)

Sample ID	Metals		TBT		Hydrocarbons	PAHs	PCBs	
Action Level	AL1	AL2	AL1	AL2	AL1	AL1	AL1	AL2
S11	Fail	Pass	Pass	Pass	Fail	Fail	Pass	Pass
S12	Fail	Pass	Pass	Pass	Fail	Fail	Pass	Pass
S13	Fail	Pass	Pass	Pass	Fail	Fail	Pass	Pass

Source: EnviroCentre 2020

Table 7-4: Chemical Analysis Screening Summary – EnviroCentre (2020)

Sample	mg/kg (Blue = >AL1, Red = >AL2)									
	Arsenic	Cadmium	Chromium	Copper	Mercury	Nickel	Lead	Zinc	Dibutyltin	Tributyltin
S11	9.6	0.86	145	71.2	0.28	38	119	276	0.0256	0.0241
S12	8.1	0.71	118	59.5	0.23	34.4	103	245	<0.005	<0.005
S13	6.2	0.62	90.1	51.5	0.18	34	90.1	222	<0.005	<0.005

Source: EnviroCentre 2020

7.3.2 Structural Soils Investigation for Arch Henderson (2012)

The Structural Soils marine sampling and testing investigation from 2012 included three vibrocore sampling stations on the eastern side of the basin (S3, S4 and S5). The test results recorded numerous heavy metals and organotins to exceed AL1 and AL2 (Table 7.5). Exceedances were also recorded for organic contaminants.

Table 7-5: Chemical Analysis Screening Summary – Structural Soils (2012)

Sample ID & Depth	mg/kg (Blue = >AL1, Red = >AL2)									
	Arsenic	Cadmium	Chromium	Copper	Mercury	Nickel	Lead	Zinc	Dibutyltin	Tributyltin
S3 -3.5CD	14	5.9	353	201	0.85	48	296	690	0.01	0.1
S3 -6.0CD	12	4.7	224	127	0.74	47	169	435	0.5	1.7
S3 -8.4CD	2	0.9	9	13	0.17	10	6	22	0.004	0.004
S4 -4.0CD	12	4.9	248	137	0.73	10	6	462	0.02	0.5
S4 -6.0CD	50	11.9	1550	417	2.02	68	909	1920	0.4	2.41
S4 -8.4CD	97	12	2010	522	5.45	67	1450	3360	0.009	0.2
S5 -5.5CD	17	5.6	340	141	0.9	52	252	600	0.009	0.1
S5 -6.0CD	18	6.6	426	253	0.86	65	308	764	0.03	1.5
S5 -8.4CD	85	12	1890	538	4.83	71	1520	3160	0.007	0.007

Source: EnviroCentre 2020

Samples S4 and S5 generally show contaminant concentrations increasing with depth below the wet basin bed. Highest concentrations of heavy metals were generally recorded at the base of the cores, approximately 4.5m below the base of the basin. Highest concentrations of tributyltin were recorded in the middle of the cores. Concentrations of heavy metals recorded in 2012 are significantly higher than those recorded by EnviroCentre in the north and west of the basin (i.e. areas which have been subject to regular dredging).

The testing from the east of the basin suggests that the sediment may not be suitable for disposal at sea due to the concentrations recorded above AL2. If the sediment is retained in the basin following infilling, consideration must be given to the risk that the sediment poses to water environment receptors such as the Govan Sand and Gravel groundwater body and the River Clyde.

7.4 Conceptual Site Model

The information gathered in this desk study has been interpreted to develop a preliminary conceptual site model (CSM) for the Option 02 development. The CSM details potential contaminant sources, transport pathways and possible receptors that may be present. A preliminary (qualitative) contaminated land risk assessment has been completed for each pollutant (source, pathway & receptor) linkage following the guidance set out in Section 1.4.

Sources, Pathways and Receptors are described as follows:

- Sources (**S**): a potential or known contaminant source.
- Pathway (**P**): a route or means by which a receptor can be exposed to, or affected by, a contaminant, e.g. dermal contact.
- Receptor (**R**): something that can be adversely affected by a contaminant, such as people, an ecosystem, property or controlled waters.

7.4.1 Potential Sources and Contaminants of Concern

Table 7.6 provides a summary of the potential sources and associated contaminants of concern for the site, informed by the Department of Environment 'Industry Profiles' (DOE 1995). It is not intended to provide an exhaustive list of contaminants for analysis during any future ground investigation on site, as selection of the contaminants for analysis should be based on the objectives of the investigation, the Conceptual Site Model (CSM) and the ground conditions encountered on site. Figure 7.2 shows locations of potential contaminant sources.

Table 7-6: Potential Sources and Contaminants of Concern

Potential Sources	Details	Contaminants of Concern
On-Site		
S1: Contaminated sediment/silts within the wet basin	The site has a long history of shipbuilding operations. Previous GIs suggest presence of heavy metals, organotin and hydrocarbons.	Metals (including lead, zinc, copper, chromium, arsenic, mercury, tin etc), hydrocarbons, PAHs, PCBs, anti-fouling agents/biocides, asbestos
S2: Ground gas associated with recent sediments/silt deposits in wet basin.	Historical GIs have described sediment in wet basin as organic which indicates the potential for ground gas generation associated with its decomposition.	Carbon dioxide (CO ₂), methane (CH ₄), carbon monoxide (CO), hydrogen sulphide (H ₂ S)
S3: Contaminated soil and groundwater associated with historical and present-day shipyard operations (including historical tank located west of wet basin, buildings and laydown area).	Activities associated with historical and existing shipyard operations, waste disposal, chemical/fuel storage and spillage.	Metals, hydrocarbons (oils, diesel), PAHs, cyanides, VOCs, SVOCs, asbestos, chlorinated solvents
S4: Ground gas associated with made ground, alluvium and raised marine deposits.	There is the potential for generation of ground gas from within made ground and organic rich natural deposits beneath the site.	Carbon dioxide (CO ₂), methane (CH ₄), carbon monoxide (CO), hydrogen sulphide (H ₂ S)
Off-Site		

Potential Sources	Details	Contaminants of Concern
S5: Made Ground associated with historical Refuse Heaps and Sand Pits (1913-1971 maps) situated west of site boundary.	Historical mapping shows sand pits to have been previously infilled with unknown material that may be contaminated.	Metals, hydrocarbons (oils, diesel), PAHs, cyanides, VOCs, SVOCs, asbestos
S6: Historical soil and groundwater contamination associated with historical gasometer (1895-1896 map).	A gasometer was recorded approximately 60m south of wet basin in 1895-1896 mapping only.	Metals, coal tars (hydrocarbons/PAHs), inorganics incl. ammonium sulphates/cyanide, asbestos

Figure 7-2: Locations of Potential Contaminant Sources



7.4.2 Potential Contaminant Pathways

The following potential contaminant pathways have been identified:

- P1: Soil and dust ingestion (indoors & outdoors)
- P2: Dermal contact (indoors & outdoors)
- P3: Inhalation of dust (indoors & outdoors)
- P4: Inhalation of vapours (indoors & outdoors)
- P5: Inhalation and/or accumulation of ground gas
- P6: Direct contact with contaminated or corrosive soils
- P7: Contaminant leaching
- P8: Vertical/horizontal contaminant migration in superficial deposits
- P9: Vertical/horizontal contaminant migration via service trenches & foundations

7.4.3 Potential Receptors

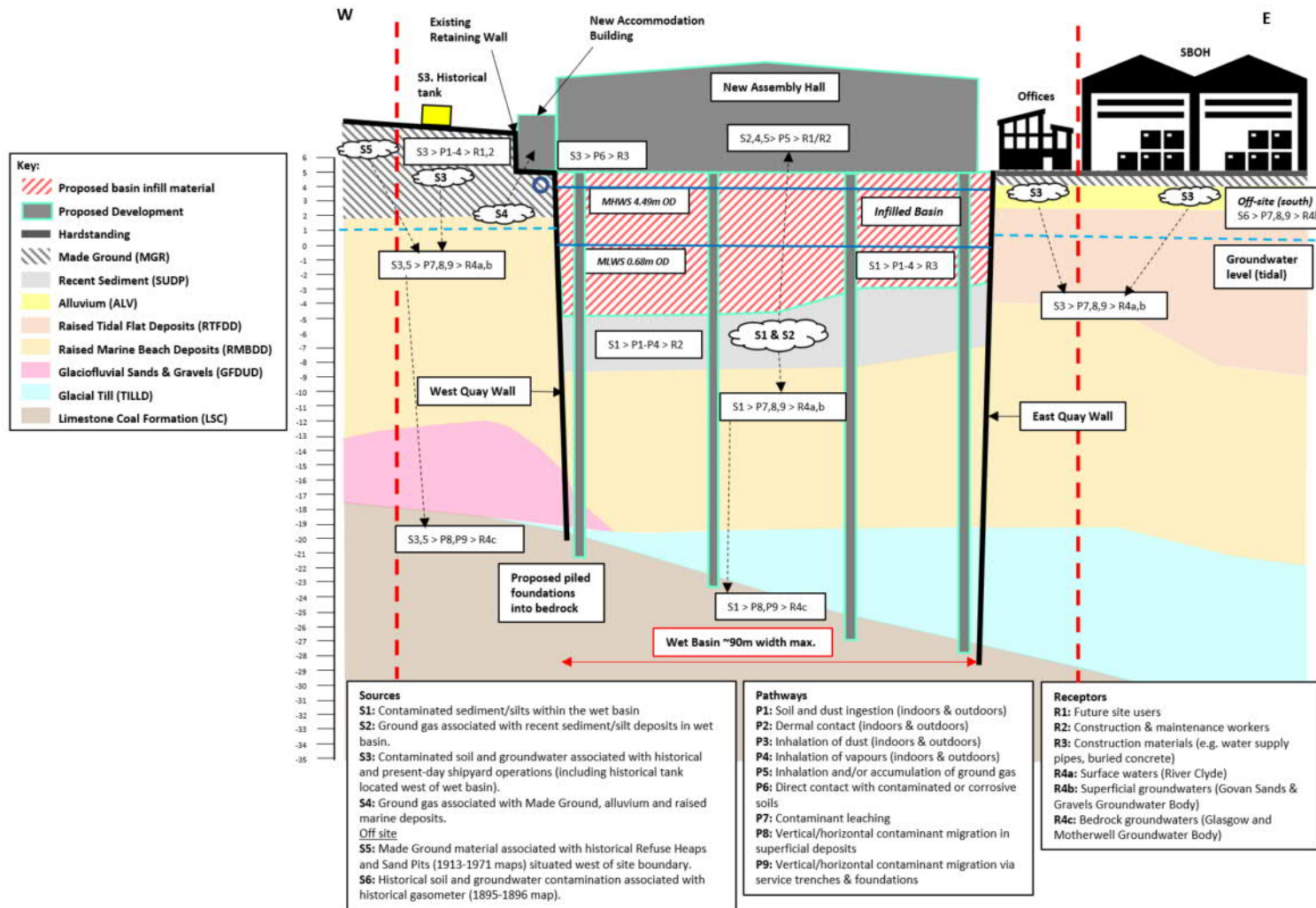
Potential receptors identified are

- R1: Future site users – site workers
- R2: Construction & maintenance workers
- R3: Construction materials (e.g. water supply pipes, buried concrete)
- R4a: Surface waters (River Clyde)
- R4b: Superficial groundwaters (Govan Sand & Gravel Groundwater Body)
- R4c: Bedrock groundwaters (Glasgow & Motherwell Groundwater Body)

7.5 Preliminary Conceptual Site Model

A preliminary CSM is presented in Figure 7.3 showing potential pollutant linkages relative to the site ground model.

Figure 7-3: Preliminary Conceptual Site Model (Post Redevelopment)



Source: Mott MacDonald Ltd

7.6 Preliminary Contaminated Land Risk Assessment

A qualitative land risk assessment has been completed for the site with the results displayed in Table 7.7. The results are based on the potential pollutant linkages shown in the preliminary conceptual site model (Figure 7.3). The risk assessment process is detailed in Appendix I.

The preliminary risk assessment is based on the following assumptions:

- It is assumed that the New Assembly Hall will be a large open well-ventilated structure. The accommodation building will have small, enclosed rooms.
- The assessment assumes that no new sources of contamination will be introduced during the development – i.e. construction materials will be non-hazardous and inert.
- It is assumed that a robust Construction Environmental Management Plan (CEMP) will be adopted during the construction works and, as a result, no contamination will occur from leaks and spills during construction.
- The risk assessment does not consider asbestos or radiological contamination.

Table 7-7: Preliminary Contaminated Land Risk Assessment

Source	Pathway	Receptor	Risk Classification	Comment
On-Site – Wet Basin				
S1: Contaminated recent sediment/silts within the wet basin	P1: Soil and dust ingestion (outdoors) P2: Dermal contact (outdoors) P3: Inhalation of dust (outdoors) P4: Inhalation of vapours (outdoors)	R2: Construction & maintenance workers	Probability: Likely Consequence: Medium Risk: Moderate	Construction workers may come in to contact with contaminated sediment during construction works. Risk to site construction and maintenance personnel should be mitigated by site specific risk assessment and method statements and, where necessary, the use of personal protective equipment (PPE). No feasible pollutant linkage to future site users (R1) is envisaged as the basin sediments are assumed to be encapsulated in the wet basin beneath clean upfill material and the building footprint. An intrusive ground investigation (GI) and Generic Quantitative Risk Assessment (GQRA) is required to determine the risk to human health and whether remedial measures are required to make the site suitable for use.
	P6: Direct contact with contaminated or corrosive soils	R3: Buried structures & water supply pipes	Probability: Low likelihood Consequence: Medium Risk: Moderate/low	The risk to buried concrete should be assessed in accordance with the guidance presented in BRE Special Digest 1: 2005. This will require laboratory testing of sediment and groundwater samples to inform concrete class specification. It is unlikely that the basin sediments will come in to contact with water supply pipes. It is likely that this material will be encapsulated by clean upfill material
	P7: Contaminant leaching P8: Vertical/ horizontal contaminant migration in groundwater	R4a: Surface waters (River Clyde)	Probability: Likely Consequence: Medium Risk: Moderate	The basin sediments are likely to be in hydraulic continuity with the River Clyde and the Govan Sands & Gravels Groundwater Body. Existing sheet piled walls (if confirmed to be extending to rock) are likely to limit potential for lateral contaminant migration within the superficial aquifer. The basin sediments are currently in direct contact with the River Clyde. Following development, the sediments are likely to be cut off from the river by a piled basin closure structure. The design of the closure structure it to be determined, but it will likely reduce the potential for lateral contaminant migration to the River Clyde.
P7: Contaminant leaching P8: Vertical/ horizontal contaminant migration in groundwater P9: Vertical/horizontal contaminant migration via service trenches & foundations	R4b: Superficial groundwaters (Govan Sands & Gravels Groundwater Body) R4c: Bedrock groundwaters (Glasgow & Motherwell Groundwater Body)	Probability: Likely Consequence: Medium Risk: Moderate	Groundwater flow is likely to be from the bedrock and superficial aquifer towards the River Clyde, consequently it is considered unlikely that the sediments have significant potential to contaminate the bedrock groundwater body. An intrusive GI and GQRA is required to determine risk to the water environment and whether remedial measures are required to make the site suitable for use. This will involve collection/testing of sediment from the basin to characterise the nature and significance of the contaminants within the basin and collection of water samples from monitoring wells located in the vicinity of the basin.	
		Probability: Unlikely Consequence: Medium Risk: Low		
S2: Ground gas associated with recent sediment/silt deposits in the wet basin.	P5: Inhalation and/or accumulation of ground gas	R1: Future site users R2: Construction & maintenance workers	Probability: Low likelihood Consequence: Severe Risk: Moderate/Low	The wet basin sediments are often described as ‘soft black organic silt’ are considered to have potential to generate ground gas. The proposed foundations for the New Assembly Hall are likely to be piled which will penetrate down to bedrock and could provide a migration pathway. Ground gas monitoring is recommended below the proposed accommodation block and potentially beneath the main building following completion of the basin closure and infilling. Ground gas risk assessment should be completed in accordance with BS 8485:2015+A1:2019 to determine whether ground gas protection measures are required. A foundation works (piling) risk assessment is likely to be required.

Source	Pathway	Receptor	Risk Classification	Comment
On-site – Remaining Site Area				
S3: Contaminated soil and groundwater associated with historical and present-day shipyard operations (including historical tank located west of the wet basin, buildings and laydown area).	P1: Soil and dust ingestion (indoors & outdoors)	R1: Future site users R2: Construction & maintenance workers	Probability: Likely Consequence: Medium Risk: Moderate	There is potential for contaminants to be present associated with historical land use which could pose a risk to human health if exposure pathways are present. An intrusive GI and GQRA is required to determine the risk to future site users and whether remedial measures are required to ensure the site is suitable for use. The risk to site construction and maintenance personnel should be mitigated by site specific risk assessments, method statements and, where necessary, the use of personal protective equipment (PPE).
	P2: Dermal contact (indoors & outdoors)			
	P3: Inhalation of dust (indoors & outdoors) P4: Inhalation of vapours (indoors & outdoors)			
	P6: Direct contact with contaminated or corrosive soils	R3: Construction materials (e.g. water supply pipers, buried concrete)	Probability: Likely Consequence: Medium Risk: Moderate	The risks to buried concrete should be assessed in accordance with the guidance presented in BRE Special Digest 1: 2005. This will involve laboratory testing of soil and groundwater samples to inform concrete class specification. Installation of new potable water supply pipes will be required for the proposed New Assembly Hall. A water supply pipe risk assessment should be undertaken in accordance with UKWIR Report Ref: 10/WM/03/21 to ensure that pipe materials are suitable for the site-specific ground conditions. This will involve collection, testing and assessment of soil samples.
	P7: Contaminant leaching	R4a: Surface waters (River Clyde)	Probability: Likely Consequence: Medium Risk: Moderate	Potential moderate risk to the River Clyde and to the Govan Sand & Gravel Groundwater Body due to contaminants associated with the historical land use. The bedrock may be afforded some protection from contaminant sources due to depth of bedrock strata and likely groundwater discharge towards the River Clyde. Risk level will depend on nature and extent of contaminants in the soil and groundwater.
	P7: Contaminant leaching P8: Vertical/ horizontal contaminant migration in groundwater P9: Vertical/horizontal contaminant migration via service trenches & foundations	R4b: Superficial groundwaters (Govan Sands & Gravels)	Probability: Likely Consequence: Medium Risk: Moderate	An intrusive GI and GQRA is required to determine risk to the water environment and whether remedial measures are required. This will involve testing of soil and leachate samples, installation of groundwater monitoring standpipes and testing of groundwater samples to inform the assessment. The ground investigation should include targeted investigation in the vicinity of the former tank.
		R4c: Bedrock groundwaters (Clackmannan Group)	Probability: Low Likelihood Consequence: Medium Risk: Moderate/Low	
S4: Ground gas associated with Made Ground and alluvium and raised marine deposits S5: Made Ground associated with historical Refuse Heaps and Sand Pits (1913-1971 maps)	P5: Inhalation and/or accumulation of ground gas	R1: Future site users	Probability: Likely Consequence: Severe Risk: High	There is a potential for ground gas generation from Made Ground, alluvium and raised marine deposits beneath the site and potential infilled ground to the west of the site. There is also a potential gas source to the west of the site associated with infilling of historical sand pits. As such, an intrusive GI and ground gas risk assessment is required to determine risk to future site workers and whether ground gas protection measures are required. GI to include installation of gas monitoring standpipes and gas monitoring to inform the risk assessment, which should be completed in accordance with BS 8485:2015+A1:2019.
		R2: Construction & maintenance workers	Probability: Likely Consequence: Severe Risk: High	

Source	Pathway	Receptor	Risk Classification	Comment
situated west of site boundary.				
Off-Site				
S5: Made Ground material associated with historical Refuse Heaps and Sand Pits (1913-1971 maps) situated west of site boundary. S6: Historical soil and groundwater contamination associated with historical gasometer (1895-1896 map).	P7: Contaminant leaching P8: Vertical/ horizontal contaminant migration in groundwater P9: Vertical/horizontal contaminant migration via service trenches & foundations	R4a: Surface waters (River Clyde)	Probability: Likely Consequence: Medium Risk: Moderate	It is unlikely that the historical gasometer to the south of the site will have significantly impacted groundwater quality below the site. However, the general heavy industrial land use on the wider BAE site and in the surrounding area is likely to have contributed to background contamination of groundwater and surface water receptors.
		R4b: Superficial groundwaters (Govan Sands & Gravels)	Probability: Likely Consequence: Medium Risk: Moderate	
		R4c: Bedrock groundwaters (Clackmannan Group)	Probability: Low Likelihood Consequence: Medium Risk: Moderate/Low	

8 Geotechnical Considerations

8.1 Introduction

As discussed in Section 1.2 it is proposed to construct the new Ship Assembly Hall building within the existing Wet Basin at the BAE Govan site and on land to the immediate west of the Wet Basin. This will require construction of a closure structure at the northern end of the Wet Basin (followed by potential dewatering) and reclamation infilling of the basin (including potential ground improvement) to enable construction of the new ship hall building (including piled foundations and substructure works).

The review of the existing ground related information in the preceding sections of this report has highlighted several geotechnical risks to the proposed development which are discussed below along with an initial commentary on foundation engineering considerations.

The potential risks posed by contaminated land are discussed in Section 7 and are therefore not repeated herein.

The structures proposed as part of the BAE Govan development are expected to be Geotechnical Category 2 in line with Eurocode 7.

8.2 Ground Related Risks

A geotechnical risk register and the methodology of its production is provided in **Appendix H**. This risk register should be incorporated into the project risk register and re-assessed as more information becomes available at subsequent stages of design and project development. A summary of key risks is provided below.

8.2.1 Uncertain and Variable Ground Conditions

The ground conditions across the site are indicated to be variable due to their complex geological history and the historical development of the site. This has resulted in variable thicknesses of the different soil strata across the site and the localised presence or absence of certain strata types. In addition, despite the extent of historical ground investigations that have been undertaken on the BAE site, few ground investigations are available within the footprint of the proposed building in the Wet Basin, or in the proposed contractor's compound and laydown areas. Available borehole logs outside of the Wet Basin show ground conditions to be variable from one side of the basin to the other. As such, there remains uncertainty in the ground characterisation for the area of the proposed development for detailed design and construction purposes. Additional targeted ground investigations would be warranted to mitigate ground risks for design development.

8.2.2 Compressible Soils

Soft soils are present across the footprint of the proposed development, as either very soft to soft organic silt within the Wet Basin or as soft to firm silt and clay of Raised Tidal Flat Deposits that are locally present outside of the Wet Basin footprint. These soils are likely to be compressible under surcharge loading. Infilling of the Wet Basin and construction of the ship building will result in significant loading on these soils causing settlement of the ground. Given the different ground conditions inside and outside of the Wet Basin and the fact the ship building may straddle the edge of the basin, there is the potential for different settlements between these areas.

8.2.3 Obstructions

Several historical and natural obstructions are likely to be present within or in close proximity to the proposed development as detailed below. These could present a risk of obstruction to future ground investigations on site, and to the installation of foundations such as bearing piles or sheet pile walls.

8.2.3.1 Artificial Obstructions

It is considered that artificial obstructions will be present within the footprint of the proposed development associated with historical structures and buildings located outside of the Wet basin and historical quay wall structures within the Wet Basin as shown in Table 6-6.

This is a particular risk in areas adjacent to the West Wharf Structure. In this area, outside of the basin footprint, an existing retaining wall, existing buildings, and a former travelling crane base slab are all indicated to be present. There is also the potential for tie-back or anchorage structures, or mass concrete foundations associated with mooring / berthing points to be present behind the existing quay wall. Historical foundations may also be present associated with historical developments and former railway tracks.

Inside the Wet Basin a former quay wall appears to have been located around 15m from the existing wall for which historical foundations may be present below bed level.

The general Made Ground onsite has often been encountered to comprise stiff clay, cobbles, slag and ash which have presented difficulties for historical ground investigations. In particular blast furnace slag waste is likely deposited in the southwest corner of the Wet Basin that may present an obstruction risk to ground investigations or construction processes in this area.

8.2.3.2 Natural Obstructions

A review of the ground conditions and historical ground investigation data has identified the presence of Glacial Deposits (stiff to very stiff Glacial Till and dense to very dense Glaciofluvial Deposits) at the base of the superficial succession that contains cobbles and boulders. As detailed in Table 6-7 these have obstructed previous ground investigations on site.

8.2.4 Variable Rockhead

Rockhead across the proposed development footprint is shown by the historical ground investigations to vary by up to 10m as illustrated in Figure 6-1. This could result in the requirement for piled foundations or rock anchors to be designed to various lengths to mitigate the risk of differential settlement of the proposed building.

8.2.5 Permeability

Ground conditions beneath the existing Wet Basin are indicated to comprise predominantly of granular Raised Marine Beach Deposits consisting of silty sand which are expected to have a permeability in the order of at least 10^{-6} to 10^{-7} m/s (Barnes, 1995). Available groundwater monitoring information also indicate that groundwater levels within these deposits are approximately 0m to 1m OD and are likely in hydraulic continuity with the tidally influenced River Clyde.

Therefore, closure (and potential draining) of the Wet Basin could result in groundwater seepage and recharge of the Wet Basin.

The available records indicate that existing quay walls are constructed from sheet piles founded in the bedrock which may provide a groundwater cut-off depending on the condition of the walls. However, the construction and condition of the existing walls are unproven.

8.3 Preliminary Engineering Assessment

A summary of the key engineering considerations with respect to the ground conditions associated with the different elements of the development work are provided below.

8.3.1 Closure Structure

It is proposed to construct a closure structure across the north of the Wet Basin to close off the Wet Basin from the River Clyde, to allow infill reclamation of the Wet Basin to provide land space for construction of the proposed Ship Assembly Hall.

The closure structure may comprise a cofferdam-type structure, comprising two lines of combi walls (tubular “king” piles with sheet piles between), tied together and then infilled to form a form of caisson. The closure structure is shown indicatively in Figure 8-1.

Due to the resulting retained height of circa 15m, it is likely that the “king” piles will be required to be socketed into the bedrock for their resistance. Bedrock across the footprint of the closure structure is indicated to vary by up to 8m therefore piles of varying length will be required for the structure. Sheet piles between the “King” piles will be required to be driven into the more competent natural materials present beneath the soft sediments at the riverbed surface.

Consideration will also need to be given to the soft sediment material at the base of the cofferdam that is to be infilled, as these materials are likely to have a high potential for settlement when surcharged. The time-dependent nature (consolidation) of the material settlement is currently uncertain.

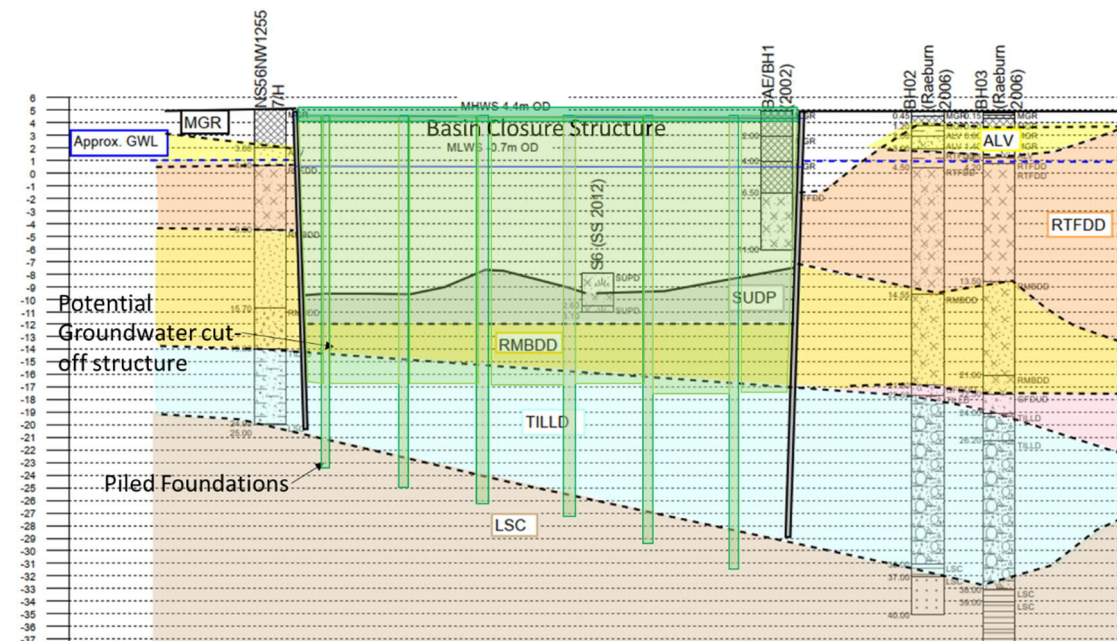
8.3.2 Seepage

The floor (riverbed level) of the wet basin is approximately -2.4m to -10m OD, whilst the river level ranges from 2.0m OD to -1.7m OD. The geological strata beneath the closure structure are indicated to comprise 3 to 4m of recent unconsolidated sediment underlain by approx. 2 to 5m of granular Raised Marine Beach Deposits, as shown in Figure 8-1. The granular deposits are expected to have a relatively high permeability and to be in hydraulic continuity with the River Clyde. Therefore, during the potential event of dewatering the wet basin, there is a potential risk of under-seepage through these materials from the River Clyde that could result in recharging of the basin area (unless suitably designed with appropriate dewatering strategy).

To prevent seepage of water beneath the closure structure into the basin area it is considered that a groundwater cut-off structure may be required beneath the closure structure founded in low permeability material such as the Glacial Till (Figure 8-1).

Any proposed temporary or permanent lowering of water levels within the basin area would need to take account of potential differential water levels across the existing quay wall structures and the potential effects such could have on the performance of these structures in the short and/or long term.

Figure 8-1: Indicative Closure Structure



Source: Adapted extract of Section 1 (Appendix G). Mott MacDonald, 2022.

8.3.3 Infill of Basin

Once the construction of the closure structure is complete it is proposed to infill the existing basin with reclamation fill, as illustrated in Figure 8-2. This will require in the order of 12m height of infill material that would impose around 240 kPa of surcharge soil pressure to the existing ground. Consideration of the following is required.

8.3.3.1 Sub-formation

Soils at the formation level are required to have suitable characterisation of strength, compressibility, and stiffness in order to provide a founding medium that will prevent significant settlement. The ground conditions at the base of the Wet Basin are indicated to comprise around 3 to 6m of recent sediment comprising very soft to soft organic silt over medium dense sand of the Raised Marine Beach Deposits. The recent sediments are likely to be highly compressible in their current state and may pose a risk of settlement (immediate and/or long term) when subject to placement of reclamation fill above.

An approach may be to excavate and dispose of these recent sediments but as discussed in Section 7 historical data indicates that these silts are highly contaminated which would result in potentially high offsite disposal costs. As such, in-situ improvement of these silts may be necessary to facilitate stable reclamation infilling above.

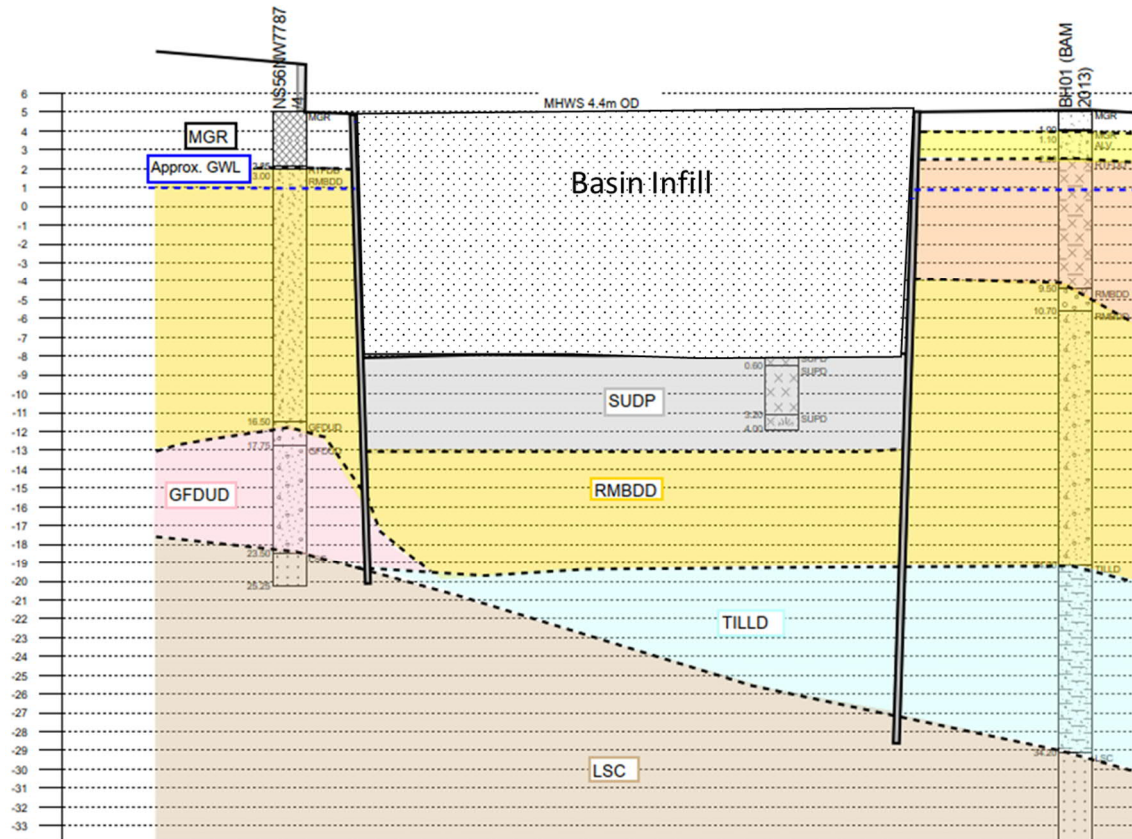
8.3.3.2 Interaction with Existing Structures

The increased load imposed by the basin infill will also act on the existing quay wall structures around the basin perimeter, most significantly on those quay wall piles that are raked into the basin. This surcharge loading could result in potential settlement / deformation of these edge existing structures.

8.3.3.3 Material Re-Use

Due to the nature of the potential works there is limited opportunity for the re-use of site won materials from excavations on site for infilling of the Wet Basin. Therefore, a large volume of imported fill material will be required to complete the proposed works. Consideration should be given to the selection of recycled materials for sustainability, and use of materials from a local source. The basin infill material will need to be of appropriate characteristics to enable placement, compaction and result in nominal internal settlement over time.

Figure 8-2: Indicative Basin Infill



Source: Annotated Extract of Section 2 (Appendix G). Mott MacDonald, 2022.

8.3.4 Ship Assembly Hall Construction

The proposed Ship Assembly Hall is to be constructed predominantly on top of the infilled basin (land reclamation footprint) however the accommodation block on the side of the Ship Assembly Hall will be constructed outside of the basin footprint to the west (Figure). The new assembly hall is to generally comprise a large open warehouse type structure with heavy lift crane capability.

8.3.4.1 Foundations

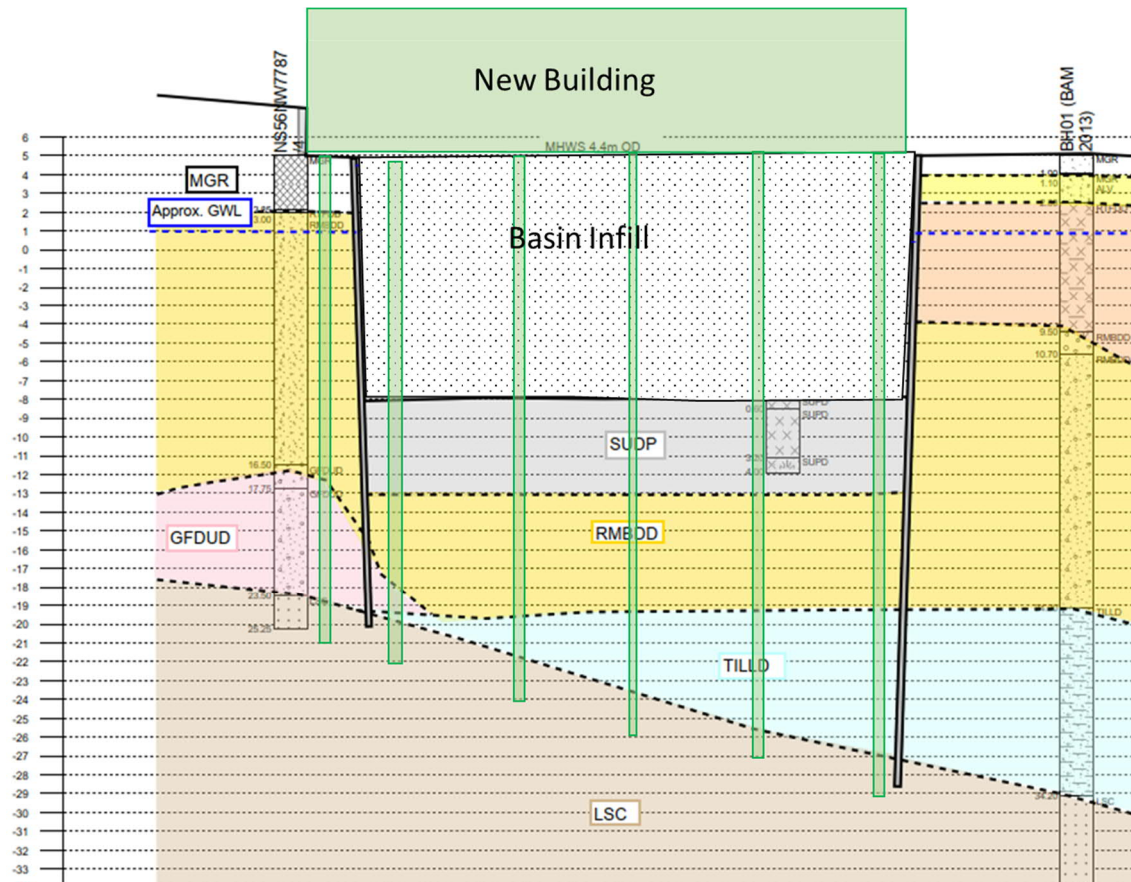
Given the potential loadings on the proposed ship building, and the fact it is to be constructed on recent reclamation infill material, it is expected that piled foundations will be required to transfer building loads into the ground with control of resulting ground settlement. Piles are likely to be founded within the underlying bedrock.

Rockhead level is indicated to vary by up to 10m within the footprint of the building resulting in the potential for foundation bearing piles of varying length.

8.3.4.2 Interaction with Existing Structures

Existing structures are present with the footprint of the proposed ship building, which may interact with the new structure and its foundations. Pile foundations to be located behind the western quay wall may encounter existing foundations and rock anchors associated with the historical travelling crane and quay wall. In addition, an existing 2 to 3m high retaining wall is present to the west of the Wet Basin, the presence of which should be accounted for in design and construction of the new building foundations.

Figure



Source: Annotated Extract of Section 2 (Appendix G). Mott MacDonald, 2022.

8.3.4.3 General

With reference to the illustration in Figure 8.3, depending on the stiffness and compressibility characteristics of the materials beneath the reclamation infill, either in their existing or modified / improved state, future settlement of these materials could result in negative skin friction effects being applied to the building bearing piles and the existing quay wall piles. The design of the basin infilling works (land reclamation earthworks) shall need coordination with the design of the building foundations to ensure a holistic design approach for mitigation of ground settlements and foundation settlements, and to control any potential settlement of existing adjacent buildings around the wet basin perimeter.

9 Conclusions and Recommendations

9.1 Conclusions

Mott MacDonald were commissioned by BAE Systems to produce a Phase 1 Geotechnical and Geo-Environmental Desk Study for a proposed new Ship Assembly Hall development located within the BAE Govan Shipyard, as part of the BAE Govan Facilities Investment Project. This proposed development will require the closure and infilling of the existing Wet Basin on site before construction of the new ship building structure on the land reclamation area.

A review of publicly available information, purchased information, and historical information provided from the client has determined the following conclusions and recommendations.

9.1.1 Historical Land Use

The site has been subject to extensive development associated with its continual use as a shipbuilding yard since the Fairfield Shipyard was established in 1864. This has included various building layouts, cranes, railways and other infrastructure.

The Wet Basin is shown to have been first excavated in the late 1800s and subsequently developed and widened in the early 1900s, the 1970s and circa 2005.

9.1.2 Ground & Groundwater Conditions

The ground conditions underlying the site have been inferred from published geological information and from the findings of previous investigations undertaken on the site. Preliminary ground models have been developed as part of this desk study for the overwater area within the wet basin and for the on-land areas outside of the Wet Basin, as summarised below:

Onshore

- **Made Ground** – Varies from 1m to 5m, typically comprising hardstanding over medium dense GRAVEL of various lithologies, medium dense gravelly SAND, and a mixture of ash, slag, brick and wood.
- **Alluvium** – Typically only present in the north of the site and a maximum of 0.5m thick comprising loose dark brown fine to coarse gravelly SAND, and sandy GRAVEL. Considered to be predominantly replaced by Made Ground.
- **Raised Tidal Flat Deposits** – Typically encountered to depths of between 3m and 7m bgl. Locally absent in the centre of the site and thickens to the north. Comprises soft locally firm grey clayey SILT and silty CLAY.
- **Raised Marine Beach Deposits** – 7m to 25m thick encountered to depths of between 9m and 30m bgl. Comprises Medium dense light brown silty fine to coarse SAND.
- **Glaciofluvial Deposits** – Only locally present however up to 16m thick, possibly associated with a buried glacial landform (Esker). Typically comprises very dense greyish brown clayey to sandy fine to coarse GRAVEL with medium to high cobble content, and greyish brown medium to coarse SAND with occasionally cobble and coarse gravel and traces of Glacial Till.
- **Glacial Till** – Encountered to depths of between 23m and 33m however locally absent where replaced by Glaciofluvial Deposits. Comprises very stiff black to dark grey very sandy very gravelly CLAY with lenses of sand, gravel and cobbles.

- **Limestone Coal Formation** – Rockhead varies from 23m to 33m bgl across the site and typically comprises interbedded light to dark grey to black very sandy SILTSTONE with occasional sandy bands and light grey slightly micaceous fine to medium SANDSTONE.

Overwater

- **Recent Sediment** – is encountered from the riverbed level to depths of about 3m to 6m below riverbed level. This layer comprises very soft to soft black organic SILT with frequent rootlets and pockets of grey silty sand. Southwest corner of the basin is indicated to contain blast furnace slag that has been deposited within the basin.
- **Raised Marine Beach Deposits** – encountered to depths of between 5m and 21m below riverbed level comprising medium dense light brown fine grained silty SAND with occasional cobbles. Thickens towards the south.
- **Glacial Till** – encountered to depths of between 12m and 24m below riverbed level thinning from 11m thick in the north to 1m thick in the south. Comprises stiff to very stiff dark grey sandy gravelly CLAY with low cobble content.
- **Limestone Coal Formation** – Rockhead level is found to vary between 12m and 24m below riverbed level across the footprint of the Wet Basin. Comprises interbedded moderately strong and strong bedded pale grey fine to coarse SANDSTONE and weak to moderately strong laminated dark grey MUDSTONE.

Groundwater is considered to typically be at 0 to 1m OD beneath the site, outside of the Wet Basin, and is in hydraulic continuity with the tidally influenced River Clyde. The site is underlain by two SEPA designated groundwater bodies:

- Govan Sand and Gravel Groundwater Body
- Motherwell and Glasgow Groundwater Body

9.1.3 Existing Structures

The existing Wet Basin has undergone several changes in layout and size since its original construction in circa 1864. Limited available construction records and visual records indicate the quay walls currently comprise sheet pile walls, possibly founded in the bedrock, with some form of stabilising or anchoring system. The sheet piles on the eastern quay wall are known to rake towards the basin. In addition, several current and historical structures are located in close proximity of the Wet Basin including travelling cranes, various dock yard buildings, a former footbridge across the mouth of the wet basin, and a large static Titan Crane.

9.1.4 Geotechnical Risks

The desk study has highlighted several geotechnical risks to the proposed development, with the key risks summarised below:

- **Artificial Obstructions** – associated with historical and existing structures, and dense material such as slag within the Made Ground.
- **Uncertain and Variable Ground Conditions** – Complex geological strata is present onsite associated with the geological history of the Glasgow area and the historical anthropogenic development of the site, and significant gaps exist in ground investigation data for design development purposes.
- **Compressible Soils** – very soft to soft silts comprising recent unconsolidated sediments are present at the base of the Wet Basin, and soft silt and clay is present with the Raised Tidal Flat Deposits outside of the basin that are potentially highly compressible.
- **High Permeability Soils** – The granular Raised Marine Beach Deposits are likely to have a high permeability and could potentially provide a pathway for groundwater flow from the

River Clyde and surrounding area into the basin during any potential dewatering activity within the basin prior to infilling works.

- **Natural Obstructions** – Natural obstructions have been encountered as cobbles, boulders and very dense granular materials within the Glaciofluvial Deposits and Glacial Till across the site. Such obstructions could pose a risk to new piles to be installed as part of the works.
- **Variable Rockhead** – Historical ground investigations indicate that rockhead level varies across the site by up to 10m, potentially influencing methods and design of new piles, and potential differential settlement of the ground under infilling soil pressures.
- **Services** – Limited available plans indicated several services to be present within the site boundaries.

9.1.5 Preliminary Contaminated Land Risk Assessment

A preliminary Conceptual Site Model has been developed to identify potential contaminant sources, pathways and receptors associated with the proposed development and to enable completion of a Preliminary Risk Assessment. The following sources have been identified associated with the site history and geology:

- **S1:** Contaminated sediment/silts within the wet basin
- **S2:** Ground gas associated with recent sediments/silt deposits in wet basin.
- **S3:** Contaminated soil and groundwater associated with historical and present-day shipyard operations (including historical tank located west of wet basin, buildings and laydown area).
- **S4:** Ground gas associated with Made Ground, alluvium and raised marine deposits.
- **S5:** Made Ground material associated with historical Refuse Heaps and Sand Pits (1913-1971 maps) situated west of site boundary.
- **S6:** Historical soil and groundwater contamination associated with historical gasometer (1895-1896 map).

A summary of the risk to potential receptors is presented below. Further details and risk rating are presented in Section 7.

Water Environment – Historical investigations have recorded contaminated sediments (S1) within the wet basin associated with the former site use. The highest concentrations of heavy metals appear to be in the east of the basin where there are no records of recent maintenance dredging. No data is available for the south west corner of the basin where slag disposal is suspected to have occurred.

The contaminated sediments are currently in contact with the River Clyde and overlie the Govan Sand & Gravel superficial groundwater body and potentially pose a risk to these receptors. Following development, the sediments are likely to be cut off from the river by a piled basin closure structure. The design of the closure structure is to be determined but may reduce the potential for lateral contaminant migration to the River Clyde.

Contaminated soil and groundwater could also be present on land associated with the historical land use (S3). Contaminants associated with the historical land use are considered to pose a moderate risk to the quality of the River Clyde and the superficial groundwater body.

Ground investigation is required to confirm the ground conditions and contaminant concentrations within the soil, wet basin sediment and groundwater in order to facilitate water environment risk assessment.

Human Health – The contaminant sources (S1 and S3) identified by the desk study pose a potential risk to construction workers and future site users. Given the industrial nature of the

development, the risk to future site users may potentially be mitigated by capping of contaminants below buildings, upfill material and hardstanding. However, ground investigation testing and risk assessment is required to quantify the risk in consideration of the final development proposals.

Construction workers are more likely to be exposed to contaminants during possible earthworks, excavations, trafficking or other activities which may generate dust or involve dermal contact. Ground investigation and risk assessment is recommended to inform future planning of the works and facilitate implementation of risk mitigation to protect construction workers.

Made ground, basin sediments and organic rich natural deposits (if present) (S2, S4, S5) have the potential to generate elevated ground gas concentrations which could pose a risk to future site users and construction workers. The risk is likely to be highest in confined spaces and within the proposed accommodation building. Ground investigation, borehole installations, ground gas monitoring and risk assessment is recommended to determine the risk posed to sensitive receptors and the requirement for ground gas protection measures in buildings.

Asbestos Containing Materials – This report does not assess or quantify the risk posed by potential asbestos containing materials. However, it is noted that asbestos was visually identified in the Dames & Moore historical GI undertaken to the west of the wet basin. Asbestos is a contaminant that is often encountered on former shipbuilding sites. It is therefore possible that asbestos containing materials could be encountered during future ground investigation and/or construction work and could pose a risk to human health.

It is recommended that future planned works (including ground investigation activities) consider the risk from asbestos in soil and sediment within the wet basin. If asbestos is detected in future ground investigation works, it is likely that an asbestos risk assessment will be required and should be undertaken by a competent specialist consultant.

Buried concrete & water supply pipes - The risks to buried concrete from aggressive ground conditions should be assessed in accordance with the guidance presented in BRE Special Digest 1: 2005. This will involve laboratory testing of soil and groundwater samples to inform concrete class specification.

Installation of new potable water supply pipes will be required for the proposed Assembly Hall. A water supply pipe risk assessment should be undertaken in accordance with UKWIR Report Ref: 10/WM/03/21 to ensure that pipe materials are suitable for the site-specific ground conditions. This will involve collection, testing and assessment of soil samples along the route of proposed pipe alignments.

9.1.6 Dredging & Offshore Sediment Disposal

A Best Practicable Environmental Options (BPEO) report undertaken by EnviroCentre in 2020 included assessment of shallow sediment collected from the north and west of the wet basin (i.e. areas that have been subject to maintenance dredging). The report concluded that sea disposal of the sediment would have no significant long-term impact on the marine environment.

Historical marine sampling and testing completed in 2012, located in the east of the basin which has not been subject to recent maintenance dredging, has identified contaminant concentrations in excess of 'Action Level 1' and 'Action Level 2'. This material is unlikely to be suitable for dredge disposal at sea.

The preliminary development proposals do not include dredging and disposal of basin sediment. However, it is recommended that characterisation and testing of the sediment is completed in the event that future dredging is required and to inform contaminated land risk assessment should the material remain in-situ or require off-site land disposal as waste. Investigation and testing should be completed in accordance with Marine Scotland guidance and extend to the

base of the recent sediment potentially impacted by shipbuilding activities (estimated to be 5-8m below the riverbed). The investigations should also target the potential slag disposal area in the south west of the basin.

9.1.7 Waste classification and disposal

There is potential for the proposed enabling works to generate surplus waste soil. The chemical composition of the soils in the west of the site is not known, however, there is potential for generation of waste that could be classified as 'hazardous'. It is recommended that sampling and testing is completed to facilitate waste classification in accordance with SEPA 'Technical Guidance WM3 - Waste Classification: Guidance on the classification and assessment of waste'.

Re-use of potential site won contaminated soils should be in accordance with SEPA 'Land remediation and waste management guidelines' ([Land Remediation and Waste Management Guidelines \(sepa.org.uk\)](https://www.sepa.org.uk/land-remediation-and-waste-management-guidelines)) and relevant waste legislation.

9.2 Recommendations

Based on the geotechnical ground risks and pollutant linkages identified and outlined in this desk study report, it is recommended that the following work is undertaken.

9.2.1 Records

It is recommended the following records are obtained, if possible:

- Records of historical ground investigations that are not currently available.
- Structural as-built records for existing dock walls.
- Records relating to the use of buildings and the tank previously located on the western dock wall

9.2.2 Surveys & Investigations

The following surveys and investigations are recommended:

- Ground Investigation (both onshore and overwater)
- Bathymetric Survey and Sub-bottom profiling survey overwater within the Wet Basin

9.3 Ground Investigations

A ground investigation is required for site characterisation purposes and to help mitigate the potential geotechnical and geo-environmental ground risks outlined in this report. The investigation should be undertaken in accordance with BS 5930, BS EN 1997-2, BS 10175 and BS 8576.

9.3.1 Key Objectives

- Characterisation of the subsurface soil and rock conditions in accordance with Eurocode 7, including profiling of rockhead and determination of weathered rock zones.
- Determine geotechnical engineering properties of the soils and rock to inform the design and installation of structural building foundations and marine piling works.
- Identification of key ground risks which may impact on design and construction of the scheme, including driveability of steel piles within soils and rock, and formation of rock sockets using boring apparatus.
- Gather onshore geo-environmental information to assess the risk to sensitive receptors and inform contaminated land risk assessment.

- Gather offshore geo-environmental information from riverbed materials which is required by Marine Scotland for contamination analysis and to inform potential waste disposal of recent sediments from the floor of the wet basin.

9.3.2 Outline of Potential Ground Investigations

The scope of project-specific ground investigations may include the following, subject to design and specification of the fieldwork and laboratory testing:

- Land-based trial pits for investigation of shallow ground conditions (including surfacing thickness and sub-base make-up) and for material sampling for geotechnical, geo-chemical and geo-environmental laboratory testing.
- Shallow land-based boreholes within soils, to investigate the ground and groundwater conditions, collect geotechnical and geo-environmental soil samples (disturbed and undisturbed) and inform on near surface risks posed by potentially contaminated land. Boreholes through soils to include for in-situ SPT testing.
- Deep land-based and over water boreholes through soils and rock, to investigate the ground and groundwater conditions, and collect geotechnical and geo-environmental soil samples (disturbed and undisturbed). Boreholes through soils to include for in-situ SPT testing. Rotary coring within rock for retrieval of core samples for laboratory investigation of engineering rock properties.
- Over water in-situ probing by piezocone cone penetration testing (CPT-U) to characterise in-situ properties of the riverbed deposits and subsurface soils.
- Over water vibrocore sampling of riverbed deposits for retrieval of representative, high-quality riverbed material samples for geo-environmental testing purposes in accordance with the requirements of Marine Scotland.
- Sampling of soils and coring of rock for detailed geological logging and laboratory testing.
- Geotechnical laboratory testing of soil samples and rock cores.
- Chemical and geo-environmental analysis of representative soil and groundwater samples to assess the risk posed to sensitive receptors by potential sources of contamination.
- Installation of groundwater and ground gas monitoring standpipes within selected locations within land-based boreholes, and the completion of post-fieldwork gas and groundwater monitoring.

The layout of exploratory holes should cover the spatial extents of the proposed development, with investigation locations generally spaced at approximately 50m centres within the Wet Basin. The combination of boreholes, CPT-U probes and vibrocores should allow for the reliable characterisation of the over water ground conditions. The phasing / sequencing of the overwater ground investigations, with appropriate use of marine plant and equipment, will need careful consideration taking cognisance of the ongoing operations at the BAE Govan site.

9.3.3 Reporting

The ground investigation contractor should produce a factual report detailing the results of the ground investigations. The factual GI report will then be used to inform the following project reports:

- Ground Investigation Report (GIR) – An interpretive summary of the ground conditions on site.
- Geotechnical Design Report (GDR) – The application of the interpreted ground conditions to design, to include a summary of design assumptions, methodology and analysis results.
- Contaminated land risk assessment including generic quantitative risk assessment and (if required) detailed quantitative risk assessment and remediation strategy.

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A. Site Development Proposal

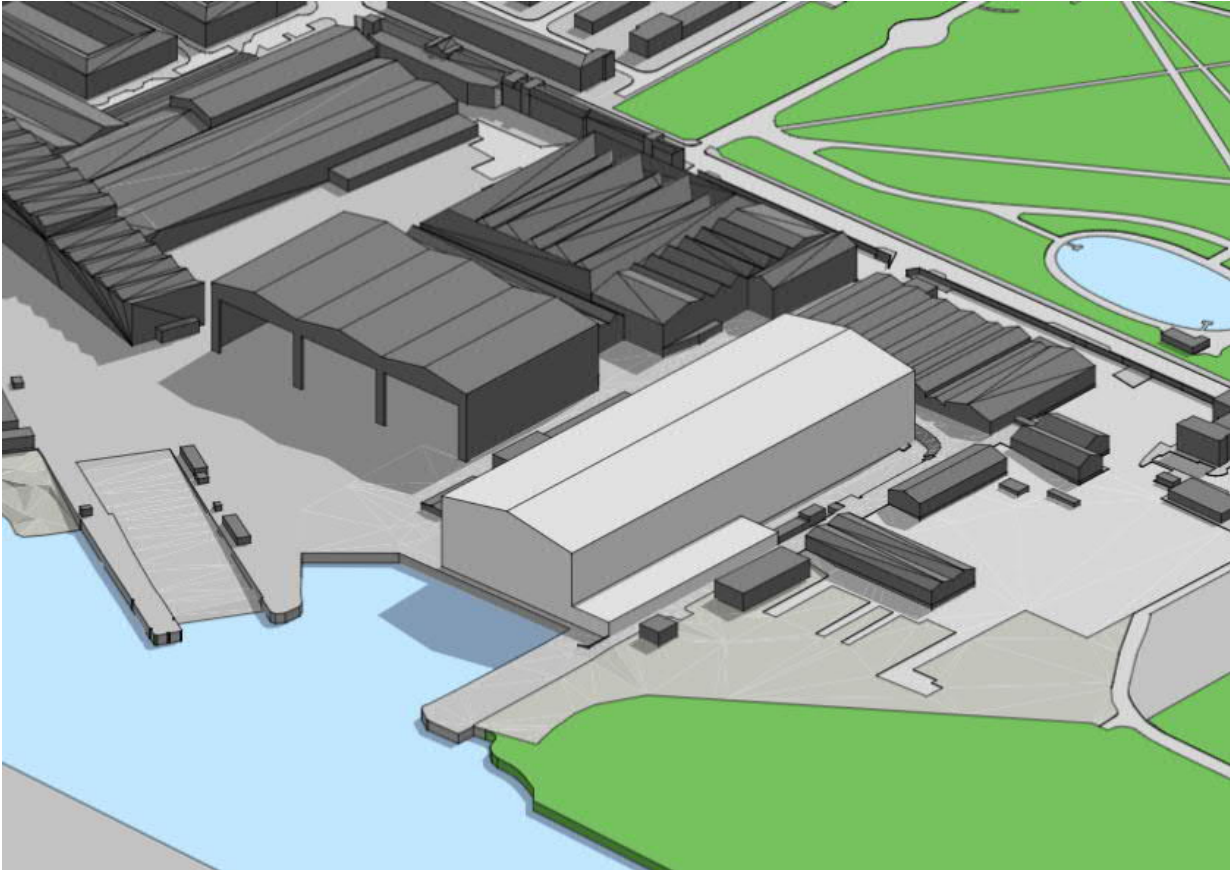


Figure A.1 Proposed site development concept, infilling of wet basin and construction of Ship Assembly Hall building.

B. Site Reconnaissance Photos

Photo B.1: View of Wet Basin and western quay wall, taken from eastern quayside

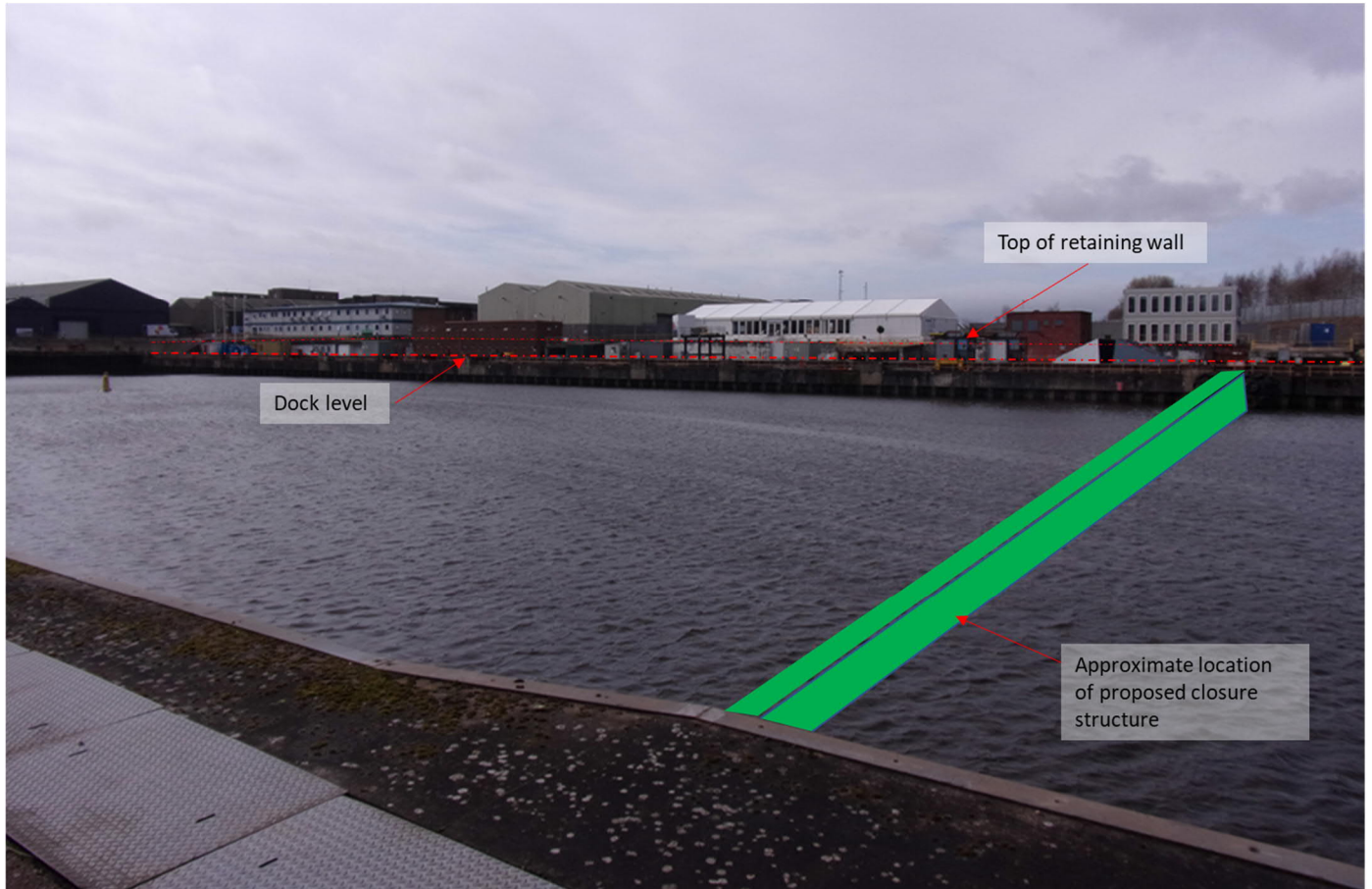


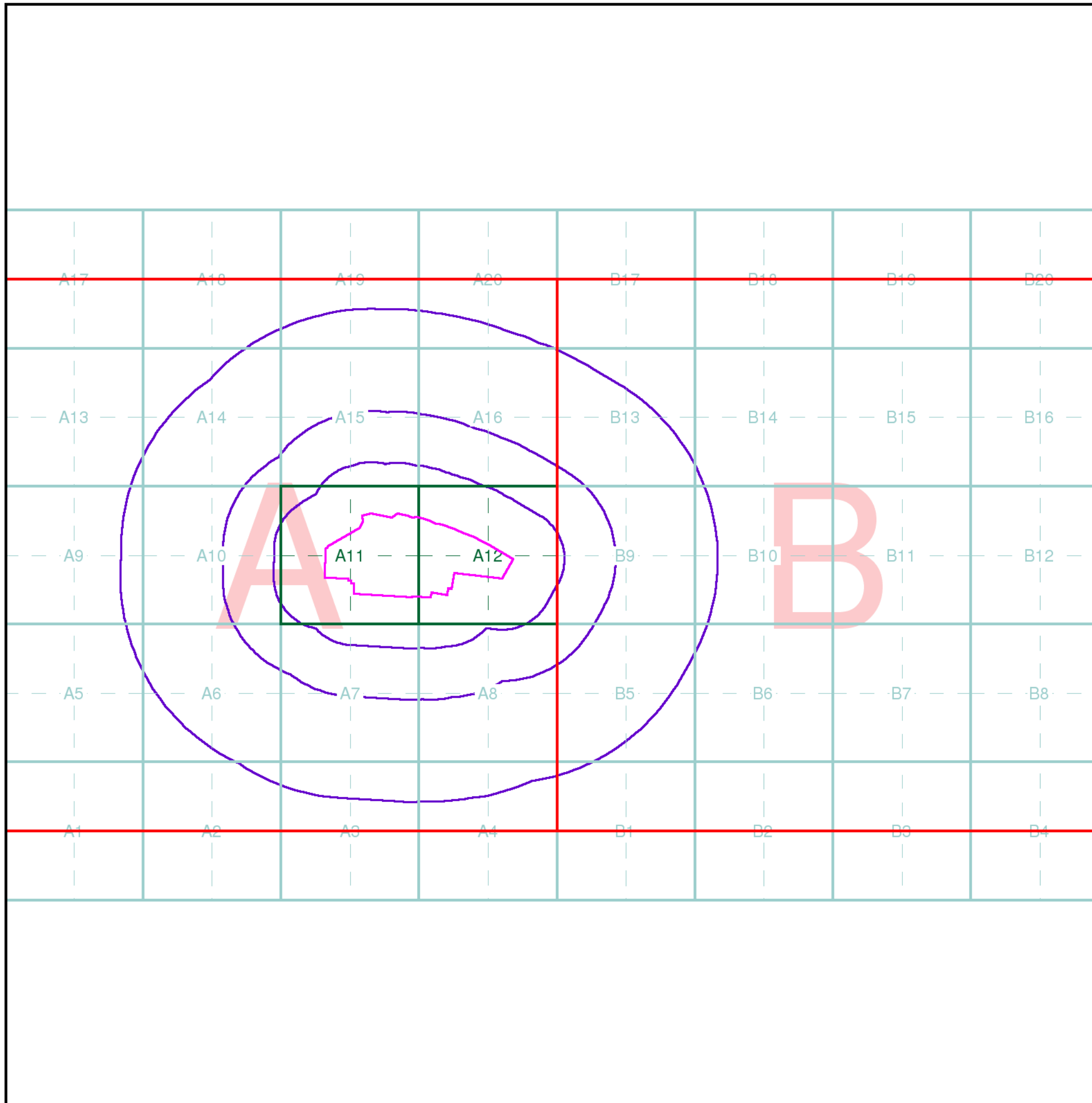
Photo B.2: View of Wet Basin and southern quay wall, taken from western quayside



Photo B.3: View of Wet Basin and eastern quay wall, taken from southern quayside



C. Envirocheck Report



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Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

Slice
Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

Segment
A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

Quadrant
A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:



Envirocheck reports are compiled from 136 different sources of data.

Client Details

Mr C Smith, Mott Macdonald, 3rd Flood Caledonian Exchange, 19a Canning Street, Edinburgh, EH3 8EG

Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254760, 666070
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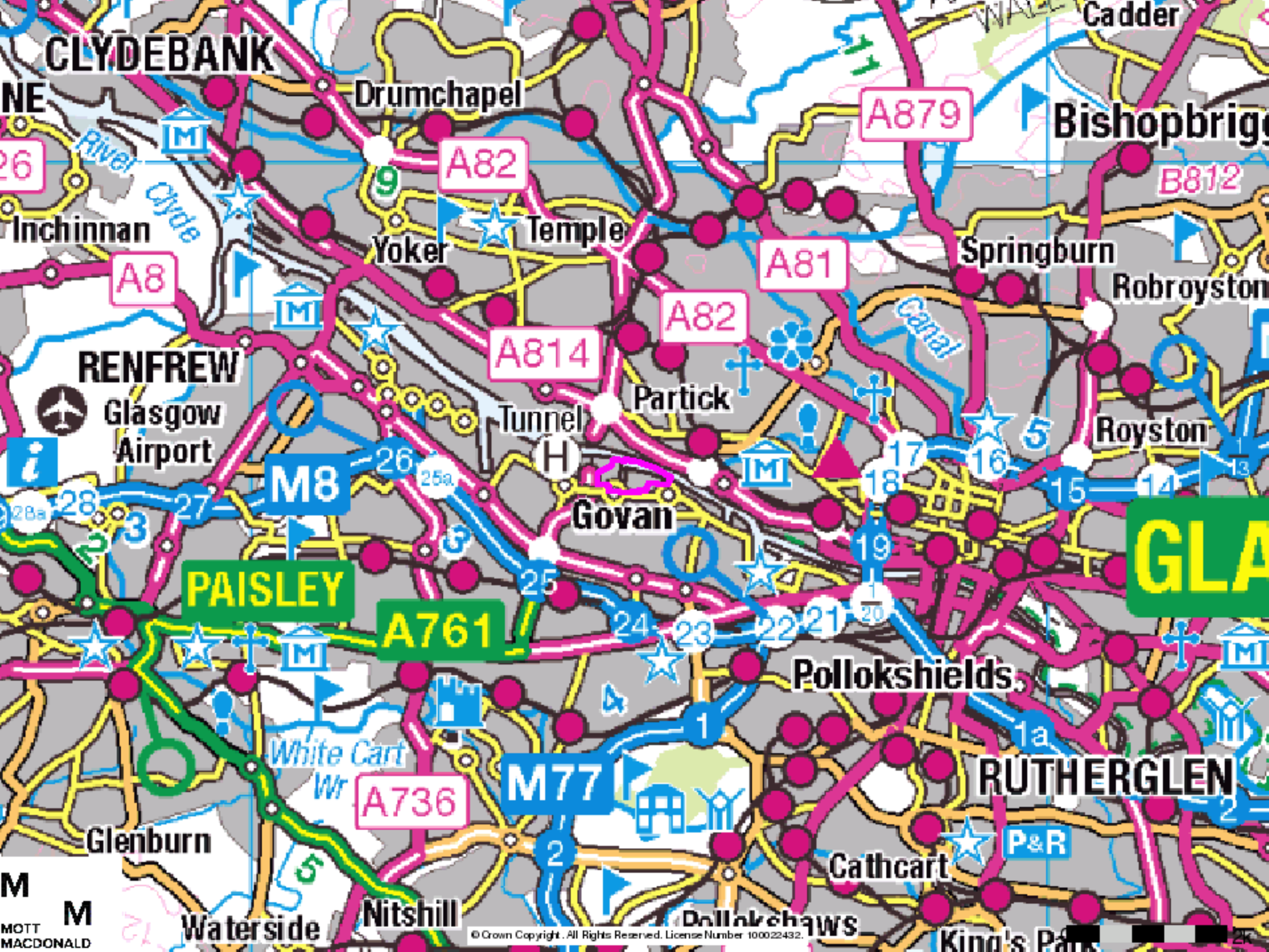
Site Details

Site at 254780, 666140

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RUTHERGLEN

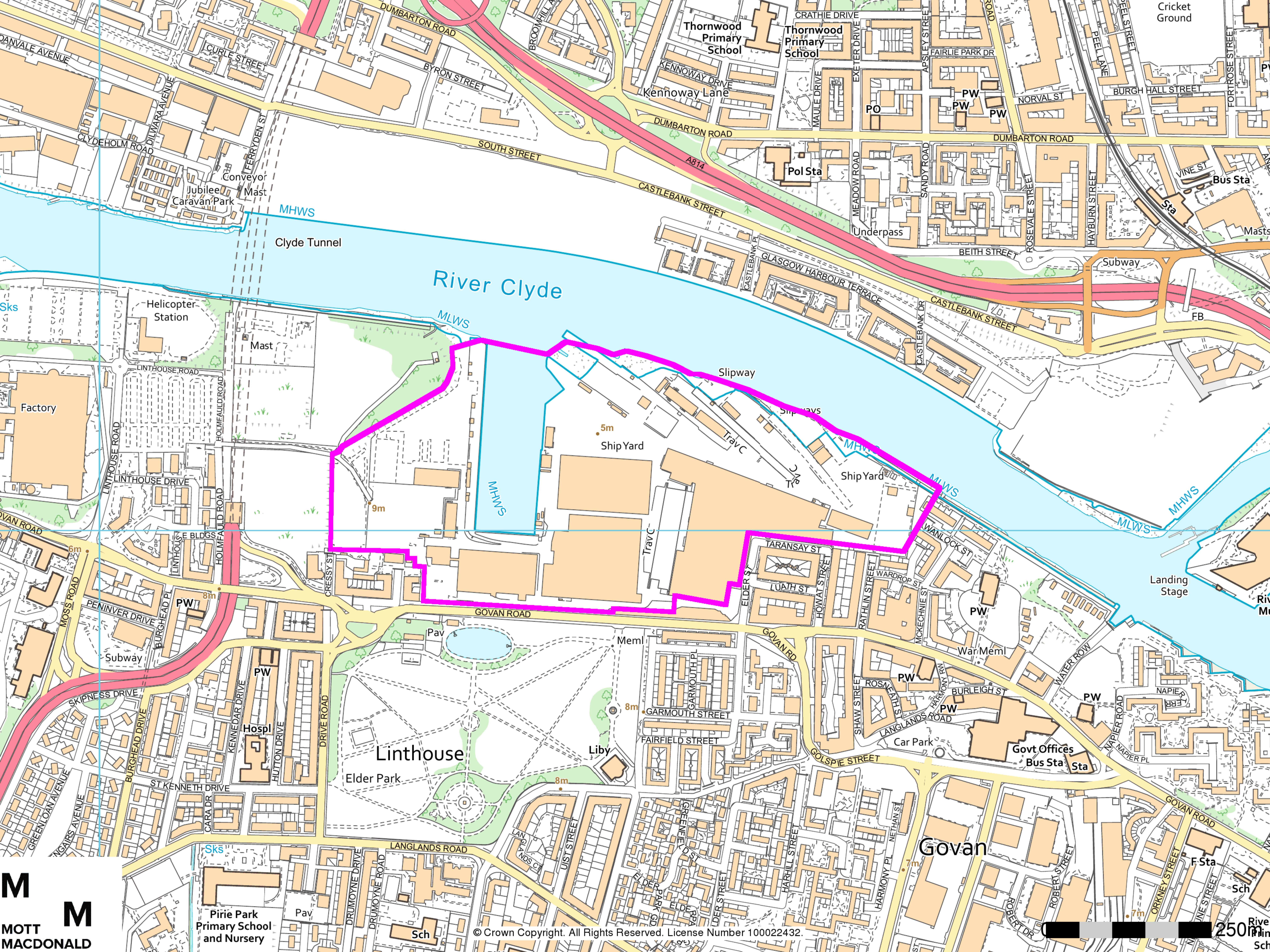
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Groundwater Vulnerability

General

- ▭ Specified Site
- Specified Buffer(s)
- X Bearing Reference Point
- ▭ Slice
- B Map ID

Agency and Hydrological

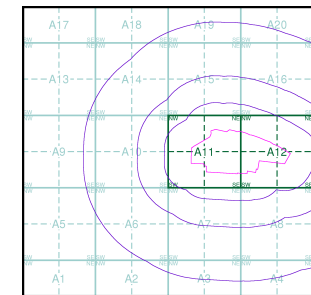
Geological Classes

- █ Highly Permeable
- █ Moderately Permeable
- █ Weakly Permeable
- █ Water or Sea
- █ Drift Deposit

Soil Classes

- █ High
- █ Intermediate
- █ Low

Site Sensitivity Context Map - Slice A



Order Details

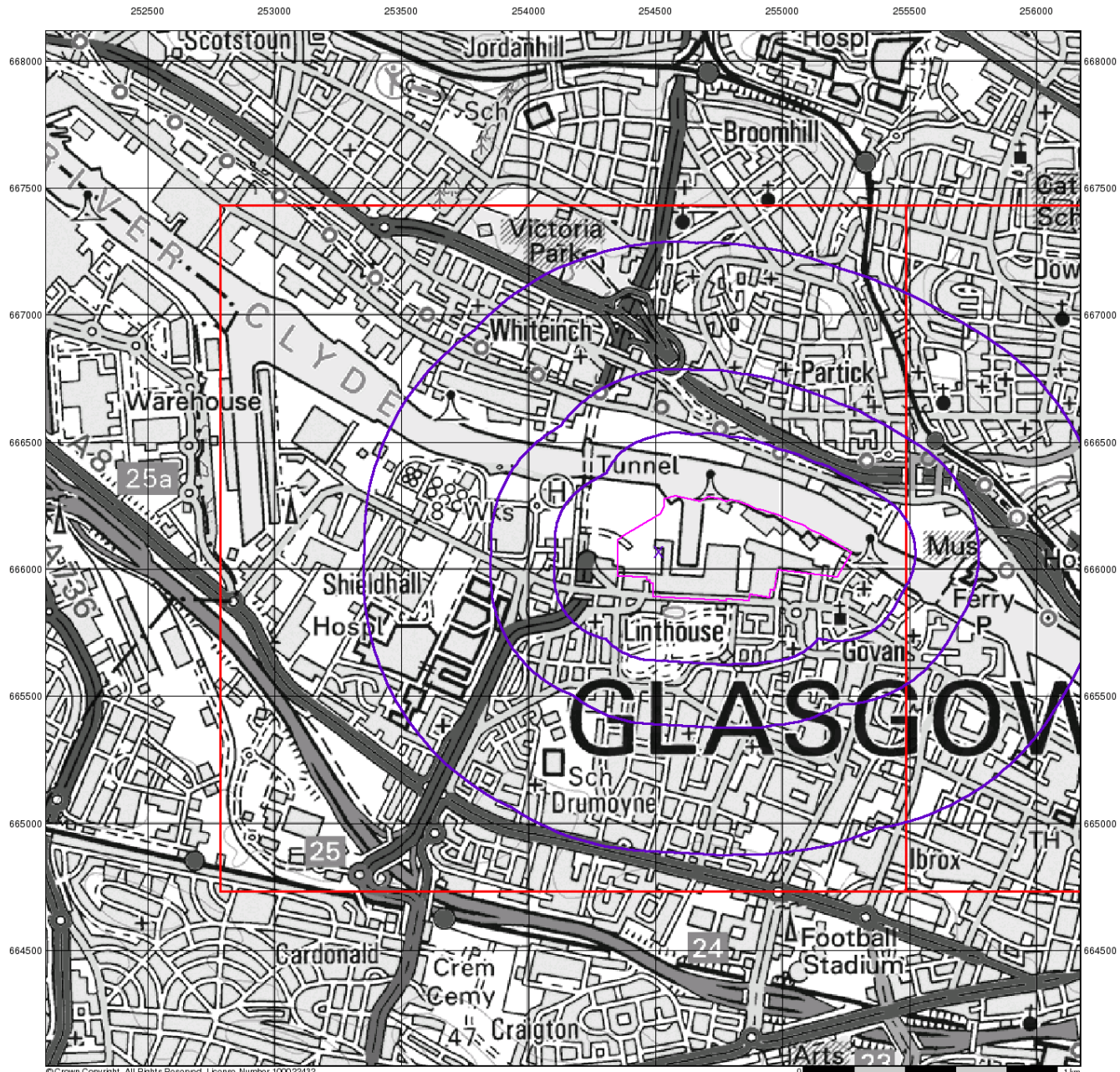
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 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

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Source Protection Zones

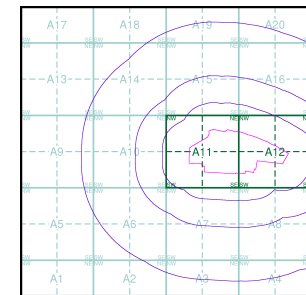
General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point
-  Slice
-  Map ID

Agency and Hydrological

-  Inner zone (Zone 1)
-  Inner zone - subsurface activity only (Zone 1c)
-  Outer zone (Zone 2)
-  Outer zone - subsurface activity only (Zone 2c)
-  Total catchment (Zone 3)
-  Total catchment - subsurface activity only (Zone 3c)
-  Special interest (Zone 4)

Site Sensitivity Context Map - Slice A



Order Details

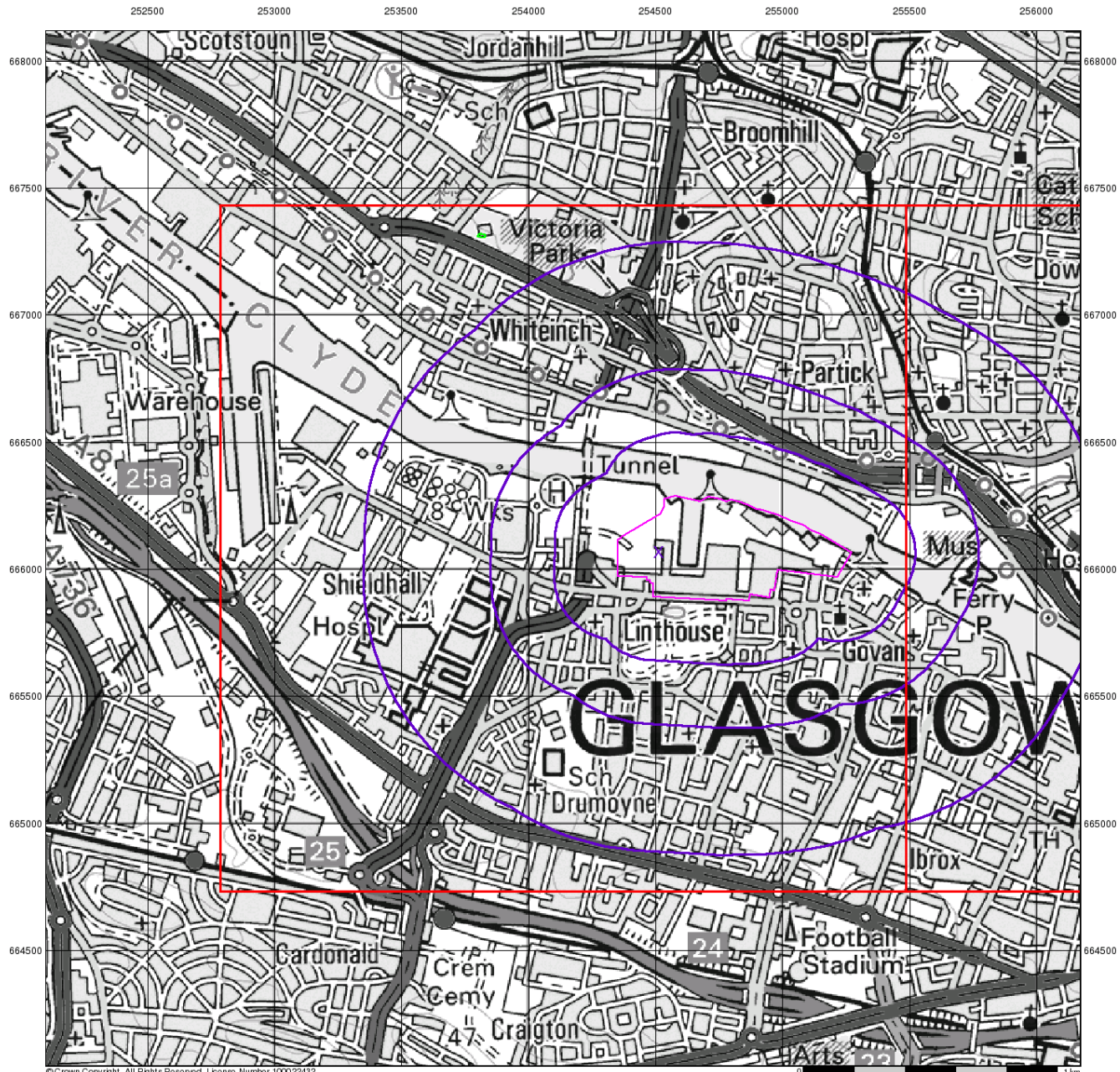
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 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

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Sensitive Land Uses

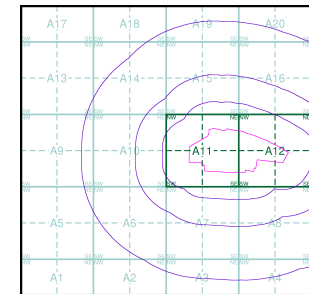
General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point
-  Slice
-  Map ID

Sensitive Land Uses

-  Ancient Woodland
-  Area of Adopted Green Belt
-  Area of Unadopted Green Belt
-  Environmentally Sensitive Area
-  Forest Park
-  Local Nature Reserve
-  Marine Nature Reserve
-  National Nature Reserve
-  National Park
-  National Scenic Area
-  Nitrate Sensitive Area
-  Nitrate Vulnerable Zone
-  Ramsar Site
-  Site of Special Scientific Interest
-  Special Area of Conservation
-  Special Protection Area
-  World Heritage Sites

Site Sensitivity Context Map - Slice A



Order Details

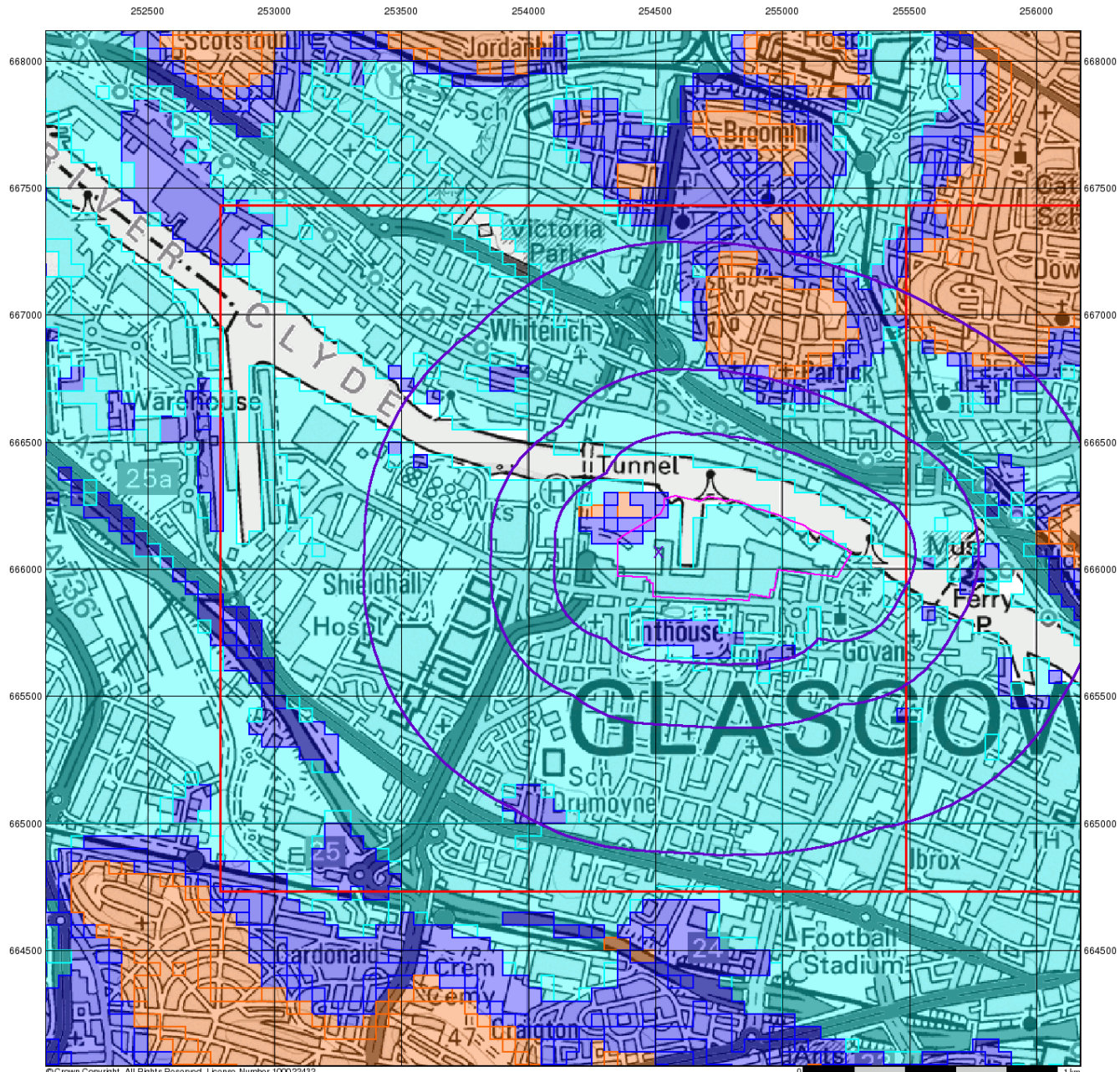
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 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

Site at 254780, 666140

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BGS Flood GFS Data

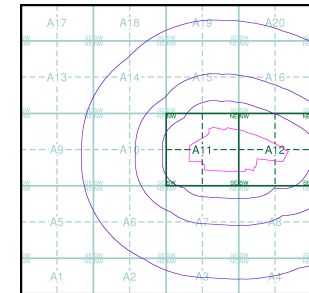
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice

Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

Site at 254780, 666140

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Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

293036501_1_1

Customer Reference:

100107212-001

National Grid Reference:

254510, 666070

Slice:

A

Site Area (Ha):

25.37

Search Buffer (m):

1000

Site Details:

Site at 254780, 666140

Client Details:

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EH3 8EG

Report Section	Page Number
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Waste	13
Hazardous Substances	19
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Sensitive Land Use	-
Data Currency	76
Data Suppliers	81
Useful Contacts	82

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination. For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client. In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Report Version v53.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 3	2	5	1	5
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls	pg 6	1	1	1	
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 7		4	8	6
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 9	Yes			
Pollution Incidents to Controlled Waters					
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances	pg 9	1		2	3
River Quality					
Substantiated Pollution Incident Register					
Water Abstractions					
Water Industry Act Referrals					
Groundwater Vulnerability	pg 10	Yes	n/a	n/a	n/a
Drift Deposits			n/a	n/a	n/a
Source Protection Zones					
River Flood Data (Scotland)				n/a	n/a
OS Water Network Lines	pg 10		1	5	11
Waste					
BGS Recorded Landfill Sites					
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 13	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)	pg 13		2		2
Potentially Infilled Land (Water)	pg 13			1	17
Registered Landfill Sites					
Registered Waste Transfer Sites	pg 14			1	4
Registered Waste Treatment or Disposal Sites	pg 16		2		5

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents	pg 19		3		
Planning Hazardous Substance Enforcements					
Geological					
BGS 1:625,000 Solid Geology	pg 20	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 20	Yes		Yes	Yes
BGS Recorded Mineral Sites	pg 23		3		4
BGS Urban Soil Chemistry	pg 24	Yes	Yes	Yes	Yes
BGS Urban Soil Chemistry Averages	pg 28	Yes			
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 29	Yes	n/a	n/a	n/a
Mining Instability	pg 29	Yes	n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain	pg 29	Yes	Yes	n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 29	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 29	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 30	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 30	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 30	Yes	Yes	n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 32		35	74	190
Fuel Station Entries	pg 57			2	1
Points of Interest - Commercial Services	pg 57		6	22	81
Points of Interest - Education and Health	pg 66			1	9
Points of Interest - Manufacturing and Production	pg 67		6	8	38
Points of Interest - Public Infrastructure	pg 72			17	10
Points of Interest - Recreational and Environmental	pg 74		3	6	11
Gas Pipelines					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
National Scenic Areas					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones					
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A11SE (SE)	0	1	254514 666068
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A12SW (E)	0	1	255000 666068
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NE (N)	0	1	254514 666250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NW (NW)	0	1	254450 666100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NE (N)	0	1	254500 666200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NE (N)	0	1	254514 666200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NW (NW)	0	1	254450 666150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NE (N)	0	1	254500 666150
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11NW (NW)	22	1	254450 666200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NW (NW)	29	1	254350 666150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A11SE (SE)	31	1	254650 665850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A11SE (S)	43	1	254500 665850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NW (NW)	72	1	254350 666200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A11SE (SE)	76	1	254750 665800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11SE (S)	78	1	254514 665800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A12NW (NE)	87	1	255000 666350
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11NW (NW)	100	1	254300 666200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A11NE (N)	104	1	254650 666400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NW (NW)	115	1	254350 666250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A12SW (SE)	126	1	255050 665750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A12SW (SE)	127	1	254850 665750
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11NW (NW)	133	1	254250 666200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A12SE (E)	168	1	255400 665950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A11NW (NW)	169	1	254250 666250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (SE)	180	1	254900 665700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A7NE (S)	184	1	254550 665700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (SE)	195	1	255000 665700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A12SE (E)	212	1	255450 665950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A7NE (S)	231	1	254650 665650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A8NW (SE)	238	1	254950 665650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A8NW (SE)	279	1	254900 665600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(E)	279	1	255550 666050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(E)	340	1	255600 666150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(E)	348	1	255550 665850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A16SW (NE)	373	1	255000 666600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(E)	384	1	255650 666000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16SW (NE)	392	1	254900 666650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16SW (NE)	420	1	255000 666650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(E)	429	1	255700 666050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16SW (NE)	432	1	254850 666700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(E)	434	1	255700 666000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(E)	437	1	255550 666400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16SW (NE)	437	1	255050 666650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16SW (NE)	441	1	254900 666700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16SW (NE)	453	1	254950 666700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15SE (N)	467	1	254750 666750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16SW (NE)	468	1	255000 666700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A16SE (NE)	469	1	255150 666650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(E)	479	1	255750 666068
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16SW (NE)	482	1	254850 666750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16SW (NE)	485	1	255050 666700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16SW (NE)	490	1	254900 666750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(E)	498	1	255750 666200
1	Discharge Consents Operator: Strathclyde Regional Council Property Type: Not Given Location: Storm Sewage Overflow, Elder Street, GLASGOW Authority: Scottish Environment Protection Agency, West Region Catchment Area: Not Given Reference: 0 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 30th August 1991 Revocation Date: Not Supplied Discharge Type: Unknown Discharge Environment: Controlled Waters Receiving Water: River Clyde; Translated To D3044/T16/Cd9617 Status: Not Supplied Positional Accuracy: Located by supplier to within 100m	A12NW (E)	0	2	255030 666170
1	Discharge Consents Operator: Strathclyde Regional Council Property Type: Not Given Location: Storm Sewage Overflow, Elder Street, GLASGOW Authority: Scottish Environment Protection Agency, West Region Catchment Area: Not Given Reference: 9617 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 30th August 1991 Revocation Date: Not Supplied Discharge Type: Sewage Effluent Discharge-Surface Water Discharge Environment: Controlled Waters Receiving Water: River Clyde Status: Not Supplied Positional Accuracy: Located by supplier to within 100m	A12NW (E)	0	2	255030 666165

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	<p>Discharge Consents</p> <p>Operator: Central Govan Housing Association Ltd Property Type: Not Given Location: Riverside Development Site Bounded By, River Clyde Old Parish Church, Kaeverner Shipyard And Govan Road, GOVAN Authority: Scottish Environment Protection Agency, West Region Catchment Area: Not Given Reference: 9108 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 1st November 1991 Revocation Date: Not Supplied Discharge Type: Sewerage And Other Matter Discharge - Sewerage And Surface Water Discharge: Controlled Waters Environment: Receiving Water: River Clyde Status: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A12NE (E)	46	2	255300 666100
3	<p>Discharge Consents</p> <p>Operator: Strathclyde Regional Council Property Type: Not Given Location: Proposed Storm Water Storage Tanks And, Overflow To Be Constructed At, Newton Mearns Sewage Treatment Works Authority: Scottish Environment Protection Agency, West Region Catchment Area: Not Given Reference: 6612 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 10th February 1983 Revocation Date: Not Supplied Discharge Type: Sewage Effluent Discharge-Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: Auldhouse Burn Status: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A11SE (S)	87	2	254600 665800
4	<p>Discharge Consents</p> <p>Operator: John R Adam And Sons Ltd Property Type: Not Given Location: Proposed Fragmentiser For, Crushing Scrap At Shed 1, Meadowside Quay, GLASGOW Authority: Scottish Environment Protection Agency, West Region Catchment Area: Not Given Reference: 6885 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 14th February 1985 Revocation Date: Not Supplied Discharge Type: Trade Effluent Discharge: Freshwater Stream/River Environment: Receiving Water: River Clyde Status: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A12NE (E)	132	2	255300 666200
5	<p>Discharge Consents</p> <p>Operator: Barr And Stroud Property Type: Not Given Location: Govan Road, Linthouse, GLASGOW Authority: Scottish Environment Protection Agency, West Region Catchment Area: Not Given Reference: 9648 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 11th January 1991 Revocation Date: Not Supplied Discharge Type: Surface Water Discharge: Controlled Waters Environment: Receiving Water: River Clyde Status: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A11NW (N)	183	2	254400 666400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	<p>Discharge Consents</p> <p>Operator: Barr And Stroud Property Type: Not Given Location: Govan Road, Linthouse, GLASGOW Authority: Scottish Environment Protection Agency, West Region Catchment Area: Not Given Reference: 9763 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 11th January 1991 Revocation Date: Not Supplied Discharge Type: Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: Linthouse Burn Status: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A11NW (NW)	227	2	254300 666350
7	<p>Discharge Consents</p> <p>Operator: Chart Hire Services Property Type: Not Given Location: Surface Water From, 23 Moss Road, Govan, GLASGOW, G51 4JT Authority: Scottish Environment Protection Agency, West Region Catchment Area: Not Given Reference: 8054 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 26th August 1988 Revocation Date: Not Supplied Discharge Type: Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: Unnamed Stream Status: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A10SE (SW)	390	2	254000 665800
8	<p>Discharge Consents</p> <p>Operator: Strathclyde Regional Council Property Type: Not Given Location: Shieldhall Sewage Treatment Works, 38 Renfrew Road, GLASGOW, G51 4SU Authority: Scottish Environment Protection Agency, West Region Catchment Area: Not Given Reference: 7221 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 21st April 1986 Revocation Date: Not Supplied Discharge Type: Sewage Treatment Works - Final Effluent Discharge: Controlled Waters Environment: Receiving Water: River Clyde Status: Not Supplied Positional Accuracy: Unknown</p>	A10NW (W)	612	2	253740 666090
8	<p>Discharge Consents</p> <p>Operator: Strathclyde Regional Council Property Type: Not Given Location: Shieldhall Sewage Treatment Works, 38 Renfrew Road, GLASGOW, G51 4SU Authority: Scottish Environment Protection Agency, West Region Catchment Area: Not Given Reference: 7222 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 21st April 1986 Revocation Date: Not Supplied Discharge Type: Sewerage And Other Matter Discharge - Surface Water And Storm Sewerage Discharge: Controlled Waters Environment: Receiving Water: River Clyde Status: Not Supplied Positional Accuracy: Unknown</p>	A10NW (W)	612	2	253740 666085

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	<p>Discharge Consents</p> <p>Operator: West Of Scotland Water Property Type: Not Given Location: Shieldhall Sludge Treatment Centre, 38 Renfrew Road, Govan, GLASGOW Authority: Scottish Environment Protection Agency, West Region Catchment Area: Not Given Reference: 0 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Secondary (Act. Sludge) Discharge: Freshwater Stream/River Environment: Receiving Water: River Clyde Status: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A10NW (W)	805	2	253600 666400
10	<p>Discharge Consents</p> <p>Operator: The Lyon Group Property Type: Not Given Location: Unit 15 Clydeside Industrial Estate, South Street, East Car Park Area, SCOTSTOUN Authority: Scottish Environment Protection Agency, West Region Catchment Area: Not Given Reference: 3392 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 22nd October 1970 Revocation Date: Not Supplied Discharge Type: Trade Effluent Discharge: Controlled Waters Environment: Receiving Water: River Clyde Status: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A14SW (NW)	953	2	253600 666700
11	<p>Discharge Consents</p> <p>Operator: John R Adam And Sons Ltd Property Type: Not Given Location: Riverside Berth, King George V Dock, Renfrew Road, GLASGOW Authority: Scottish Environment Protection Agency, West Region Catchment Area: Not Given Reference: 11776 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 15th August 1994 Revocation Date: Not Supplied Discharge Type: Unknown Discharge: Controlled Waters Environment: Receiving Water: River Clyde Status: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A9NE (W)	994	2	253400 666400
12	<p>Integrated Pollution Controls</p> <p>Name: Kvaerner Govan Limited Location: 1048 Govan Road, Govan, GLASGOW, Glasgow City, G51 4XP Authority: Scottish Environment Protection Agency, West Region Permit Reference: SL10 Dated: 2nd February 1996 Process Type: Not Given Description: 6.5 A (A) Coating processes and Printing within Miscellaneous Industries Status: Application has met the requirements for authorisation (but not yet authorised) Positional Accuracy: Manually positioned to the address or location</p>	A11SE (E)	0	2	254730 666040
13	<p>Integrated Pollution Controls</p> <p>Name: Bae Systems Marine Ltd Location: 1048 Govan Road, Glasgow, Lanarkshire, G51 4XP Authority: Scottish Environment Protection Agency, West Region Permit Reference: Ipc/W/0000066 Dated: 2nd March 1998 Process Type: Integrated Pollution Control (Part A Processes) Description: Not Supplied Status: Not Supplied Positional Accuracy: Automatically positioned to the address</p>	A12SW (SE)	19	2	254887 665874

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	<p>Integrated Pollution Controls</p> <p>Name: Thales Optronics Ltd Location: 1 Linthouse Road, Glasgow, Lanarkshire, G51 4BZ Authority: Scottish Environment Protection Agency, West Region Permit Reference: Ipc/W/0020018 Dated: 29th November 2000 Process Type: Integrated Pollution Control (Part A Processes) Description: Not Supplied Status: Not Supplied Positional Accuracy: Automatically positioned to the address</p>	A10NE (W)	430	2	253926 666166
15	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Kvaerner Location: 1048 Govan Road, GLASGOW, Lanarkshire, G51 4XP Authority: Scottish Environment Protection Agency, West Region Permit Reference: G116 Dated: 9th January 1996 Process Type: Local Authority Air Pollution Control Description: PG6/10 Coating manufacturing Status: Authorised Positional Accuracy: Manually positioned to the address or location</p>	A12SW (SE)	23	2	254909 665872
15	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Kvaerner Location: 1048 Govan Road, GLASGOW, Lanarkshire, G51 4XP Authority: Scottish Environment Protection Agency, West Region Permit Reference: APC/W/00133 Dated: 9th January 1996 Process Type: Local Authority Air Pollution Control Description: PG6/23 Coating of metal and plastic Status: Authorised Positional Accuracy: Manually positioned to the address or location</p>	A12SW (SE)	28	2	254909 665867
16	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Colourbond Location: Govan Road, GLASGOW, Lanarkshire, G51 4RA Authority: Scottish Environment Protection Agency, West Region Permit Reference: G85 Dated: 22nd March 1993 Process Type: Local Authority Air Pollution Control Description: PG6/10 Coating manufacturing Status: Authorisation revoked Positional Accuracy: Manually positioned to the road within the address or location</p>	A11SW (SW)	125	2	254244 665906
17	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Clydeport Ltd Location: Meadowside Granary, Meadowside Quay, GLASGOW, Lanarkshire, G11 6JN Authority: Scottish Environment Protection Agency, West Region Permit Reference: APC/W/00466 Dated: 16th August 1994 Process Type: Local Authority Air Pollution Control Description: PG3/1Blending, packing, loading and use of bulk cement Status: Application Not Yet Authorised Positional Accuracy: Automatically positioned to the address</p>	A12NW (NE)	202	2	255044 666405
18	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Riskend Quarry Co Ltd Location: 1 South Street, GLASGOW, Lanarkshire, G11 6JY Authority: Scottish Environment Protection Agency, West Region Permit Reference: APC/W/00266 Dated: 1st April 1995 Process Type: Local Authority Air Pollution Control Description: PG3/1Blending, packing, loading and use of bulk cement Status: Authorised Positional Accuracy: Manually positioned to the address or location</p>	A15SE (N)	259	2	254665 666541
19	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Aggregate Industries Uk Ltd Location: Merklands Quay, 225 South Street, GLASGOW, Lanarkshire, G11 6JY Authority: Scottish Environment Protection Agency, West Region Permit Reference: Apc/W/0000278 Dated: 15th November 1999 Process Type: Local Authority Air Pollution Control Description: PG3/8 Quarry processes including roadstone plants and the size reduction of bricks, tiles and concrete Status: Authorised Positional Accuracy: Automatically positioned in the proximity of the address</p>	A15SE (N)	275	2	254563 666562

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
20	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Save Service Stations Ltd Location: 1233-1259 Govan Road, Glasgow, Lanarkshire, G51 4PL Authority: Scottish Environment Protection Agency, West Region Permit Reference: Apc/W/0020203 Dated: 18th November 1998 Process Type: Air Pollution Controls (Part B Processes) Description: Not Supplied Status: Not Supplied Positional Accuracy: Automatically positioned to the address</p>	A10SE (W)	321	2	254034 665920
21	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Hardie Inglis Ltd Location: 37-43 Byron Street, GLASGOW, Lanarkshire, G11 6LP Authority: Scottish Environment Protection Agency, West Region Permit Reference: APC/W/00265 Dated: 27th July 1994 Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles Status: Authorised Positional Accuracy: Automatically positioned to the address</p>	A15SE (N)	351	2	254604 666638
22	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: R J Maxwell Location: Merklands Quay, 225 South Street, GLASGOW, Lanarkshi Authority: Scottish Environment Protection Agency, West Region Permit Reference: APC/W/00270 Dated: 28th November 1995 Process Type: Local Authority Air Pollution Control Description: PG3/8 Quarry processes including roadstone plants and the size reduction of bricks, tiles and concrete Status: Application Not Yet Authorised Positional Accuracy: Manually positioned to the road within the address or location</p>	A15SW (NW)	463	2	254254 666644
22	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Rmc (Scotland) Ltd Location: Ferryden Street, GLASGOW, Lanarkshire, G14 0SW Authority: Scottish Environment Protection Agency, West Region Permit Reference: Apc/W/0000002 Dated: 20th October 1997 Process Type: Local Authority Air Pollution Control Description: PG3/1Blending, packing, loading and use of bulk cement Status: Authorisation has varied Positional Accuracy: Manually positioned to the road within the address or location</p>	A15SW (N)	476	2	254275 666675
22	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: RJ Maxwell (Unit 2) Location: Merklands Quay, 225 South Street, GLASGOW, Lanarkshi Authority: Scottish Environment Protection Agency, West Region Permit Reference: G126 Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG3/8 Quarry processes including roadstone plants and the size reduction of bricks, tiles and concrete Status: Authorised Positional Accuracy: Manually positioned to the road within the address or location</p>	A15SW (NW)	480	2	254241 666656
23	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Auto-Tech (Coachworks) Ltd Location: Auto-Tech, 20 Robert Drive, Glasgow Authority: Scottish Environment Protection Agency, West Region Permit Reference: Apc/W/0020101 Dated: 11th September 1998 Process Type: Air Pollution Controls (Part B Processes) Description: Not Supplied Status: Not Supplied Positional Accuracy: Manually positioned to the address or location</p>	A8NE (SE)	471	2	255378 665526
24	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Southern General Hospital Location: 1345 Govan Road, GLASGOW, Lanarkshire, G51 4TF Authority: Scottish Environment Protection Agency, West Region Permit Reference: APC/W/00441 Dated: 1st October 1995 Process Type: Local Authority Air Pollution Control Description: PG5/4 General waste incineration processes under 1 tonne an hour Status: Authorisation revoked Positional Accuracy: Automatically positioned to the address</p>	A10SE (W)	548	2	253808 665893

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
25	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: J & E Repair Services Location: 30 Crathie Drive, GLASGOW, Lanarkshire, G11 7XE Authority: Scottish Environment Protection Agency, West Region Permit Reference: APC/W/00281 Dated: 11th December 1996 Process Type: Local Authority Air Pollution Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input Status: Authorisation revoked Positional Accuracy: Manually positioned to the address or location</p>	A16NW (NE)	596	2	255100 666800
26	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: WW Stevenson Location: Loanbank Quadrant, GLASGOW, Lanarkshire, G51 3HZ Authority: Scottish Environment Protection Agency, West Region Permit Reference: G88 Dated: 25th March 1993 Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles Status: Authorisation revoked Positional Accuracy: Manually positioned to the road within the address or location</p>	A8SW (SE)	659	2	255002 665232
27	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Tarmac Northern Ltd Location: Plot E, Clydeholm Road, Whiteinch, Glasgow Authority: Scottish Environment Protection Agency, West Region Permit Reference: Apc/W/0000248 Dated: 24th March 2000 Process Type: Local Authority Air Pollution Control Description: PG3/1Blending, packing, loading and use of bulk cement Status: Authorised Positional Accuracy: Manually positioned to the address or location</p>	A14SW (NW)	764	2	253781 666622
28	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Westcars Body Repair Centre Ltd Location: 56 Jordanvale Avenue, GLASGOW, Lanarkshire, G14 0QP Authority: Scottish Environment Protection Agency, West Region Permit Reference: Apc/W/0020089 Dated: 9th December 1997 Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles Status: Application Not Yet Authorised Positional Accuracy: Manually positioned to the address or location</p>	A14NW (NW)	875	2	253795 666790
29	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Royal & Sun Alliance Insurance Plc Location: Quality Repair Centre, Hardgate Road, Glasgow Authority: Scottish Environment Protection Agency, West Region Permit Reference: Apc/W/0020007 Dated: 30th March 2001 Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles Status: Authorised Positional Accuracy: Manually positioned to the road within the address or location</p>	A9SE (W)	943	2	253409 665922
	Nearest Surface Water Feature	A12NW (E)	0	-	254902 666215
30	<p>Registered Radioactive Substances</p> <p>Name: Kvaerner Govan Ltd Location: 1048 Govan Road, GLASGOW, Lanarkshire, G51 4XP Authority: Scottish Environment Protection Agency, Head Office Permit Reference: IPB/3/2/SL/024 Dated: 8th November 1994 Process Type: Registration under S10 RSA for the keeping and use of mobile Radioactive sources (was RSA60 S3) Description: Registration under S7 or S10 RSA for the keeping and use of radioactive material or apparatus for 1 or more tracer test sources dated pre April 1991 Status: Not Given Positional Accuracy: Unknown</p>	A11SE (E)	0	3	254730 666035
31	<p>Registered Radioactive Substances</p> <p>Name: Pilkington Optronics Barr & Stroud Location: 1 Linthouse Road, GLASGOW, Lanarkshire, G51 4BZ Authority: Scottish Environment Protection Agency, Head Office Permit Reference: IPB/3/2/SL/207 Dated: 1st December 1992 Process Type: Authorisation under S13 or S14 RSA for the accumulation or disposal of Radioactive waste (was RSA60 S6/S7) Description: Authorisation under RSA Status: Not Given Positional Accuracy: Unknown</p>	A10NE (W)	429	3	253926 666161

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
31	<p>Registered Radioactive Substances</p> <p>Name: Pilkington Optronics Barr & Stroud Location: 1 Linthouse Road, GLASGOW, Lanarkshire, G51 4BZ Authority: Scottish Environment Protection Agency, East Region Permit Reference: IPB/3/2/SL/207 Dated: 17th November 1992 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Registration under S7 RSA of 1 or more open sources Status: Not Given Positional Accuracy: Unknown</p>	A10NE (W)	430	4	253926 666166
32	<p>Registered Radioactive Substances</p> <p>Name: Southern General Hospital N H S Trust Location: Southern General Hospital, 1345 Govan Road, GLASGOW, Glasgow City, G51 4TF Authority: Scottish Environment Protection Agency, East Region Permit Reference: IPB/3/4/8/005 Dated: 28th June 1994 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Registration under S7 RSA for 1 or more closed sources Status: Not Given Positional Accuracy: Manually positioned to the address or location</p>	A10SE (W)	543	4	253813 665893
32	<p>Registered Radioactive Substances</p> <p>Name: Southern General Hospital N H S Trust Location: Southern General Hospital, 1345 Govan Road, GLASGOW, Glasgow City, G51 4TF Authority: Scottish Environment Protection Agency, East Region Permit Reference: IPB/3/4/8/005 Dated: 9th May 1995 Process Type: Authorisation under S13 or S14 RSA for the accumulation or disposal of Radioactive waste (was RSA60 S6/S7) Description: Authorisation under RSA Status: Not Given Positional Accuracy: Manually positioned to the address or location</p>	A10SE (W)	544	4	253813 665888
32	<p>Registered Radioactive Substances</p> <p>Name: Southern General Hospital N H S Trust Location: Southern General Hospital, 1345 Govan Road, GLASGOW, Glasgow City, G51 4TF Authority: Scottish Environment Protection Agency, East Region Permit Reference: IPB/3/4/8/005 Dated: 28th June 1994 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Registration under S7 RSA of 1 or more open sources Status: Not Given Positional Accuracy: Manually positioned to the address or location</p>	A10SE (W)	549	4	253808 665888
	<p>Groundwater Vulnerability</p> <p>Geological Classification: Inland water or sea Soil Classification: Not classified Map Sheet: Sheet 54 Map Of Scotland Scale: 1:625,000</p>	A11SE (S)	0	3	254475 665961
	<p>Groundwater Vulnerability</p> <p>Geological Classification: Minor or Moderately Permeable Aquifer - Fractured or potentially fractured rocks which do not have a high primary permeability or other formations of variable permeability Soil Classification: Not classified Map Sheet: Map of Scotland Scale: 1:625,000</p>	A11SE (SE)	0	3	254514 666068
	<p>Drift Deposits</p> <p>None</p>				
	<p>River Flood Data (Scotland)</p> <p>None</p>				
33	<p>OS Water Network Lines</p> <p>Watercourse Form: Tidal river Watercourse Length: 1880.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Clyde Catchment Name: River Clyde Primacy: 1</p>	A11NE (N)	50	5	254578 666365

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
34	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 687.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Glasgow Coastal Primacy: 1	A7NW (SW)	259	5	254333 665686
35	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 339.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Glasgow Coastal Primacy: 1	A7NW (SW)	259	5	254339 665683
36	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 56.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Glasgow Coastal Primacy: 1	A7NW (SW)	493	5	254144 665524
37	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Glasgow Coastal Primacy: 1	A7NW (SW)	493	5	254144 665524
38	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 123.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Glasgow Coastal Primacy: 1	A7NW (SW)	496	5	254143 665521
39	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 230.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Linthouse Burn Catchment Name: Glasgow Coastal Primacy: 1	A10NE (W)	530	5	253821 666110
40	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 64.4 Watercourse Level: Underground Permanent: True Watercourse Name: Linthouse Burn Catchment Name: Glasgow Coastal Primacy: 1	A10SE (W)	535	5	253817 666056
41	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 235.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Glasgow Coastal Primacy: 1	A10SE (W)	545	5	253806 665994
42	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.2 Watercourse Level: Underground Permanent: True Watercourse Name: Linthouse Burn Catchment Name: Glasgow Coastal Primacy: 1	A10NE (W)	546	5	253834 666285

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
43	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 122.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Linthouse Burn Catchment Name: Glasgow Coastal Primacy: 1	A10NE (W)	547	5	253835 666292
44	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Glasgow Coastal Primacy: 1	A7SW (SW)	608	5	254139 665398
45	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 143.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Glasgow Coastal Primacy: 1	A7SW (SW)	610	5	254139 665395
46	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 73.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Linthouse Burn Catchment Name: Glasgow Coastal Primacy: 1	A10NE (NW)	613	5	253812 666406
47	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 1012.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Clyde Catchment Name: River Clyde Primacy: 1	A14SE (NW)	656	5	253804 666476
48	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 385.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Glasgow Coastal Primacy: 1	A10SW (W)	680	5	253697 665785
49	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 891.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Glasgow Coastal Primacy: 1	A10SW (W)	680	5	253697 665785

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Local Authority Landfill Coverage Name: Glasgow City Council - Has supplied landfill data		0	6	254514 666068
50	Potentially Infilled Land (Non-Water) Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1989	A11NW (NW)	107	-	254391 666264
51	Potentially Infilled Land (Non-Water) Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1989	A11NW (NW)	137	-	254239 666193
52	Potentially Infilled Land (Non-Water) Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1979	A7SW (S)	747	-	254471 665147
53	Potentially Infilled Land (Non-Water) Bearing Ref: W Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1989	A10NW (W)	854	-	253499 666091
54	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A7NE (S)	463	-	254606 665423
55	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1897	A7SE (S)	526	-	254610 665360
56	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1897	A7SE (S)	613	-	254587 665274
57	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A7SE (S)	637	-	254581 665250
58	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A7SE (S)	679	-	254796 665197
59	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1924	A6SE (SW)	710	-	254035 665335
60	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A8SW (S)	787	-	254912 665091
61	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1934	A6SE (SW)	824	-	254039 665204
62	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A6SE (SW)	825	-	254009 665221
63	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1932	A19SW (N)	834	-	254410 667105
64	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1924	A6NW (W)	843	-	253540 665741
65	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1924	A6SE (SW)	876	-	254001 665168
66	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1898	A9SE (W)	924	-	253430 665897
67	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A3NE (S)	933	-	254515 664958
68	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A19SW (N)	942	-	254395 667212

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
69	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A19SW (N)	962	-	254349 667223
70	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1924	A9SE (W)	963	-	253391 665898
71	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1924	A6SW (SW)	999	-	253624 665286
72	Registered Waste Transfer Sites Licence Holder: Scottish Power Plc Licence Reference: WML/W/00047 (GDC 108) Site Location: Meadow Road Transfer Station, Partick, GLASGOW, Strathclyde, G11 Operator Location: St Vincent Crescent, GLASGOW, Strathclyde, G3 8LT Authority: Scottish Environment Protection Agency, West Region Site Category: Transfer Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: May not be workingUnder Review Dated: 1st June 1996 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Inert Constr'N/Demol/Excav'N Waste Max.Storage In Licence Prohibited Waste: Asbestos Of Any Type High-Dens/Hard/Bonded/Cement Asbestos Liquid Wastes Putrescible Waste Sludge Wastes Toxic Wastes Waste N.O.S.	A16SE (NE)	338	2	255170 666500
73	Registered Waste Transfer Sites Licence Holder: Saint Gobain Building Distribution Ltd Licence Reference: Wml/W/220044 Site Location: Platform Building Materials, 190 Helen Street, Govan, Glasgow, Strathclyde Operator Location: C/O Saint Gobain Plc, Aldwych House, 81 Aldwych, London, Greater London, Wc28 4hq Authority: Scottish Environment Protection Agency, West Region Site Category: Transfer Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Operational as far as is knownOperational Dated: 30th June 2004 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Positioned by the supplier Boundary Quality: Good Authorised Waste: Commercial Waste Household Waste Industrial Wastes Maximum Storage In Licence Maximum Waste Permitted By Licence Prohibited Waste: Clinical Waste - As In Controlled Waste Regs 1992 Liquid Wastes Special Waste (As In Epa 1990:S62 Of 1996 Regs)	A8SW (SE)	685	2	255017 665207

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
74	<p>Registered Waste Transfer Sites</p> <p>Licence Holder: Cmi Demolition Ltd Licence Reference: WML/W/00043 Site Location: 60A Clydeholm Road, GLASGOW, Strathclyde, G14 0QQ Operator Location: As Site Address Authority: Scottish Environment Protection Agency, West Region Site Category: Transfer Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Site closed (licence suspended)Site Closed Dated: 2nd June 1999 Preceded By: WML/W/00043 (GDC 107) Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Concrete, Brick Maximum Storage In Licence Maximum Waste Permitted By Licence Metal Soil, Subsoil Timber, Plastic, Paper Prohibited Waste: Clinical - As In Control.Led Waste Regs 1992 Liquid Wastes Other Waste/Waste Not Otherwise Specified Special Waste (As In Epa 1990:S62 Of 1996 Regs) Waste Containg Asbestos/Asbestos Fibres</p>	A14SE (NW)	769	2	253800 666650
74	<p>Registered Waste Transfer Sites</p> <p>Licence Holder: Dem 1 Ltd Licence Reference: WML/W/00043 (GDC 107) Site Location: 60A Clydeholm Road, GLASGOW, Strathclyde, G14 0QQ Operator Location: As Site Address Authority: Scottish Environment Protection Agency, West Region Site Category: Transfer Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Record supersededSuperseded Dated: 14th February 1996 Preceded By: Not Given Licence: Superseded By: WML/W/00043 Licence: Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Inert Building/Demol. Waste Max.Storage In Licence Prohibited Waste: High-Dens/Hard/Bonded/Cement Asbestos Liquid Wastes Putrescible Waste Sludge Wastes Toxic Wastes Waste Containing Asbestos Fibres Waste N.O.S.</p>	A14SE (NW)	769	2	253800 666650
75	<p>Registered Waste Transfer Sites</p> <p>Licence Holder: Cape Contracts Ltd Licence Reference: GDC 32 Site Location: 103 Northinch Street, GLASGOW, Strathclyde, G14 0RN Operator Location: As Site Address Authority: Scottish Environment Protection Agency, West Region Site Category: Transfer Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: Waste produced/controlled by licence holder Restrictions: Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st August 1986 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Bagged Asbestos Max.Stor. Prohibited Waste: Liquid/Slurry Wastes</p>	A14NE (NW)	847	2	253930 666870

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
76	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: John R Adam & Sons Ltd Licence Reference: GDC 61 Site Location: Meadowside Quay, Castlebank Street, GLASGOW, Strathclyde, G11 6DU Operator Location: As Site Address Authority: Scottish Environment Protection Agency, West Region Site Category: Scrapyard Max Input Rate: Very Large (Equal to or greater than 250,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st April 1992 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Positioned by the supplier Boundary Quality: Moderate Authorised Waste: Ferrous Metal Scrap Max.Storage In Licence Max.Waste Permitted By Licence Non-Ferrous Metal Scrap Vehicle Bodies Prohibited Waste: Liquid Wastes Slurry Wastes Special Wastes Waste In Drums/Similar Cont'Rs</p>	A12NW (NE)	124	2	255000 666341
77	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: W H Malcolm Ltd Licence Reference: Wml/W/00056 Mod 3 Site Location: 201 Castlebank Street, GLASGOW, Strathclyde, G11 6DZ Operator Location: 2 Burnbrae Road, Linwood Industrial Estate, LINWOOD, Renfrewshire, PA3 3 BU Authority: Scottish Environment Protection Agency, West Region Site Category: Transfer - with treatment Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Operational as far as is knownOperational Dated: 12th December 2000 Preceded By: WML/W/00056 (GDC94) Licence: Superseded By: Not Given Licence: Positional Accuracy: Positioned by the supplier Boundary Quality: Good Authorised Waste: Household, Commercial & Industrial Waste Maximum Storage In Licence Maximum Waste Permitted By Licence Prohibited Waste: Clinical - As In Control.Led Waste Regs 1992 Liquid Wastes Other Waste/Waste Not Otherwise Specified Putrescible Waste Slurry Wastes Special Waste (As In Epa 1990:S62 Of 1996 Regs)</p>	A12NE (E)	232	2	255473 666198
78	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: West Of Scotland Water Authority Licence Reference: WML/W/00124 Site Location: Shieldhall S.T.Works, 38 Renfrew Road, Glasgow, Strathclyde Operator Location: 419 Balmore Road, GLASGOW, Strathclyde, G22 6NU Authority: Scottish Environment Protection Agency, West Region Site Category: Treatment Max Input Rate: Very Large (Equal to or greater than 250,000 tonnes per year) Waste Source: Waste produced/controlled by licence holder Restrictions: Licence Status: Operational as far as is knownOperational Dated: 26th August 1998 Preceded By: WML/W/00124 Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Max.Waste Permitted By Licence Sewage Sludge Substant'Ly Biodegradable Liq.Waste Supernatant/Lightly Contam.Liqs Water Works Sludge Prohibited Waste: Clinical - As In Control.Waste Regs'92 Spec.Waste (Epa'90:S62/1996 Regs) Waste N.O.S.</p>	A10NW (W)	715	2	253650 666250

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
78	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: West Of Scotland Water Authority Licence Reference: WML/W/00124 Site Location: Shieldhall S.T.Works, 38 Renfrew Road, Glasgow, Strathclyde Operator Location: 419 Balmore Road, GLASGOW, Strathclyde, G22 6NU Authority: Scottish Environment Protection Agency, West Region Site Category: Treatment Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source: Waste produced/controlled by licence holder Restrictions: Licence Status: Record supersededSuperseded Dated: 1st March 1996 Preceded By: Not Given Licence: Superseded By: WML/W/00124 Licence: Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Max.Storage In Licence Max.Waste Permitted By Licence Sewage Sludge Water Works Sludges</p>	A10NW (W)	715	2	253650 666250
79	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: West Of Scotland Water Licence Reference: WML/W/20121 Site Location: Shieldhall Sludge Treatment Centre, 38 Renfrew Road, Govan, GLASGOW, Strathclyde, G51 4SU Operator Location: 419 Balmore Road, GLASGOW, Strathclyde, G22 6NU Authority: Scottish Environment Protection Agency, West Region Site Category: Treatment - Mechanical dewatering Max Input Rate: Very Large (Equal to or greater than 250,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Operational as far as is knownOperational Dated: 1st July 1998 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Max.Waste Permitted By Licence Raw Sewage Works Sludge Prohibited Waste: Clinical - As In Control.Waste Regs'92 Spec.Waste (Epa'90:S62/1996 Regs) Waste N.O.S.</p>	A10NW (W)	757	2	253600 666200
80	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: R M Easdale & Co Ltd Licence Reference: GDC 90 Site Location: 52 Arthurlie Street, GLASGOW, Strathclyde, G3 8BB Operator Location: Albert Works, 65-67 Washington Street, Glasgow, Strathclyde, G3 8bb Authority: Scottish Environment Protection Agency, West Region Site Category: Scrapyard Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st December 1993 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Ferrous Metal Scrap Max.Storage In Licence Max.Waste Permitted By Licence Non-Ferrous Metal Scrap Prohibited Waste: Liquid Wastes Slurry Wastes Special Wastes Waste In Drums/Similar Cont'Rs Waste N.O.S.</p>	A3NE (S)	855	2	254809 665022

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
81	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: John R Adam & Sons Ltd Licence Reference: WML/W/00097 Site Location: King George V Dock, Renfrew Road, GLASGOW, Strathclyde, G51 Operator Location: As Site Address Authority: Scottish Environment Protection Agency, West Region Site Category: Scrapyard Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Operational as far as is known Dated: 29th January 1999 Preceded By: WML/W/00097 (GDC95) Licence: Superseded By: Not Given Licence: Positional Accuracy: Positioned by the supplier Boundary Quality: Moderate Authorised Waste: Ferrous Metals Max.Storage In Licence Max.Waste Permitted By Licence Motor Vehicles/Parts Non-Ferrous Metals Prohibited Waste: Clinical - As In Control.Waste Regs'92 Liquid Waste N.O.S. PcbS/PctS/Analogues @ > 50 Mg/Kg Putrescible Waste Spec.Waste (Epa'90:S62/1996 Regs)N.O.S Waste N.O.S.</p>	A10NW (W)	924	2	253467 666379

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
82	<p>Planning Hazardous Substance Consents</p> <p>Name: Express Fuels (Scotland) Ltd Location: Meadowbank Quay, 357 Castlebank Street, Glasgow, G11 6du Authority: Glasgow City Council, Planning Department Application Ref: 01144/93/V1 Hazardous Substance: Liquefied extremely flammable gas (including LPG) and natural gas (whether liquefied or not) Maximum Quantity: 0 Application date: 11th May 1993 Decision: New application granted conditionallyGranted Positional Accuracy: Manually positioned to the road within the address or location</p>	A12NW (NE)	142	7	254977 666363
82	<p>Planning Hazardous Substance Consents</p> <p>Name: Express Fuels (Ghw) Ltd Location: Meadowside Quay, 207 Castlebank Street, Partick, Glasgow, Lanarkshire, G11 6dh Authority: Glasgow City Council, Planning Department Application Ref: 93/01144/DC Hazardous Substance: Liquefied extremely flammable gas (including LPG) and natural gas (whether liquefied or not) Maximum Quantity: 0 Application date: 11th May 1993 Decision: New application refusedRefused Positional Accuracy: Manually positioned to the road within the address or location</p>	A12NW (NE)	148	7	254975 666370
83	<p>Planning Hazardous Substance Consents</p> <p>Name: Express Fuels (Ghw) Ltd Location: Meadowside Quay, 207 Castlebank Street, Partick, GLASGOW, Lanarkshire, G11 6DH Authority: Glasgow City Council, Planning Department Application Ref: 93/01144/V1 Hazardous Substance: Liquefied extremely flammable gas (including LPG) and natural gas (whether liquefied or not) Maximum Quantity: 0 Application date: 11th May 1993 Decision: Deemed Consent GrantedGranted Positional Accuracy: Manually positioned to the road within the address or location</p>	A12NE (NE)	231	7	255159 666391

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Clackmannan Group	A11SE (SE)	0	1	254514 666068
	BGS 1:625,000 Solid Geology Description: Clackmannan Group	A11NE (N)	0	1	254581 666292
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: 300 - 600 mg/kg Nickel Concentration: 15 - 30 mg/kg	A12SW (E)	0	1	255000 666068
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: 300 - 600 mg/kg Nickel Concentration: 15 - 30 mg/kg	A11SE (W)	0	1	254500 666068
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: 200 - 300 mg/kg Nickel Concentration: 15 - 30 mg/kg	A11SE (SE)	0	1	254514 666068
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8NW (SE)	392	1	255000 665500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 200 - 300 mg/kg Nickel Concentration: 15 - 30 mg/kg	A10SE (SW)	461	1	253924 665796

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Sediment</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: 200 - 300 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A16SW (NE)	486	1	254886 666757
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Sediment</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: 100 - 200 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A6NE (SW)	588	1	254000 665500
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Sediment</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 90 - 120 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: 300 - 600 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A15NE (N)	712	1	254514 667000
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Sediment</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: 300 - 600 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A15NE (N)	715	1	254677 667000
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Sediment</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: 300 - 600 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A10NW (W)	730	1	253623 666146
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Sediment</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: 200 - 300 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A6SE (SW)	850	1	254117 665130

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Sediment</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: 200 - 300 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A10SW (W)	851	1	253500 666068
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Sediment</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 90 - 120 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: 100 - 200 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A10SW (W)	870	1	253481 666000
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Sediment</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: 200 - 300 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	(NE)	879	1	255488 666957
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Sediment</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: 200 - 300 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A14NE (NW)	882	1	254000 666978
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Sediment</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: 200 - 300 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A10NW (W)	883	1	253475 666220
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Sediment</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: 300 - 600 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A20SW (N)	950	1	254977 667204

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 200 - 300 mg/kg Nickel 15 - 30 mg/kg Concentration:	A20SW (NE)	951	1	255000 667201
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 200 - 300 mg/kg Nickel 15 - 30 mg/kg Concentration:	A19SE (N)	999	1	254495 667284
84	BGS Recorded Mineral Sites Site Name: Linthouse Sand Pit Location: Govan, Glasgow, Lanarkshire Source: British Geological Survey, National Geoscience Information Service Reference: 234602 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Superficial Deposits Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A11NW (NW)	108	1	254389 666264
85	BGS Recorded Mineral Sites Site Name: Linthouse Sand Pit Location: Govan, Glasgow, Lanarkshire Source: British Geological Survey, National Geoscience Information Service Reference: 234603 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Superficial Deposits Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A11NW (NW)	146	1	254274 666239
86	BGS Recorded Mineral Sites Site Name: Meadowside Quay Location: Glasgow, Strathclyde Source: British Geological Survey, National Geoscience Information Service Reference: 10858 Type: Wharf Status: Ceased Operator: Riskend Aggregates Ltd. Operator Location: Not Supplied Periodic Type: Not Available Geology: Quarry (Hard Rock) Commodity: Crushed Rock Positional Accuracy: Located by supplier to within 10m	A15SE (N)	243	1	254550 666530
87	BGS Recorded Mineral Sites Site Name: Melville Park Ironstone Pit Location: Drumoyne, Govan, Glasgow, Lanarkshire Source: British Geological Survey, National Geoscience Information Service Reference: 131267 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Lower Garscadden Blackband Ironstone (Glasgow) Commodity: Iron Ore - Ironstone Positional Accuracy: Located by supplier to within 10m	A7SW (S)	683	1	254365 665222

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
88	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Mid Drumoyne Ironstone Pit Location: Drumoyne, Govan, Glasgow, Lanarkshire Source: British Geological Survey, National Geoscience Information Service Reference: 131268 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Lower Garscadden Blackband Ironstone (Glasgow) Commodity: Iron Ore - Ironstone Positional Accuracy: Located by supplier to within 10m</p>	A7SW (S)	761	1	254305 665155
89	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Drumoyne Ironstone Pit Location: Drumoyne, Govan, Glasgow, Lanarkshire Source: British Geological Survey, National Geoscience Information Service Reference: 131269 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Lower Garscadden Blackband Ironstone (Glasgow) Commodity: Iron Ore - Ironstone Positional Accuracy: Located by supplier to within 10m</p>	A3NW (S)	865	1	254300 665050
90	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Shieldhall Sand Pit Location: Govan, Glasgow, Stirlingshire Source: British Geological Survey, National Geoscience Information Service Reference: 233905 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: River Terrace Deposits (Undifferentiated) Commodity: Sand Positional Accuracy: Located by supplier to within 10m</p>	A9SE (W)	941	1	253410 665988
	<p>BGS Measured Urban Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service Grid: 254395, 666081 Soil Sample Type: Topsoil Sample Area: Glasgow Arsenic Measured 11.30 mg/kg Concentration: Cadmium Measured 0.50 mg/kg Concentration: Chromium Measured 103.70 mg/kg Concentration: Lead Measured 105.00 mg/kg Concentration: Nickel Measured 34.60 mg/kg Concentration:</p>	A11SW (W)	0	1	254395 666081
	<p>BGS Measured Urban Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service Grid: 254770, 665780 Soil Sample Type: Topsoil Sample Area: Glasgow Arsenic Measured 13.60 mg/kg Concentration: Cadmium Measured 0.30 mg/kg Concentration: Chromium Measured 362.90 mg/kg Concentration: Lead Measured 244.60 mg/kg Concentration: Nickel Measured 42.20 mg/kg Concentration:</p>	A11SE (SE)	97	1	254770 665780

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>BGS Measured Urban Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service Grid: 254180, 666240 Soil Sample Type: Topsoil Sample Area: Glasgow Arsenic Measured 11.50 mg/kg Concentration: Cadmium Measured 0.30 mg/kg Concentration: Chromium Measured 105.60 mg/kg Concentration: Lead Measured 310.90 mg/kg Concentration: Nickel Measured 67.50 mg/kg Concentration:</p>	A11NW (NW)	213	1	254180 666240
	<p>BGS Measured Urban Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service Grid: 255290, 666390 Soil Sample Type: Topsoil Sample Area: Glasgow Arsenic Measured 10.10 mg/kg Concentration: Cadmium Measured 0.30 mg/kg Concentration: Chromium Measured 107.60 mg/kg Concentration: Lead Measured 169.00 mg/kg Concentration: Nickel Measured 42.80 mg/kg Concentration:</p>	A12NE (NE)	290	1	255290 666390
	<p>BGS Measured Urban Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service Grid: 254360, 665630 Soil Sample Type: Topsoil Sample Area: Glasgow Arsenic Measured 11.40 mg/kg Concentration: Cadmium Measured 0.30 mg/kg Concentration: Chromium Measured 207.90 mg/kg Concentration: Lead Measured 276.80 mg/kg Concentration: Nickel Measured 55.80 mg/kg Concentration:</p>	A7NW (S)	294	1	254360 665630
	<p>BGS Measured Urban Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service Grid: 255210, 665630 Soil Sample Type: Topsoil Sample Area: Glasgow Arsenic Measured 7.90 mg/kg Concentration: Cadmium Measured 0.30 mg/kg Concentration: Chromium Measured 93.40 mg/kg Concentration: Lead Measured 95.50 mg/kg Concentration: Nickel Measured 36.60 mg/kg Concentration:</p>	A8NE (SE)	339	1	255210 665630
	<p>BGS Measured Urban Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service Grid: 254740, 666860 Soil Sample Type: Topsoil Sample Area: Glasgow Arsenic Measured 9.70 mg/kg Concentration: Cadmium Measured 0.30 mg/kg Concentration: Chromium Measured 90.40 mg/kg Concentration: Lead Measured 226.80 mg/kg Concentration: Nickel Measured 46.60 mg/kg Concentration:</p>	A15NE (N)	576	1	254740 666860

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>BGS Measured Urban Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service Grid: 253760, 666150 Soil Sample Type: Topsoil Sample Area: Glasgow Arsenic Measured 7.80 mg/kg Concentration: Cadmium Measured 0.30 mg/kg Concentration: Chromium Measured 127.90 mg/kg Concentration: Lead Measured 64.10 mg/kg Concentration: Nickel Measured 32.20 mg/kg Concentration:</p>	A10NW (W)	594	1	253760 666150
	<p>BGS Measured Urban Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service Grid: 255150, 666800 Soil Sample Type: Topsoil Sample Area: Glasgow Arsenic Measured 9.40 mg/kg Concentration: Cadmium Measured 0.50 mg/kg Concentration: Chromium Measured 136.00 mg/kg Concentration: Lead Measured 125.80 mg/kg Concentration: Nickel Measured 38.00 mg/kg Concentration:</p>	A16NE (NE)	611	1	255150 666800
	<p>BGS Measured Urban Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service Grid: 254600, 665230 Soil Sample Type: Topsoil Sample Area: Glasgow Arsenic Measured 27.30 mg/kg Concentration: Cadmium Measured 1.30 mg/kg Concentration: Chromium Measured 130.90 mg/kg Concentration: Lead Measured 1267.20 mg/kg Concentration: Nickel Measured 97.20 mg/kg Concentration:</p>	A7SE (S)	656	1	254600 665230
	<p>BGS Measured Urban Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service Grid: 254050, 666730 Soil Sample Type: Topsoil Sample Area: Glasgow Arsenic Measured 14.00 mg/kg Concentration: Cadmium Measured 0.50 mg/kg Concentration: Chromium Measured 117.70 mg/kg Concentration: Lead Measured 211.10 mg/kg Concentration: Nickel Measured 79.80 mg/kg Concentration:</p>	A14SE (NW)	664	1	254050 666730
	<p>BGS Measured Urban Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service Grid: 255220, 665210 Soil Sample Type: Topsoil Sample Area: Glasgow Arsenic Measured 8.80 mg/kg Concentration: Cadmium Measured 0.30 mg/kg Concentration: Chromium Measured 118.70 mg/kg Concentration: Lead Measured 262.60 mg/kg Concentration: Nickel Measured 74.30 mg/kg Concentration:</p>	A8SE (SE)	731	1	255220 665210

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>BGS Measured Urban Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service Grid: 253630, 665690 Soil Sample Type: Topsoil Sample Area: Glasgow Arsenic Measured 8.10 mg/kg Concentration: Cadmium Measured 0.30 mg/kg Concentration: Chromium Measured 85.30 mg/kg Concentration: Lead Measured 161.90 mg/kg Concentration: Nickel Measured 49.70 mg/kg Concentration:</p>	A6NW (SW)	774	1	253630 665690
	<p>BGS Measured Urban Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service Grid: 254240, 665140 Soil Sample Type: Topsoil Sample Area: Glasgow Arsenic Measured 15.80 mg/kg Concentration: Cadmium Measured 0.30 mg/kg Concentration: Chromium Measured 127.90 mg/kg Concentration: Lead Measured 249.80 mg/kg Concentration: Nickel Measured 118.10 mg/kg Concentration:</p>	A7SW (S)	794	1	254240 665140
	<p>BGS Measured Urban Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service Grid: 253888, 666781 Soil Sample Type: Topsoil Sample Area: Glasgow Arsenic Measured 9.60 mg/kg Concentration: Cadmium Measured 1.40 mg/kg Concentration: Chromium Measured 126.90 mg/kg Concentration: Lead Measured 346.00 mg/kg Concentration: Nickel Measured 71.70 mg/kg Concentration:</p>	A14NE (NW)	811	1	253888 666781
	<p>BGS Measured Urban Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service Grid: 253850, 666780 Soil Sample Type: Topsoil Sample Area: Glasgow Arsenic Measured 24.80 mg/kg Concentration: Cadmium Measured 0.80 mg/kg Concentration: Chromium Measured 172.40 mg/kg Concentration: Lead Measured 407.30 mg/kg Concentration: Nickel Measured 123.30 mg/kg Concentration:</p>	A14NE (NW)	833	1	253850 666780
	<p>BGS Measured Urban Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service Grid: 254022, 665172 Soil Sample Type: Topsoil Sample Area: Glasgow Arsenic Measured 12.70 mg/kg Concentration: Cadmium Measured 0.30 mg/kg Concentration: Chromium Measured 99.40 mg/kg Concentration: Lead Measured 213.60 mg/kg Concentration: Nickel Measured 46.00 mg/kg Concentration:</p>	A6SE (SW)	860	1	254022 665172

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>BGS Measured Urban Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service Grid: 254720, 667160 Soil Sample Type: Topsoil Sample Area: Glasgow Arsenic Measured 10.80 mg/kg Concentration: Cadmium Measured 0.30 mg/kg Concentration: Chromium Measured 98.50 mg/kg Concentration: Lead Measured 116.60 mg/kg Concentration: Nickel Measured 42.70 mg/kg Concentration:</p>	A19SE (N)	875	1	254720 667160
	<p>BGS Measured Urban Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service Grid: 253740, 665250 Soil Sample Type: Topsoil Sample Area: Glasgow Arsenic Measured 10.50 mg/kg Concentration: Cadmium Measured 0.30 mg/kg Concentration: Chromium Measured 103.50 mg/kg Concentration: Lead Measured 325.40 mg/kg Concentration: Nickel Measured 43.40 mg/kg Concentration:</p>	A6SW (SW)	945	1	253740 665250
	<p>BGS Measured Urban Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service Grid: 253380, 665740 Soil Sample Type: Topsoil Sample Area: Glasgow Arsenic Measured 6.60 mg/kg Concentration: Cadmium Measured 0.30 mg/kg Concentration: Chromium Measured 83.30 mg/kg Concentration: Lead Measured 72.50 mg/kg Concentration: Nickel Measured 28.90 mg/kg Concentration:</p>	A5NE (W)	998	1	253380 665740
	<p>BGS Urban Soil Chemistry Averages</p> <p>Source: British Geological Survey, National Geoscience Information Service Sample Area: Glasgow Count Id: 2557 Arsenic Minimum 0.00 mg/kg Concentration: Arsenic Average 11.00 mg/kg Concentration: Arsenic Maximum 856.00 mg/kg Concentration: Cadmium Minimum 0.10 mg/kg Concentration: Cadmium Average 0.50 mg/kg Concentration: Cadmium Maximum 16.00 mg/kg Concentration: Chromium Minimum 22.00 mg/kg Concentration: Chromium Average 118.00 mg/kg Concentration: Chromium Maximum 5402.00 mg/kg Concentration: Lead Minimum 10.00 mg/kg Concentration: Lead Average 179.00 mg/kg Concentration: Lead Maximum 9676.00 mg/kg Concentration: Nickel Minimum 2.00 mg/kg Concentration: Nickel Average 49.00 mg/kg Concentration: Nickel Maximum 951.00 mg/kg Concentration:</p>	A11SE (SE)	0	1	254514 666068

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Coal Mining Affected Areas Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A11SE (SE)	0	8	254514 666068
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A11SE (SE)	0	-	254514 666068
	Non Coal Mining Areas of Great Britain Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	0	1	255000 666068
	Non Coal Mining Areas of Great Britain Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	0	1	254514 666068
	Non Coal Mining Areas of Great Britain Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A12NW (NE)	104	1	255000 666338
	Non Coal Mining Areas of Great Britain Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A15SE (N)	120	1	254556 666436
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	0	1	254548 665902
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	0	1	255000 665871
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	0	1	254514 666068
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	0	1	255000 666068
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12SW (SE)	75	1	255000 665834
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12NW (NE)	102	1	255000 666340
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A15SE (N)	124	1	254560 666438
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	0	1	254514 666068
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	0	1	255000 666068
	Potential for Compressible Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	0	1	254502 665984
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	0	1	254548 665902
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	0	1	255000 665871
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	25	1	254640 665835
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A12SW (SE)	75	1	255000 665834

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12NW (NE)	102	1	255000 666340
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A15SE (N)	124	1	254560 666438
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12SE (E)	142	1	255374 665932
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	0	1	254514 666068
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	0	1	255000 666068
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A12NW (NE)	102	1	255000 666340
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A15SE (N)	124	1	254560 666438
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	0	1	255000 666068
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	0	1	254514 666068
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12NW (NE)	102	1	255000 666340
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A15SE (N)	124	1	254560 666438
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	0	1	254514 666068
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	0	1	255000 666068
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	0	1	254502 665984
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	0	1	255000 665871
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12SW (SE)	75	1	255000 665834
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12NW (NE)	102	1	255000 666340
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A15SE (N)	124	1	254560 666438
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12SE (E)	142	1	255374 665932
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	0	1	254514 666068
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	0	1	255000 666068

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	0	1	254511 665985
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	25	1	254640 665835
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A12SW (SE)	75	1	255000 665834
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12NW (NE)	102	1	255000 666340
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A15SE (N)	124	1	254560 666438
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	0	1	254514 666068
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	0	1	255001 666068
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	0	1	254514 666068
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	0	1	255001 666068

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
91	Contemporary Trade Directory Entries Name: Weirs Garage Location: 12, Cressy Street, Glasgow, G51 4RB Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A11SW (SW)	3	-	254350 665969
91	Contemporary Trade Directory Entries Name: T T Tyre Services Location: 12, Cressy Street, Glasgow, G51 4RB Classification: Tyre Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A11SW (SW)	4	-	254349 665968
92	Contemporary Trade Directory Entries Name: Anixter Ltd Location: 1048, Govan Road, Glasgow, Lanarkshire, G51 4XP Classification: Distribution Services Status: Inactive Positional Accuracy: Manually positioned to the address or location	A12SW (SE)	18	-	254887 665874
92	Contemporary Trade Directory Entries Name: B A E Systems Location: 1048, Govan Road, Glasgow, G51 4XP Classification: Ship Builders, Repairs & Fittings Status: Active Positional Accuracy: Automatically positioned to the address	A12SW (SE)	21	-	254906 665874
93	Contemporary Trade Directory Entries Name: Diamond Home Support Glasgow Location: 9, Glasgow, Lanarkshire, G51 3EF Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Manually positioned to the address or location	A12SW (E)	28	-	255020 665965
94	Contemporary Trade Directory Entries Name: The L.U.V Laundry Location: 1139, Govan Road, Glasgow, G51 4RX Classification: Laundries & Launderettes Status: Inactive Positional Accuracy: Automatically positioned to the address	A11SW (SW)	106	-	254298 665880
94	Contemporary Trade Directory Entries Name: M C Blasting Location: 0/1, 4, Skipness Drive, Glasgow, Lanarkshire, G51 4RT Classification: Blast Cleaning Status: Inactive Positional Accuracy: Automatically positioned to the address	A11SW (SW)	136	-	254309 665842
95	Contemporary Trade Directory Entries Name: Deepfired Location: 974, Govan Road, Glasgow, G51 3AJ Classification: Ceramic Manufacturers, Supplies & Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SW (E)	116	-	255115 665864
96	Contemporary Trade Directory Entries Name: Shape Empire Location: 10, Garmouth Place, Glasgow, G51 3PA Classification: Distribution Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SW (SE)	129	-	254913 665756
97	Contemporary Trade Directory Entries Name: Advanced Preservation Specialists Ltd Location: 1157, Govan Road, GLASGOW, G51 4RQ Classification: Damp & Dry Rot Control Status: Active Positional Accuracy: Automatically positioned to the address	A11SW (SW)	139	-	254242 665886
97	Contemporary Trade Directory Entries Name: Advanced Preservation Specialists Ltd Location: 1157, Govan Road, Glasgow, G51 4RQ Classification: Damp & Dry Rot Control Status: Inactive Positional Accuracy: Automatically positioned to the address	A11SW (SW)	139	-	254242 665886
98	Contemporary Trade Directory Entries Name: Ken Kleen Electrics Location: 6-8, Shaw Street, Glasgow, G51 3BN Classification: Washing Machines - Servicing & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SW (E)	164	-	255135 665813

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
98	<p>Contemporary Trade Directory Entries</p> <p>Name: Govan Lifestyle Laundry Location: 21, Shaw Street, Glasgow, G51 3BJ Classification: Dry Cleaners Status: Active Positional Accuracy: Automatically positioned to the address</p>	A12SE (SE)	180	-	255161 665794
99	<p>Contemporary Trade Directory Entries</p> <p>Name: The Design Collective Studio Ltd Location: 847 Govan Rd, Glasgow, Lanarkshire, G51 3DL Classification: Jewellery Manufacturers & Repairers Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A12SE (E)	167	-	255222 665802
99	<p>Contemporary Trade Directory Entries</p> <p>Name: Cleveco Location: Unit 35, Govan Workspace, 6, Harmony Row, Glasgow, G51 3BA Classification: Cladding Suppliers & Installers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A12SE (SE)	203	-	255231 665766
99	<p>Contemporary Trade Directory Entries</p> <p>Name: Chris Craft Location: Unit 14, Govan Workspace, 6, Harmony Row, Glasgow, G51 3BA Classification: Blinds, Awnings & Canopies Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A12SE (SE)	203	-	255231 665766
99	<p>Contemporary Trade Directory Entries</p> <p>Name: Contract Blinds Location: Unit 14, Govan Workspace, 6, Harmony Row, Glasgow, G51 3BA Classification: Blinds, Awnings & Canopies Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A12SE (SE)	203	-	255231 665766
99	<p>Contemporary Trade Directory Entries</p> <p>Name: Govan Litho Location: Unit 10, Govan Workspace, 6, Harmony Row, Glasgow, G51 3BA Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A12SE (SE)	203	-	255231 665766
99	<p>Contemporary Trade Directory Entries</p> <p>Name: Phiad Marine Location: Unit 24, Govan Workspace, 6, Harmony Row, Glasgow, Lanarkshire, G51 3BA Classification: Marine Equipment & Supplies Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A12SE (SE)	203	-	255231 665766
99	<p>Contemporary Trade Directory Entries</p> <p>Name: Hugh Tees Location: Unit 7, Govan Workspace, 6, Harmony Row, Glasgow, G51 3BA Classification: Jewellery Manufacturers & Repairers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A12SE (SE)	203	-	255231 665766
99	<p>Contemporary Trade Directory Entries</p> <p>Name: Premier Blinds Location: Unit 32, Govan Workspace, 6, Harmony Row, Glasgow, G51 3BA Classification: Blinds, Awnings & Canopies Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A12SE (SE)	203	-	255231 665766
99	<p>Contemporary Trade Directory Entries</p> <p>Name: Gordon (Glasgow) Ltd Location: Unit 33, Govan Workspace, 6, Harmony Row, Glasgow, Lanarkshire, G51 3BA Classification: Clothing & Fabrics - Manufacturers Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A12SE (SE)	203	-	255231 665766
99	<p>Contemporary Trade Directory Entries</p> <p>Name: Glasgow Electrical Supplies Location: Unit 24, Govan Workspace, 6, Harmony Row, Glasgow, Lanarkshire, G51 3BA Classification: Electrical Goods Sales, Manufacturers & Wholesalers Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A12SE (SE)	203	-	255231 665766

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
99	<p>Contemporary Trade Directory Entries</p> <p>Name: Bluesky Marketing Location: Unit 29, Govan Workspace, 6, Harmony Row, Glasgow, Lanarkshire, G51 3BA Classification: Electrical Goods Sales, Manufacturers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A12SE (SE)	203	-	255231 665766
99	<p>Contemporary Trade Directory Entries</p> <p>Name: Spik N Span Location: 6, Harmony Row, Glasgow, G51 3BA Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A12SE (SE)	204	-	255236 665765
100	<p>Contemporary Trade Directory Entries</p> <p>Name: Abs Cables Location: Unit 9, Alexander Stephen House, 91, Holmfauld Road, Glasgow, Lanarkshire, G51 4RY Classification: Electrical Engineers Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A11NW (W)	181	-	254172 666109
101	<p>Contemporary Trade Directory Entries</p> <p>Name: Stress Free Marketing Solutions Location: 0/1, 317, Glasgow Harbour Terraces, Glasgow, Lanarkshire, G11 6BL Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A12NE (E)	182	-	255212 666308
102	<p>Contemporary Trade Directory Entries</p> <p>Name: Cameron Logistics Location: 7 Castlebank Ind Est, Castlebank Cr, Glasgow, G11 6DU Classification: Road Haulage Services Status: Inactive Positional Accuracy: Manually positioned within the geographical locality</p>	A12NE (E)	209	-	255354 666258
102	<p>Contemporary Trade Directory Entries</p> <p>Name: Calor Gas Ltd Location: Castlebank Industrial Estate, Castlebank Crescent, Glasgow, G11 6DU Classification: Gas Suppliers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A12NE (E)	223	-	255323 666293
103	<p>Contemporary Trade Directory Entries</p> <p>Name: Paragon Corporate Services Ltd Location: 1203, Govan Road, Glasgow, G51 4PW Classification: Photocopiers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A11SW (SW)	221	-	254143 665898
104	<p>Contemporary Trade Directory Entries</p> <p>Name: Clancast Contracts Location: 40-48, Shaw Street, Glasgow, G51 3BL Classification: Plaster Manufacturers & Suppliers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8NW (SE)	231	-	255114 665728
105	<p>Contemporary Trade Directory Entries</p> <p>Name: Express Fuels (Scotland) Ltd Location: 357 Castlebank St, Partick, Glasgow, G11 6DH Classification: Gas Suppliers Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location</p>	A12NE (NE)	232	-	255190 666378
106	<p>Contemporary Trade Directory Entries</p> <p>Name: Dunlop Hiflex (Scotland) Location: 4-5, Castlebank Industrial Estate, Castlebank Crescent, Glasgow, G11 6DU Classification: Hydraulic Equipment & Accessories - Sales & Service Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A12NE (E)	236	-	255405 666258
107	<p>Contemporary Trade Directory Entries</p> <p>Name: Cut Price Blinds Location: 41, Burleigh Street, Glasgow, G51 3LA Classification: Blinds, Awnings & Canopies Status: Active Positional Accuracy: Automatically positioned to the address</p>	A12SE (E)	243	-	255314 665746

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
107	<p>Contemporary Trade Directory Entries</p> <p>Name: Cut Price Blinds Location: 41, Burleigh Street, Glasgow, G51 3LA Classification: Blinds, Awnings & Canopies Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A12SE (E)	244	-	255315 665746
107	<p>Contemporary Trade Directory Entries</p> <p>Name: Hardware Cut Price Store Location: 19, Burleigh Street, Glasgow, G51 3LA Classification: Hardware Status: Active Positional Accuracy: Automatically positioned to the address</p>	A12SE (E)	259	-	255348 665745
108	<p>Contemporary Trade Directory Entries</p> <p>Name: Riskend Quarry Location: 1, South Street, Glasgow, Lanarkshire, G11 6JY Classification: Quarries Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A15SE (N)	253	-	254686 666537
108	<p>Contemporary Trade Directory Entries</p> <p>Name: Jaycars Location: 1, South Street, Glasgow, Lanarkshire, G11 6JY Classification: Garage Services Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A15SE (N)	253	-	254686 666537
109	<p>Contemporary Trade Directory Entries</p> <p>Name: French Polishers Location: 13 Kennedar dr, Glasgow, Lanarkshire, G51 4PY Classification: French Polishing Status: Active Positional Accuracy: Manually positioned to the address or location</p>	A7NW (SW)	263	-	254230 665738
110	<p>Contemporary Trade Directory Entries</p> <p>Name: Robertson Auto Breakers Location: 118, Langlands Road, Glasgow, Lanarkshire, G51 3BU Classification: Car Breakers & Dismantlers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8NW (SE)	276	-	255114 665668
110	<p>Contemporary Trade Directory Entries</p> <p>Name: G M Domestic Services Location: 108, Langlands Road, Glasgow, G51 3BU Classification: Washing Machines - Servicing & Repairs Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8NW (SE)	278	-	255128 665676
111	<p>Contemporary Trade Directory Entries</p> <p>Name: Castlebank Street Service Station Location: 210, Castlebank Street, Glasgow, G11 6DN Classification: Petrol Filling Stations - 24 Hour Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A12NE (E)	285	-	255404 666317
112	<p>Contemporary Trade Directory Entries</p> <p>Name: Fighting Sports Gear Location: 7, Water Row, Glasgow, G51 3UW Classification: Sports Equipment Manufacturers & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A12SE (E)	292	-	255434 665773
112	<p>Contemporary Trade Directory Entries</p> <p>Name: Kenda Knitwear Ltd Location: 7, Water Row, Glasgow, G51 3UW Classification: Knitwear Manufacturers & Wholesalers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A12SE (E)	292	-	255434 665773
113	<p>Contemporary Trade Directory Entries</p> <p>Name: B P Petrol Station Location: 210, Castlebank Street, Glasgow, G11 6DN Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A12NE (E)	315	-	255454 666320
113	<p>Contemporary Trade Directory Entries</p> <p>Name: B P Service Station Location: 210, Castlebank Street, Glasgow, G11 6DN Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A12NE (E)	315	-	255454 666320

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
113	<p>Contemporary Trade Directory Entries</p> <p>Name: B P Service Station Location: 210, CASTLEBANK STREET, GLASGOW, G11 6DN Classification: Petrol Filling Stations Status: Active Positional Accuracy: Automatically positioned to the address</p>	A12NE (E)	315	-	255454 666320
114	<p>Contemporary Trade Directory Entries</p> <p>Name: Gulf Location: 1249 Govan Road, Glasgow, Lanarkshire, G51 4PL Classification: Petrol Filling Stations Status: Active Positional Accuracy: Manually positioned to the address or location</p>	A10SE (W)	316	-	254039 665919
114	<p>Contemporary Trade Directory Entries</p> <p>Name: Tunnel Petrol Station Location: 1233-1259, Govan Road, Glasgow, Lanarkshire, G51 4PL Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A10SE (W)	321	-	254034 665920
114	<p>Contemporary Trade Directory Entries</p> <p>Name: Tunnel Service Station Location: 1233-1259, Govan Road, Glasgow, G51 4PL Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A10SE (W)	321	-	254034 665920
114	<p>Contemporary Trade Directory Entries</p> <p>Name: Gulf Location: 1233-1259, Govan Road, Glasgow, Lanarkshire, G51 4PL Classification: Petrol Filling Stations - 24 Hour Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A10SE (W)	321	-	254034 665920
115	<p>Contemporary Trade Directory Entries</p> <p>Name: Cut Price Blinds Location: Govan Cross Shopping Centre, 795, Govan Road, Glasgow, G51 3JW Classification: Blinds, Awnings & Canopies Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8NE (SE)	319	-	255356 665682
115	<p>Contemporary Trade Directory Entries</p> <p>Name: Essentials Location: Govan Cross Shopping Centre, 795, Govan Road, Glasgow, Lanarkshire, G51 3JW Classification: Toiletries Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A8NE (SE)	319	-	255356 665682
115	<p>Contemporary Trade Directory Entries</p> <p>Name: Deans Supersaver Location: Unit 10, Govan Cross Shopping Centre, 795, Govan Road, Glasgow, G51 3JW Classification: Hardware Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8NE (E)	322	-	255400 665704
115	<p>Contemporary Trade Directory Entries</p> <p>Name: Cash Converters Location: Unit 10-11 Govan Cross Shopping Centre, 795 Govan Road, Glasgow, Lanarkshire, G51 3JW Classification: Electrical Goods Sales, Manufacturers & Wholesalers Status: Active Positional Accuracy: Manually positioned to the address or location</p>	A8NE (E)	322	-	255400 665704
116	<p>Contemporary Trade Directory Entries</p> <p>Name: Frema Motor Repairs Location: 20, Meadow Road, Glasgow, G11 6HX Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A16SW (NE)	338	-	255112 666524
117	<p>Contemporary Trade Directory Entries</p> <p>Name: Phoenix Honda Location: 701, Dumbarton Road, Glasgow, G11 6HT Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A15SE (N)	339	-	254591 666627

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
117	<p>Contemporary Trade Directory Entries</p> <p>Name: Pheonix Honda Hyndlend Location: 701, Dumbarton Road, Glasgow, G11 6HT Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A15SE (N)	345	-	254591 666633
117	<p>Contemporary Trade Directory Entries</p> <p>Name: Hyndland Honda (West) Location: 701, Dumbarton Road, Glasgow, G11 6HT Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A15SE (N)	345	-	254591 666633
118	<p>Contemporary Trade Directory Entries</p> <p>Name: Fireplace Centre Location: 623-625, Dumbarton Road, Glasgow, G11 6HY Classification: Fireplaces & Mantelpieces Status: Active Positional Accuracy: Automatically positioned to the address</p>	A16SW (NE)	354	-	254995 666581
119	<p>Contemporary Trade Directory Entries</p> <p>Name: Firestorm Location: Unit 2, 8, Meadow Road, Glasgow, G11 6HX Classification: Fireplaces & Mantelpieces Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A16SW (NE)	354	-	255095 666548
119	<p>Contemporary Trade Directory Entries</p> <p>Name: Autotech Recovery Location: St Modwen Road, Stretford, Manchester, Greater Manchester, M32 0ZE Classification: Garage Services Status: Inactive Positional Accuracy: Manually positioned within the geographical locality</p>	A16SW (NE)	386	-	255126 666570
119	<p>Contemporary Trade Directory Entries</p> <p>Name: Expressway Cleaners Location: 595, Dumbarton Road, Glasgow, G11 6HY Classification: Laundries & Launderettes Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A16SW (NE)	386	-	255104 666578
119	<p>Contemporary Trade Directory Entries</p> <p>Name: Your Laundry Butler Location: 595 Dumbarton Road, Glasgow, Lanarkshire, G11 6HY Classification: Dry Cleaners Status: Active Positional Accuracy: Automatically positioned to the address</p>	A16SW (NE)	387	-	255101 666581
119	<p>Contemporary Trade Directory Entries</p> <p>Name: Designs On You 2 Ltd Location: 616, Dumbarton Road, Glasgow, G11 6RJ Classification: Seating Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A16SW (NE)	418	-	255101 666613
119	<p>Contemporary Trade Directory Entries</p> <p>Name: Classic Fireplaces Location: 598, Dumbarton Road, Glasgow, G11 6RJ Classification: Fireplaces & Mantelpieces Status: Active Positional Accuracy: Automatically positioned to the address</p>	A16SW (NE)	426	-	255126 666613
119	<p>Contemporary Trade Directory Entries</p> <p>Name: High Tech Electronics Ltd Location: 610, Dumbarton Road, Glasgow, G11 6RJ Classification: Electronic Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A16SW (NE)	426	-	255103 666621
120	<p>Contemporary Trade Directory Entries</p> <p>Name: The William Quarrier Scottish Epilepsy Centre Location: 20, St. Kenneth Drive, Glasgow, G51 4QD Classification: Hospitals Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7NW (SW)	371	-	254230 666621
121	<p>Contemporary Trade Directory Entries</p> <p>Name: Target Used Cars Location: 0/1, 108, Beith Street, Glasgow, Lanarkshire, G11 6ER Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A16SE (NE)	371	-	255369 666437

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
121	<p>Contemporary Trade Directory Entries</p> <p>Name: Lomond A S B Ltd Location: 108a, Beith Street, Glasgow, G11 6ER Classification: Asbestos Products & Removal Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A16SE (NE)	374	-	255360 666447
122	<p>Contemporary Trade Directory Entries</p> <p>Name: J N Macdonald & Co Ltd Location: 37-49, Byron Street, Glasgow, G11 6LP Classification: Marine Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A15SE (N)	383	-	254536 666669
122	<p>Contemporary Trade Directory Entries</p> <p>Name: Premier French Polishing Location: Cochran House, 36-40, Byron Street, Glasgow, G11 6LS Classification: French Polishing Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A15SE (N)	412	-	254569 666700
122	<p>Contemporary Trade Directory Entries</p> <p>Name: 1st Choice Location: Cochran House, 40, Byron Street, Glasgow, Lanarkshire, G11 6LS Classification: Car Dealers Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A15SE (N)	412	-	254569 666700
122	<p>Contemporary Trade Directory Entries</p> <p>Name: 1st Choice Location: Cochran House, 40, Byron Street, Glasgow, Lanarkshire, G11 6LS Classification: Car Dealers Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A15SE (N)	412	-	254569 666700
122	<p>Contemporary Trade Directory Entries</p> <p>Name: Cars 2000 Location: 3, Harmsworth Street, Glasgow, G11 6LU Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A15SE (N)	421	-	254525 666706
122	<p>Contemporary Trade Directory Entries</p> <p>Name: Lorimer & Findlay Ltd Location: 777 Dumbarton Rd, Glasgow, Lanarkshire, G11 6HZ Classification: Classic Car Specialists Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location</p>	A15SE (N)	453	-	254554 666740
123	<p>Contemporary Trade Directory Entries</p> <p>Name: Arnold Clark Mazda Location: 226, South Street, Glasgow, G11 6JY Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A15SW (N)	391	-	254430 666652
123	<p>Contemporary Trade Directory Entries</p> <p>Name: Arnold Clark Automobiles Ltd Location: 226, South Street, Glasgow, G11 6JY Classification: Car Dealers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A15SW (N)	391	-	254430 666652
124	<p>Contemporary Trade Directory Entries</p> <p>Name: Print Centre Location: 728 Dumbarton Rd, Glasgow, Lanarkshire, G11 6RD Classification: Printers Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A15SE (NE)	395	-	254809 666667
125	<p>Contemporary Trade Directory Entries</p> <p>Name: M H M Radiator Co Location: 237, South Street, GLASGOW, G11 6JY Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A15SW (N)	402	-	254316 666614
125	<p>Contemporary Trade Directory Entries</p> <p>Name: Clydeside Car Repairs Location: 237, South Street, Glasgow, G14 0TR Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A15SW (N)	402	-	254316 666614

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
125	<p>Contemporary Trade Directory Entries</p> <p>Name: Machargs Location: 226 South St, Glasgow, Lanarkshire, G11 6JY Classification: Car Dealers Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location</p>	A15SW (N)	408	-	254328 666628
126	<p>Contemporary Trade Directory Entries</p> <p>Name: D'Tails Location: 571, Dumbarton Road, Glasgow, G11 6HU Classification: Antiques - Repairing & Restoring Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A16SE (NE)	407	-	255162 666578
126	<p>Contemporary Trade Directory Entries</p> <p>Name: Ips Ltd Location: 577, Dumbarton Road, Glasgow, Lanarkshire, G11 6HU Classification: Cash Registers & Check-Out Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A16SE (NE)	411	-	255168 666579
126	<p>Contemporary Trade Directory Entries</p> <p>Name: Westend Blind Location: 577, Dumbarton Road, Glasgow, Lanarkshire, G11 6HU Classification: Blinds, Awnings & Canopies Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A16SE (NE)	411	-	255168 666579
126	<p>Contemporary Trade Directory Entries</p> <p>Name: Glasgow West End Electrical Services Ltd Location: 563, Dumbarton Road, Glasgow, G11 6HU Classification: Washing Machines - Servicing & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A16SE (NE)	415	-	255177 666580
126	<p>Contemporary Trade Directory Entries</p> <p>Name: Crease Lightning Location: 557a, Dumbarton Road, Glasgow, G11 6HU Classification: Ironing & Home Laundry Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A16SE (NE)	418	-	255195 666576
127	<p>Contemporary Trade Directory Entries</p> <p>Name: Thales Location: 1, Linthouse Road, Glasgow, Lanarkshire, G51 4BZ Classification: Scientific Apparatus & Instruments - Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A10NE (W)	430	-	253926 666166
128	<p>Contemporary Trade Directory Entries</p> <p>Name: The Copy Bureau Location: 3, Exeter Drive, GLASGOW, G11 7UY Classification: Copying & Duplicating Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A16SW (NE)	438	-	255129 666625
129	<p>Contemporary Trade Directory Entries</p> <p>Name: Langlands Road Garage Location: 307, Langlands Road, Glasgow, G51 4AW Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A7NW (SW)	442	-	254275 665508
130	<p>Contemporary Trade Directory Entries</p> <p>Name: M & C Cleaning Service Location: 0/1, 14, Kennoway Drive, Glasgow, Lanarkshire, G11 7UB Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A16SW (NE)	448	-	254958 666693
131	<p>Contemporary Trade Directory Entries</p> <p>Name: Engine & Mechanical Services Location: 71-77, Byron Street, Glasgow, G11 6LY Classification: Engine Rebuilding & Reconditioning Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A15SW (N)	450	-	254416 666710
131	<p>Contemporary Trade Directory Entries</p> <p>Name: Wooden Hearts Location: 71-77, Byron Street, Glasgow, G11 6LY Classification: French Polishing Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A15SW (N)	450	-	254416 666710

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
131	<p>Contemporary Trade Directory Entries</p> <p>Name: R M R Restorations Location: 71-77, Byron Street, Glasgow, Lanarkshire, G11 6LY Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A15SW (N)	450	-	254416 666710
131	<p>Contemporary Trade Directory Entries</p> <p>Name: Grantson Services Ltd Location: 71-77, Byron Street, Glasgow, Lanarkshire, G11 6LY Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A15SW (N)	450	-	254416 666710
131	<p>Contemporary Trade Directory Entries</p> <p>Name: Byron Street Engine Centre Location: 71-77, Byron Street, Glasgow, G11 6LY Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A15SW (N)	450	-	254416 666710
132	<p>Contemporary Trade Directory Entries</p> <p>Name: Shearer Candles Location: 23, Robert Street, Glasgow, G51 3HB Classification: Candle Manufacturers & Suppliers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8NE (SE)	454	-	255421 665563
132	<p>Contemporary Trade Directory Entries</p> <p>Name: The Store Location: 23, Robert Street, GLASGOW, G51 3HB Classification: Candle Manufacturers & Suppliers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8NE (SE)	454	-	255421 665563
132	<p>Contemporary Trade Directory Entries</p> <p>Name: Auto-Tech Coachworks Ltd Location: 20, Robert Drive, Glasgow, G51 3HE Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8NE (SE)	456	-	255394 665548
132	<p>Contemporary Trade Directory Entries</p> <p>Name: Shearer Candles Manufacturers Location: 23, Robert Street, Glasgow, G51 3HB Classification: Candle Manufacturers & Suppliers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8NE (SE)	479	-	255432 665541
132	<p>Contemporary Trade Directory Entries</p> <p>Name: V G L (Disposals) Ltd Location: 23, Robert Street, Glasgow, G51 3HB Classification: Waste Disposal Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8NE (SE)	479	-	255432 665541
133	<p>Contemporary Trade Directory Entries</p> <p>Name: Thornwood Garage Location: 12, Thornwood Avenue, Glasgow, G11 7TW Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A16SW (NE)	456	-	255046 666671
134	<p>Contemporary Trade Directory Entries</p> <p>Name: Cemex Uk Location: Ferryden Street, Glasgow, Lanarkshire, G14 0SW Classification: Concrete & Mortar Ready Mixed Status: Active Positional Accuracy: Manually positioned to the address or location</p>	A15SW (NW)	459	-	254193 666582
135	<p>Contemporary Trade Directory Entries</p> <p>Name: Regency Of Partick Location: 22, Hayburn Street, Glasgow, G11 6DG Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A16SE (NE)	467	-	255463 666494
136	<p>Contemporary Trade Directory Entries</p> <p>Name: Corroless (Glasgow) Ltd Location: 56, Byron Street, Glasgow, G11 6LZ Classification: Paint Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A15SW (N)	475	-	254452 666746

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
136	<p>Contemporary Trade Directory Entries</p> <p>Name: Clyde Cash Registers Ltd Location: 909, Dumbarton Road, Glasgow, G11 6NB Classification: Cash Registers & Check-Out Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A15NW (N)	486	-	254462 666761
137	<p>Contemporary Trade Directory Entries</p> <p>Name: National Tyres & Autocare Location: 7-11, Rosevale Street, Glasgow, G11 6EL Classification: Tyre Dealers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A16SE (NE)	484	-	255424 666537
137	<p>Contemporary Trade Directory Entries</p> <p>Name: National Tyres And Autocare Location: 7-11, Rosevale Street, Glasgow, G11 6EL Classification: Tyre Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A16SE (NE)	484	-	255424 666537
138	<p>Contemporary Trade Directory Entries</p> <p>Name: J D V Location: 2-4, Apsley Lane, Glasgow, Lanarkshire, G11 7SU Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A16SE (NE)	498	-	255200 666660
139	<p>Contemporary Trade Directory Entries</p> <p>Name: Highland Fuels Ltd Location: Dumbarton Rd, Glasgow, Lanarkshire, G11 6SL Classification: Oil Fuel Distributors Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location</p>	A16SE (NE)	503	-	255361 666593
139	<p>Contemporary Trade Directory Entries</p> <p>Name: Glasgow Dyson Centre Location: 506, Dumbarton Road, GLASGOW, G11 6SN Classification: Vacuum Cleaners, Industrial & Commercial - Repairs & Servicing Status: Active Positional Accuracy: Automatically positioned to the address</p>	A16SE (NE)	510	-	255323 666622
139	<p>Contemporary Trade Directory Entries</p> <p>Name: Domestic Appliance Engineers Location: 506, Dumbarton Road, Glasgow, G11 6SN Classification: Domestic Appliances - Servicing, Repairs & Parts Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A16SE (NE)	510	-	255323 666622
139	<p>Contemporary Trade Directory Entries</p> <p>Name: Baumol Home Appliances Location: 498, Dumbarton Road, Glasgow, G11 6SL Classification: Domestic Appliances - Servicing, Repairs & Parts Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A16SE (NE)	519	-	255342 666621
140	<p>Contemporary Trade Directory Entries</p> <p>Name: Hay Nisbet Press Ltd Location: 11, Dilwara Avenue, Glasgow, G14 0SQ Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14SE (NW)	518	-	254132 666602
141	<p>Contemporary Trade Directory Entries</p> <p>Name: Jewson Ltd Location: 92-116, Helen Street, Glasgow, G51 3HD Classification: Builders' Merchants Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8NE (SE)	524	-	255255 665446
141	<p>Contemporary Trade Directory Entries</p> <p>Name: Jewson Ltd Location: 92-116, Helen Street, Glasgow, G51 3NZ Classification: Builders' Merchants Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8NE (SE)	524	-	255255 665446
141	<p>Contemporary Trade Directory Entries</p> <p>Name: Jewson Location: 92-114 Helen Street, Glasgow, Lanarkshire, G51 3NZ Classification: Builders' Merchants Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8NE (SE)	531	-	255254 665439

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
141	<p>Contemporary Trade Directory Entries</p> <p>Name: Jewson Location: 92, Helen Street, Glasgow, G51 3HQ Classification: Builders' Merchants Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8NE (SE)	531	-	255254 665439
142	<p>Contemporary Trade Directory Entries</p> <p>Name: V R Access Solutions Scotland Ltd Location: 170, Clydeholm Road, Glasgow, G14 0QQ Classification: Scaffolding & Work Platforms Status: Active Positional Accuracy: Automatically positioned to the address</p>	A14SE (NW)	528	-	254046 666545
143	<p>Contemporary Trade Directory Entries</p> <p>Name: Star Stores Location: 23 Crow Rd, Glasgow, Lanarkshire, G11 7RT Classification: Electrical Goods Sales, Manufacturers & Wholesalers Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A16SE (NE)	528	-	255332 666638
143	<p>Contemporary Trade Directory Entries</p> <p>Name: More Than Wood Location: 31, Crow Road, Glasgow, G11 7RT Classification: Joinery Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A16SE (NE)	566	-	255323 666685
144	<p>Contemporary Trade Directory Entries</p> <p>Name: Abacus Cleaners Location: 51, Crossloan Terrace, Glasgow, G51 3SE Classification: Carpet, Curtain & Upholstery Cleaners Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SW (SE)	546	-	255098 665363
144	<p>Contemporary Trade Directory Entries</p> <p>Name: Air Supply Systems Ltd Location: 8, Harmony Square, Glasgow, G51 3LW Classification: Air Conditioning Equipment & Systems Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SW (SE)	556	-	255132 665364
145	<p>Contemporary Trade Directory Entries</p> <p>Name: C C F Location: 15, Robert Drive, Glasgow, Lanarkshire, G51 3HE Classification: Builders' Merchants Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8NE (SE)	546	-	255325 665433
145	<p>Contemporary Trade Directory Entries</p> <p>Name: C C F Location: Glasgow, G51 3HE Classification: Builders' Merchants Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8NE (SE)	572	-	255358 665414
146	<p>Contemporary Trade Directory Entries</p> <p>Name: Cut Price Location: 472, Dumbarton Road, Glasgow, G11 6SQ Classification: Hardware Status: Active Positional Accuracy: Automatically positioned to the address</p>	A16SE (NE)	547	-	255412 666617
147	<p>Contemporary Trade Directory Entries</p> <p>Name: A A Carpets Location: 121 Elderpark St, Glasgow, Lanarkshire, G51 3SS Classification: Carpets & Rugs - Manufacturers Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A7SE (S)	548	-	254758 665329
148	<p>Contemporary Trade Directory Entries</p> <p>Name: Royal Hospital For Children Location: 1345, Govan Road, Glasgow, G51 4TF Classification: Hospitals Status: Active Positional Accuracy: Automatically positioned to the address</p>	A10SE (W)	549	-	253808 665893
148	<p>Contemporary Trade Directory Entries</p> <p>Name: Queen Elizabeth University Hospital Location: 1345, Govan Road, GLASGOW, G51 4TF Classification: Hospitals Status: Active Positional Accuracy: Automatically positioned to the address</p>	A10SE (W)	549	-	253808 665893

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
148	<p>Contemporary Trade Directory Entries</p> <p>Name: Crusade Laboratories Location: 1345, Govan Road, Glasgow, Lanarkshire, G51 4TF Classification: Laboratories Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A10SE (W)	549	-	253808 665893
149	<p>Contemporary Trade Directory Entries</p> <p>Name: Cch Scotland Location: 3/1, 922, Dumbarton Road, Glasgow, Lanarkshire, G14 9UQ Classification: Domestic Appliances - Servicing, Repairs & Parts Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A15NW (N)	555	-	254422 666821
149	<p>Contemporary Trade Directory Entries</p> <p>Name: Iron Angels Location: 948, Dumbarton Road, Glasgow, G14 9UQ Classification: Ironing & Home Laundry Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A15NW (N)	576	-	254386 666833
149	<p>Contemporary Trade Directory Entries</p> <p>Name: Cleaning Services Prestige Location: 2/2, 948, Dumbarton Road, Glasgow, Lanarkshire, G14 9UQ Classification: Cleaning Services - Commercial Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A15NW (N)	577	-	254386 666833
150	<p>Contemporary Trade Directory Entries</p> <p>Name: Grand Productions Location: 3 Robert Drive, Glasgow, Lanarkshire, G51 3HE Classification: Confectionery Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8NE (SE)	557	-	255423 665451
151	<p>Contemporary Trade Directory Entries</p> <p>Name: On Time Printers Location: 2/2, 129, Elderspark Street, Glasgow, G51 3SR Classification: Printers - Glass, Metal, Plastics Etc. Status: Active Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	568	-	254750 665309
151	<p>Contemporary Trade Directory Entries</p> <p>Name: Ventrac Sheet Metal Ltd Location: 20, Nimmo Drive, Glasgow, G51 3SX Classification: Sheet Metal Work Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	608	-	254748 665269
151	<p>Contemporary Trade Directory Entries</p> <p>Name: Ventrac Sheet Metal Location: 20, Nimmo Drive, Glasgow, G51 3SX Classification: Sheet Metal Work Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	608	-	254748 665269
151	<p>Contemporary Trade Directory Entries</p> <p>Name: Ventrac Location: 20, Nimmo Drive, Glasgow, G51 3SX Classification: Sheet Metal Work Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	608	-	254748 665269
151	<p>Contemporary Trade Directory Entries</p> <p>Name: Ventrac Sheet Metals Ltd Location: 20, Nimmo Drive, Glasgow, G51 3SX Classification: Sheet Metal Work Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	608	-	254748 665269
151	<p>Contemporary Trade Directory Entries</p> <p>Name: Sallyssuperiorsuds Location: 1/2, 24, Craighton Road, Glasgow, G51 3TA Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	609	-	254795 665268
152	<p>Contemporary Trade Directory Entries</p> <p>Name: The Write Word Shop Location: Thornwood Ave, Glasgow, Lanarkshire, G11 7QY Classification: Copying & Duplicating Services Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location</p>	A16NW (NE)	574	-	255049 666796

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
153	<p>Contemporary Trade Directory Entries</p> <p>Name: Partick Location: 442, Dumbarton Road, Glasgow, G11 6SE Classification: Hardware Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A16SE (NE)	581	-	255481 666616
154	<p>Contemporary Trade Directory Entries</p> <p>Name: Crathie Motors Location: 30, Crathie Drive, Glasgow, G11 7XE Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A16NW (NE)	597	-	255104 666800
155	<p>Contemporary Trade Directory Entries</p> <p>Name: Strathclyde Passenger Transport Location: Broomloan Depot, Robert Street, Glasgow, G51 3HB Classification: Railways Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8NE (SE)	599	-	255470 665426
156	<p>Contemporary Trade Directory Entries</p> <p>Name: C M S Glasgow Location: 85, Clydeholm Road, Glasgow, G14 0QQ Classification: Commercial Vehicle Servicing, Repairs, Parts & Accessories Status: Active Positional Accuracy: Automatically positioned to the address</p>	A14SE (NW)	600	-	254017 666613
156	<p>Contemporary Trade Directory Entries</p> <p>Name: V R Access Solutions Scotland Location: 85, Clydeholm Road, Glasgow, G14 0QQ Classification: Scaffolding & Work Platforms Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14SE (NW)	600	-	254017 666613
156	<p>Contemporary Trade Directory Entries</p> <p>Name: Russell Timber Technology Location: 8, Dilwara Avenue, Glasgow, G14 0QS Classification: Joinery Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14SE (NW)	640	-	254009 666656
157	<p>Contemporary Trade Directory Entries</p> <p>Name: Heat Spares Ltd Location: 128-130, Helen Street, Glasgow, G51 3JS Classification: Central Heating Supplies & Equipment Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8SE (SE)	605	-	255249 665363
157	<p>Contemporary Trade Directory Entries</p> <p>Name: John Forbes Location: Unit 4, 134, Helen Street, Glasgow, G51 3JS Classification: Joinery Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SE (SE)	621	-	255243 665342
157	<p>Contemporary Trade Directory Entries</p> <p>Name: Yes Printing Location: 140, Helen Street, Glasgow, G51 3JS Classification: Printers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8SE (SE)	640	-	255241 665319
158	<p>Contemporary Trade Directory Entries</p> <p>Name: Smith Of Whiteinch Ltd Location: 85, Clydeholm Road, Glasgow, G14 0SE Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14SE (NW)	606	-	253947 666565
158	<p>Contemporary Trade Directory Entries</p> <p>Name: Wilsons Hydraulic Services Ltd Location: 142, Clydeholm Road, Glasgow, G14 0QQ Classification: Garage Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14SE (NW)	606	-	253947 666565
158	<p>Contemporary Trade Directory Entries</p> <p>Name: Smith Location: 85, Clydeholm Road, Glasgow, Lanarkshire, G14 0SE Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14SE (NW)	606	-	253947 666565

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
159	Contemporary Trade Directory Entries Name: William Anderson & Sons Location: 34, Loanbank Quadrant, Glasgow, G51 3HZ Classification: Printers Status: Active Positional Accuracy: Automatically positioned to the address	A8SW (SE)	616	-	254996 665274
159	Contemporary Trade Directory Entries Name: Anderson Digital Location: 30, Loanbank Quadrant, Glasgow, G51 3HZ Classification: Printers Status: Active Positional Accuracy: Automatically positioned to the address	A8SW (SE)	622	-	255005 665269
159	Contemporary Trade Directory Entries Name: George Boyd & Co Ltd Location: 4525 Loanbank Quadrant, Glasgow, Lanarkshire, G51 3HZ Classification: Hardware Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A8SW (SE)	652	-	254968 665233
160	Contemporary Trade Directory Entries Name: Budget Exhausts & Tyres Ltd Location: 49-51, Crow Road, Glasgow, G11 7SH Classification: Exhaust & Shock Absorber Centres Status: Inactive Positional Accuracy: Automatically positioned to the address	A16NE (NE)	633	-	255288 666771
161	Contemporary Trade Directory Entries Name: Rhn Car Services Location: 7, Haylynn Street, Glasgow, G14 9RR Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A15NW (N)	651	-	254291 666879
162	Contemporary Trade Directory Entries Name: West Of Scotland Engineering Location: 142, Clydeholm Road, GLASGOW, G14 0QQ Classification: Mechanical Engineers Status: Active Positional Accuracy: Automatically positioned to the address	A14SE (NW)	652	-	253895 666580
162	Contemporary Trade Directory Entries Name: Scottish Nitriding Services Ltd Location: 138, Clydeholm Road, Glasgow, G14 0QQ Classification: Metal Finishing Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SE (NW)	663	-	253880 666580
162	Contemporary Trade Directory Entries Name: Refrigeration Spares Ltd Location: 9e, Clydeholm Road, Glasgow, G14 0QQ Classification: Refrigeration Equipment - Commercial Status: Active Positional Accuracy: Automatically positioned to the address	A14SE (NW)	683	-	253849 666577
163	Contemporary Trade Directory Entries Name: Lift Maintenance Ltd Location: 12, Jordanvale Avenue, GLASGOW, G14 0QP Classification: Lift Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SE (NW)	654	-	254042 666706
164	Contemporary Trade Directory Entries Name: Kardex Systems (Uk) Ltd Location: 42, Loanbank Quadrant, Glasgow, G51 3HZ Classification: Office Furniture & Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SW (SE)	655	-	254933 665225
165	Contemporary Trade Directory Entries Name: L S K Supplies Location: 22, Loanbank Quadrant, Glasgow, G51 3HZ Classification: Hardware Status: Active Positional Accuracy: Automatically positioned to the address	A8SW (SE)	657	-	255054 665240
165	Contemporary Trade Directory Entries Name: Merkland Tank Ltd Location: 14, Loanbank Quadrant, GLASGOW, G51 3HZ Classification: Tank Cleaning & Repairing Status: Active Positional Accuracy: Automatically positioned to the address	A8SW (SE)	667	-	255087 665236

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
166	<p>Contemporary Trade Directory Entries</p> <p>Name: Howdens Ltd Location: Unit 2, 148, Helen Street, Glasgow, G51 3JS Classification: Builders' Merchants Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SE (SE)	672	-	255201 665265
166	<p>Contemporary Trade Directory Entries</p> <p>Name: Landguard Paints Location: 150, Helen Street, Glasgow, G51 3JS Classification: Painting & Decorating Supplies Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SE (SE)	692	-	255199 665244
166	<p>Contemporary Trade Directory Entries</p> <p>Name: Landguard Agencies Location: 150, Helen Street, Glasgow, G51 3JS Classification: Paint & Varnish Stripping Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SE (SE)	692	-	255199 665244
167	<p>Contemporary Trade Directory Entries</p> <p>Name: Halfords Autocentre Mcconeys Partick Location: Crow Road, Glasgow, Lanarkshire, G11 7SH Classification: Garage Services Status: Active Positional Accuracy: Manually positioned within the geographical locality</p>	A16NE (NE)	680	-	255324 666808
167	<p>Contemporary Trade Directory Entries</p> <p>Name: Mcconeys Tyre Service Ltd Location: 103, Crow Road, Glasgow, G11 7SH Classification: Tyre Dealers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A16NE (NE)	702	-	255308 666837
168	<p>Contemporary Trade Directory Entries</p> <p>Name: Technical Auto Services Ltd Location: 55, Curle Street, Glasgow, G14 0SA Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14NE (NW)	681	-	254060 666765
168	<p>Contemporary Trade Directory Entries</p> <p>Name: Technical Auto Services Location: 55, Curle Street, Glasgow, Lanarkshire, G14 0SA Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14NE (NW)	681	-	254060 666765
168	<p>Contemporary Trade Directory Entries</p> <p>Name: West End Washers Location: 0/1, 63, Curle Street, Glasgow, G14 0SA Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14NE (NW)	710	-	254027 666773
168	<p>Contemporary Trade Directory Entries</p> <p>Name: Autoline Location: 60, Curle Street, Glasgow, G14 0RR Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A14NE (NW)	717	-	254045 666800
168	<p>Contemporary Trade Directory Entries</p> <p>Name: I M Systems Location: 15 Curle St, Glasgow, G14 0TT Classification: Vacuum Cleaners - Sales & Service Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location</p>	A14NE (NW)	734	-	254014 666794
169	<p>Contemporary Trade Directory Entries</p> <p>Name: Spray Supplies Scotland Ltd Location: Unit 71 Loanbank Quadrant, Glasgow, Lanarkshire, G51 3HZ Classification: Paint Spraying Equipment & Accessories Status: Active Positional Accuracy: Manually positioned within the geographical locality</p>	A8SW (SE)	687	-	255002 665203
169	<p>Contemporary Trade Directory Entries</p> <p>Name: George Boyd Architectural Ironmongery Location: Loanbank Quadrant, Govan, Glasgow, Lanarkshire, G51 3HZ Classification: Hardware Status: Inactive Positional Accuracy: Manually positioned within the geographical locality</p>	A8SW (SE)	705	-	254985 665182

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
169	<p>Contemporary Trade Directory Entries</p> <p>Name: Jewson Location: 25, Loanbank Quadrant, Glasgow, G51 3HZ Classification: Builders' Merchants Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SW (SE)	712	-	254997 665177
170	<p>Contemporary Trade Directory Entries</p> <p>Name: West End Tyres Location: 24, Jordanvale Avenue, GLASGOW, G14 0QP Classification: Tyre Dealers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A14SE (NW)	704	-	253990 666722
170	<p>Contemporary Trade Directory Entries</p> <p>Name: Lorimer & Findlay Location: 28, Jordanvale Avenue, Glasgow, G14 0QP Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14SE (NW)	704	-	253990 666722
171	<p>Contemporary Trade Directory Entries</p> <p>Name: Electronic Assembly Services Location: Unit 59, Elderpark Workspace, 100, Elderpark Street, Glasgow, G51 3TR Classification: Electronic Equipment - Manufacturers & Assemblers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	705	-	254680 665176
171	<p>Contemporary Trade Directory Entries</p> <p>Name: David Mcrory Location: Unit 23, Elderpark Workspace, 100, Elderpark Street, Glasgow, G51 3TR Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	705	-	254680 665176
171	<p>Contemporary Trade Directory Entries</p> <p>Name: Scientific & Analytical Services Ltd Location: Unit 65, Elderpark Workspace, 100, Elderpark Street, Glasgow, G51 3TR Classification: Electronic Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	705	-	254680 665176
171	<p>Contemporary Trade Directory Entries</p> <p>Name: Rework Solutions Ltd Location: Unit 50, Elderpark Workspace, 100, Elderpark Street, Glasgow, G51 3TR Classification: Printed Circuit Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	705	-	254680 665176
171	<p>Contemporary Trade Directory Entries</p> <p>Name: Mclean The Jeweller Location: Unit 27, Elderpark Workspace, 100, Elderpark Street, Glasgow, G51 3TR Classification: Jewellery Manufacturers & Repairers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	705	-	254680 665176
171	<p>Contemporary Trade Directory Entries</p> <p>Name: Print Location: Unit 27, Elderpark Workspace, 100, Elderpark Street, Glasgow, Lanarkshire, G51 3TR Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	705	-	254680 665176
171	<p>Contemporary Trade Directory Entries</p> <p>Name: On Site Shredding Location: Unit 59, Elderpark Workspace, 100, Elderpark Street, Glasgow, Lanarkshire, G51 3TR Classification: Shredding Equipment & Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	705	-	254680 665176
171	<p>Contemporary Trade Directory Entries</p> <p>Name: Grip Store Location: Unit 1, Elderpark Workspace, 100, Elderpark Street, Glasgow, G51 3TR Classification: Television & Video Manufacturers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	718	-	254727 665160

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
171	<p>Contemporary Trade Directory Entries</p> <p>Name: Intergas Services Ltd Location: Unit 8, Elderpark Workspace, 100, Elderpark Street, Glasgow, G51 3TR Classification: Catering Equipment - Servicing & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	718	-	254727 665160
171	<p>Contemporary Trade Directory Entries</p> <p>Name: Aquarius Location: Unit 31, Elderpark Workspace, 100, Elderpark Street, Glasgow, G51 3TR Classification: Electronic Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	718	-	254727 665160
171	<p>Contemporary Trade Directory Entries</p> <p>Name: Curtain Plus Ltd Location: Unit 11, Elderpark Workspace, 100, Elderpark Street, Glasgow, Lanarkshire, G51 3TR Classification: Soft Furnishings - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	718	-	254727 665160
171	<p>Contemporary Trade Directory Entries</p> <p>Name: Telford Fine Furniture Location: Unit 33, Elderpark Workspace, 100, Elderpark Street, Glasgow, G51 3TR Classification: Cabinet Makers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	718	-	254727 665160
171	<p>Contemporary Trade Directory Entries</p> <p>Name: Link-Tel Communications Location: Unit 63, Elderpark Workspace, Elderpark Street, Glasgow, G51 3TR Classification: Radio Communication Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	718	-	254727 665160
171	<p>Contemporary Trade Directory Entries</p> <p>Name: Lyfe Ltd Location: Unit 42, Elderpark Workspace, 100, Elderpark Street, Glasgow, Lanarkshire, G51 3TR Classification: Firefighting Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	718	-	254727 665160
171	<p>Contemporary Trade Directory Entries</p> <p>Name: Reproprint Location: Unit 5, Elderpark Workspace, 100, Elderpark Street, Glasgow, G51 3TR Classification: Printers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	718	-	254727 665160
171	<p>Contemporary Trade Directory Entries</p> <p>Name: Radio Accessories Direct Ltd Location: Unit 45, Elderpark Workspace, 100, Elderpark Street, Glasgow, Lanarkshire, G51 3TR Classification: Radio Communication Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	718	-	254727 665160
171	<p>Contemporary Trade Directory Entries</p> <p>Name: Blinds & Designs Location: Unit 41, Elderpark Workspace, 100, Elderpark Street, Glasgow, Lanarkshire, G51 3TR Classification: Blinds, Awnings & Canopies Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A7SE (S)	718	-	254727 665160
171	<p>Contemporary Trade Directory Entries</p> <p>Name: Hopscotch Brands Location: Unit 32, Elderpark Workspace, 100, Elderpark Street, GLASGOW, G51 3TR Classification: Confectionery Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	718	-	254727 665160
172	<p>Contemporary Trade Directory Entries</p> <p>Name: Thornwood Fat & Oil Merchants Location: 170, Clydeholm Road, Glasgow, G14 0QQ Classification: Waste Disposal Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14SE (NW)	705	-	253857 666617

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
172	<p>Contemporary Trade Directory Entries</p> <p>Name: Hope Construction Materials Location: Clydeholm Road, Glasgow, Lanarkshire, G14 0QQ Classification: Sand, Gravel & Other Aggregates Status: Active Positional Accuracy: Manually positioned within the geographical locality</p>	A14SE (NW)	736	-	253826 666630
173	<p>Contemporary Trade Directory Entries</p> <p>Name: F C Preservation Ltd Location: 1048, Dumbarton Road, Glasgow, G14 9UL Classification: Plaster Manufacturers & Suppliers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A15NW (N)	709	-	254201 666901
174	<p>Contemporary Trade Directory Entries</p> <p>Name: Glasgow South West Regeneration Agency Location: Arngask Rd, Glasgow, Lanarkshire, G51 4TR Classification: Janitorial Equipment - Servicing & Repairs Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location</p>	A7SW (S)	730	-	254433 665166
175	<p>Contemporary Trade Directory Entries</p> <p>Name: Sliding Door Systems Uk Ltd Location: Unit 2, Harmony Court, Loanbank Place, Glasgow, G51 3HN Classification: Door Manufacturers - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SE (SE)	730	-	255294 665243
175	<p>Contemporary Trade Directory Entries</p> <p>Name: Williams Ironmongery Glasgow Ltd Location: Unit 3, Harmony Court, Loanbank Place, Glasgow, G51 3HN Classification: Hardware Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8SE (SE)	764	-	255314 665210
176	<p>Contemporary Trade Directory Entries</p> <p>Name: Turner & Co Location: 65, Craigton Road, Glasgow, G51 3EQ Classification: Diesel Engine Equipment & Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	749	-	254792 665127
176	<p>Contemporary Trade Directory Entries</p> <p>Name: Turner Location: 65, Craigton Road, Glasgow, G51 3EQ Classification: Diesel Engine Equipment & Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SW (S)	780	-	254827 665098
176	<p>Contemporary Trade Directory Entries</p> <p>Name: Optimum Technical Services Location: 65, Craigton Road, Glasgow, G51 3EQ Classification: Meter Manufacturers & Suppliers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8SW (S)	780	-	254827 665098
176	<p>Contemporary Trade Directory Entries</p> <p>Name: Turner Access Location: 65, Craigton Road, Glasgow, G51 3EQ Classification: Scaffolding & Work Platforms Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8SW (S)	780	-	254827 665098
177	<p>Contemporary Trade Directory Entries</p> <p>Name: M G R Scotland Location: Unit 8 Elder Park Works Space, 100 Elder Street, Glasgow, Lanarkshire, G51 3RA Classification: Lifting Equipment Status: Active Positional Accuracy: Manually positioned to the address or location</p>	A7SE (S)	758	-	254729 665120
177	<p>Contemporary Trade Directory Entries</p> <p>Name: Diverse Products Scotland Ltd Location: UNIT 60, ELDERPARK WORKSPACE, 100, ELDERPARK STREET, GLASGOW, G51 3TR Classification: Engineering Materials Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	758	-	254729 665120

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
177	<p>Contemporary Trade Directory Entries</p> <p>Name: 1 Stop Wind Ltd Location: Unit 25, Elderpark Workspace, 100, Elderpark Street, Glasgow, G51 3TR Classification: Plant & Machinery Repairs Status: Active Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	758	-	254729 665120
177	<p>Contemporary Trade Directory Entries</p> <p>Name: St Andrews Dental Clinic Location: Unit 66, Elderpark Workspace, 100, Elderpark Street, Glasgow, G51 3TR Classification: Medical & Dental Laboratories Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	758	-	254729 665120
177	<p>Contemporary Trade Directory Entries</p> <p>Name: Almex Location: Unit 66, Elderpark Workspace, 100, Elderpark Street, Glasgow, G51 3TR Classification: Transport Equipment - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	758	-	254729 665120
177	<p>Contemporary Trade Directory Entries</p> <p>Name: Zinc Print Location: Unit 51, Elderpark Workspace, 100, Elderpark Street, Glasgow, G51 3TR Classification: Digital Printing Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	758	-	254729 665120
178	<p>Contemporary Trade Directory Entries</p> <p>Name: F G A Fast Glaze Location: Unit 5, 636, South Street, Glasgow, G14 0TR Classification: Window Tinting Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location</p>	A14NE (NW)	761	-	253942 666758
178	<p>Contemporary Trade Directory Entries</p> <p>Name: Eastvale Garage Ltd Location: 34, Squire Street, Glasgow, G14 0RS Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14NE (NW)	782	-	253959 666805
179	<p>Contemporary Trade Directory Entries</p> <p>Name: Brammer Location: 67, Loanbank Quadrant, Glasgow, G51 3HZ Classification: Bearing Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8SW (SE)	769	-	254940 665112
179	<p>Contemporary Trade Directory Entries</p> <p>Name: Brammer Location: 67, Loanbank Quadrant, Glasgow, G51 3HZ Classification: Gearboxes Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SW (SE)	776	-	254941 665105
180	<p>Contemporary Trade Directory Entries</p> <p>Name: Westside Body Repair Centre Ltd Location: 56, Jordanvale Avenue, Glasgow, Lanarkshire, G14 0QP Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14SE (NW)	770	-	253914 666749
180	<p>Contemporary Trade Directory Entries</p> <p>Name: J W Parker Location: 52 Jordanvale Av, Glasgow, G14 0QP Classification: Furniture - Repairing & Restoring Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A14SE (NW)	770	-	253914 666749
180	<p>Contemporary Trade Directory Entries</p> <p>Name: Danilo Lucchi Uk Location: 44, Jordanvale Avenue, Glasgow, G14 0QP Classification: Leather Garments & Products Status: Active Positional Accuracy: Automatically positioned to the address</p>	A14NE (NW)	790	-	253893 666758
181	<p>Contemporary Trade Directory Entries</p> <p>Name: Rearo Laminates Ltd Location: 29, Loanbank Quadrant, Glasgow, G51 3HZ Classification: Veneer Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SW (SE)	784	-	255136 665127

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
182	<p>Contemporary Trade Directory Entries</p> <p>Name: Freight Co International Location: 9, Loanbank Place, Glasgow, G51 3HN Classification: Freight Forwarders Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SE (SE)	788	-	255225 665150
182	<p>Contemporary Trade Directory Entries</p> <p>Name: R Urquhart Location: 125, Helen Street, Glasgow, G51 3HD Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SE (SE)	821	-	255218 665113
182	<p>Contemporary Trade Directory Entries</p> <p>Name: S D S Cosmetic Car Repairs Location: 125, Helen Street, Glasgow, G51 3HD Classification: Car Breakdown & Recovery Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8SE (SE)	822	-	255216 665111
182	<p>Contemporary Trade Directory Entries</p> <p>Name: Omand Motors Location: 125, Helen Street, Glasgow, G51 3HD Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8SE (SE)	822	-	255216 665111
183	<p>Contemporary Trade Directory Entries</p> <p>Name: Bridge Johnson Location: 71, Craighton Road, Glasgow, G51 3RB Classification: Packaging Materials Manufacturers & Suppliers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7SE (S)	792	-	254784 665085
183	<p>Contemporary Trade Directory Entries</p> <p>Name: Telmec Engineering Ltd Location: 64, Arthurlie Street, Glasgow, G51 3RE Classification: Printing Engineering Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A3NE (S)	831	-	254777 665045
183	<p>Contemporary Trade Directory Entries</p> <p>Name: Glasgow Pallet Company Ltd Location: 52, Arthurlie Street, Glasgow, G51 3RE Classification: Pallets, Crates & Packing Cases Status: Active Positional Accuracy: Automatically positioned to the address</p>	A3NE (S)	855	-	254810 665022
184	<p>Contemporary Trade Directory Entries</p> <p>Name: Material World Contracts Ltd Location: 83, Loanbank Quadrant, Glasgow, G51 3HZ Classification: Soft Furnishings - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SW (SE)	797	-	254996 665091
185	<p>Contemporary Trade Directory Entries</p> <p>Name: The D R Paterson Group Ltd Location: 79, Northinch Street, Glasgow, G14 0RL Classification: Blacksmiths & Forgemasters Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14NE (NW)	808	-	253974 666858
186	<p>Contemporary Trade Directory Entries</p> <p>Name: Power Jet Rentals Location: 97, Loanbank Quadrant, GLASGOW, G51 3HZ Classification: Blast Cleaning Equipment Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8SW (SE)	824	-	255049 665071
186	<p>Contemporary Trade Directory Entries</p> <p>Name: Gillies Armstrong Ltd Location: 97, Loanbank Quadrant, Glasgow, G51 3HZ Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SW (SE)	824	-	255049 665071
187	<p>Contemporary Trade Directory Entries</p> <p>Name: Johnson & Leyland Location: Unit 5, Harmony Court, Loanbank Place, Glasgow, G51 3HN Classification: Do It Yourself Wholesalers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8SE (SE)	824	-	255281 665135

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
188	<p>Contemporary Trade Directory Entries</p> <p>Name: Broomz Cleaning Services Ltd Location: 134, Broomhill Drive, GLASGOW, G11 7AS Classification: Cleaning Services - Domestic Status: Active Positional Accuracy: Automatically positioned to the address</p>	A19SE (N)	834	-	254698 667120
189	<p>Contemporary Trade Directory Entries</p> <p>Name: Lafarge Aggregates Ltd Location: 100, Clydeholm Road, Glasgow, G14 0QQ Classification: Concrete & Mortar Ready Mixed Status: Active Positional Accuracy: Automatically positioned to the address</p>	A14SW (NW)	841	-	253706 666653
189	<p>Contemporary Trade Directory Entries</p> <p>Name: Lafarge Readymix Location: 100, Clydeholm Road, Glasgow, G14 0QQ Classification: Concrete & Mortar Ready Mixed Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14SW (NW)	841	-	253706 666653
190	<p>Contemporary Trade Directory Entries</p> <p>Name: Monarch Transport Location: 27, Dava Street, Glasgow, G51 2JA Classification: Road Haulage Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8SE (SE)	853	-	255429 665142
191	<p>Contemporary Trade Directory Entries</p> <p>Name: Allmet Surface Coatings Ltd Location: Unit 27C, Whiteinch Business Park, Jordan Street, Glasgow, G14 0RJ Classification: Powder Coatings Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14NE (NW)	860	-	253877 666833
191	<p>Contemporary Trade Directory Entries</p> <p>Name: Painterpart Ltd Location: Unit 27D, Whiteinch Business Park, Jordan Street, Glasgow, G14 0RJ Classification: Powder Coatings Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14NE (NW)	860	-	253877 666833
191	<p>Contemporary Trade Directory Entries</p> <p>Name: F P M Henderson Ltd Location: 27a-27b, Unit, Whiteinch Business Park, Jordan Street, Glasgow, G14 0RJ Classification: Marine Equipment & Supplies Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14NE (NW)	860	-	253877 666833
191	<p>Contemporary Trade Directory Entries</p> <p>Name: Allmet Surface Coatings Location: Unit 27C, Whiteinch Business Park, Jordan Street, Glasgow, G14 0RJ Classification: Powder Coatings Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14NE (NW)	860	-	253877 666833
191	<p>Contemporary Trade Directory Entries</p> <p>Name: Painterpart Ltd Location: 27a-27b, Unit, Whiteinch Business Park, Jordan Street, Glasgow, G14 0RJ Classification: Powder Coatings Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14NE (NW)	860	-	253877 666833
191	<p>Contemporary Trade Directory Entries</p> <p>Name: Agmors Coachworks Ltd Location: 620, South Street, Glasgow, Lanarkshire, G14 0TR Classification: Car Body Repairs Status: Active Positional Accuracy: Automatically positioned to the address</p>	A14NE (NW)	895	-	253815 666831
191	<p>Contemporary Trade Directory Entries</p> <p>Name: Fast Lane Motors Location: Arch 15,117 Curle St, Glasgow, Lanarkshire, G14 0RR Classification: Garage Services Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location</p>	A14NE (NW)	906	-	253838 666861
191	<p>Contemporary Trade Directory Entries</p> <p>Name: City Garage Location: 157, Curle Street, Glasgow, G14 0TT Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14NE (NW)	907	-	253824 666853

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
191	<p>Contemporary Trade Directory Entries</p> <p>Name: Clyde Auto Repairs Location: 157, Curle Street, Glasgow, Lanarkshire, G14 0TT Classification: Mot Testing Centres Status: Active Positional Accuracy: Automatically positioned to the address</p>	A14NE (NW)	907	-	253824 666853
191	<p>Contemporary Trade Directory Entries</p> <p>Name: Fastlane Motors Location: Arch 15,177 Curle Street, Glasgow, Lanarkshire, G14 0RR Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A14NE (NW)	916	-	253813 666856
192	<p>Contemporary Trade Directory Entries</p> <p>Name: S I G Ltd Location: 21, Dava Street, Glasgow, G51 2JA Classification: Builders' Merchants Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SE (SE)	862	-	255355 665118
193	<p>Contemporary Trade Directory Entries</p> <p>Name: Kelvin Diesels Ltd Location: 133, Helen Street, Glasgow, G51 3HD Classification: Engine Manufacturers & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A4NE (SE)	868	-	255165 665048
193	<p>Contemporary Trade Directory Entries</p> <p>Name: British Polar Engines Ltd Location: 133, Helen Street, Glasgow, G51 3HA Classification: Marine Equipment & Supplies Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A4NE (SE)	869	-	255164 665047
194	<p>Contemporary Trade Directory Entries</p> <p>Name: Classico Sports Location: 55, Jordanvale Avenue, Glasgow, Lanarkshire, G14 0QP Classification: Toys, Games & Sporting Goods - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14NW (NW)	876	-	253757 666758
195	<p>Contemporary Trade Directory Entries</p> <p>Name: Imperial Commercials Ltd Location: 75, Hardgate Road, Glasgow, G51 4SX Classification: Commercial Vehicle Servicing, Repairs, Parts & Accessories Status: Active Positional Accuracy: Automatically positioned to the address</p>	A10SW (W)	881	-	253473 665897
196	<p>Contemporary Trade Directory Entries</p> <p>Name: Armstrong Roofing Components Ltd Location: 60, Clydeholm Road, Glasgow, G14 0QQ Classification: Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14SW (NW)	889	-	253656 666668
196	<p>Contemporary Trade Directory Entries</p> <p>Name: Puma Coaches Location: 60, Clydeholm Road, Glasgow, Lanarkshire, G14 0QQ Classification: Bus & Coach Operators & Stations Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14SW (NW)	889	-	253656 666668
196	<p>Contemporary Trade Directory Entries</p> <p>Name: Tarmac Location: 100 Clydeholm Road, Glasgow, Lanarkshire, G14 0QQ Classification: Concrete & Mortar Ready Mixed Status: Active Positional Accuracy: Automatically positioned to the address</p>	A14SW (NW)	899	-	253651 666677
197	<p>Contemporary Trade Directory Entries</p> <p>Name: Link Tel Communications Location: 5, Dava Street, Glasgow, G51 2JA Classification: Radio Communication Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SE (SE)	890	-	255466 665114
197	<p>Contemporary Trade Directory Entries</p> <p>Name: Atlas Air Conditioning Ltd Location: 3, Dava Street, Glasgow, G51 2JA Classification: Air Conditioning & Refrigeration Contractors Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SE (SE)	899	-	255480 665109

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
197	Contemporary Trade Directory Entries Name: Pro Air Conditioning Location: 3, Dava Street, Glasgow, G51 2JA Classification: Air Conditioning & Refrigeration Contractors Status: Active Positional Accuracy: Automatically positioned to the address	A8SE (SE)	899	-	255479 665109
198	Contemporary Trade Directory Entries Name: Ironing People Location: 191, Crow Road, Glasgow, G11 7PD Classification: Ironing & Home Laundry Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A20SW (NE)	890	-	255124 667103
198	Contemporary Trade Directory Entries Name: Key Services Location: Crow Rd, Glasgow, Lanarkshire, G11 7PD Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A20SW (NE)	904	-	255124 667118
199	Contemporary Trade Directory Entries Name: Cooper & Turner Distribution Location: 250, Helen Street, Glasgow, G51 3JG Classification: Distribution Services Status: Active Positional Accuracy: Automatically positioned to the address	A4NW (SE)	891	-	255058 665004
200	Contemporary Trade Directory Entries Name: Nationwide Crash Repair Centre Location: 75, Hardgate Road, Glasgow, G51 4SX Classification: Car Body Repairs Status: Active Positional Accuracy: Automatically positioned to the address	A9SE (W)	894	-	253457 665973
201	Contemporary Trade Directory Entries Name: Whiteinch Location: 636 South St, Glasgow, G14 0TR Classification: Mot Testing Centres Status: Inactive Positional Accuracy: Manually positioned to the address or location	A14NW (NW)	906	-	253791 666826
201	Contemporary Trade Directory Entries Name: Autosport (Scotland) Ltd Location: 636 South St, Glasgow, G14 0TR Classification: Tyre Dealers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A14NW (NW)	906	-	253790 666826
201	Contemporary Trade Directory Entries Name: Whiteinch Auto'S Location: Unit 10-11, 636, South Street, Glasgow, G14 0TR Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NW (NW)	907	-	253791 666827
201	Contemporary Trade Directory Entries Name: Hugh Orr Location: Unit 10-11, 636, South Street, Glasgow, Lanarkshire, G14 0TR Classification: Car & Commercial Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NW (NW)	907	-	253791 666827
201	Contemporary Trade Directory Entries Name: Turbo Tyres Ltd Location: Unit 10, 636, South Street, Glasgow, G14 0TR Classification: Tyre Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A14NW (NW)	907	-	253791 666827
201	Contemporary Trade Directory Entries Name: All Strip Location: Unit 11, 646, South Street, Glasgow, G14 0TR Classification: Paint & Varnish Stripping Status: Active Positional Accuracy: Automatically positioned to the address	A14NW (NW)	912	-	253791 666834
201	Contemporary Trade Directory Entries Name: Marbella Autos Ltd Location: Unit 2, 646, South Street, Glasgow, G14 0TR Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A14NW (NW)	937	-	253768 666847

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
201	<p>Contemporary Trade Directory Entries</p> <p>Name: Smart Oils Location: Unit 2, 646, South Street, Glasgow, G14 0TR Classification: Oil Recycling & Disposal Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A14NW (NW)	937	-	253768 666847
202	<p>Contemporary Trade Directory Entries</p> <p>Name: Broomhill Laundry Location: 4, Norby Road, Glasgow, G11 7BN Classification: Dry Cleaners Status: Active Positional Accuracy: Automatically positioned to the address</p>	A19SE (N)	929	-	254661 667214
203	<p>Contemporary Trade Directory Entries</p> <p>Name: Great Western Motor Company Location: 279, Clarence Drive, Glasgow, G11 7JU Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A20SW (NE)	934	-	255148 667142
203	<p>Contemporary Trade Directory Entries</p> <p>Name: Broomhill Services Location: 279-281, Clarence Drive, Glasgow, G11 7JU Classification: Exhaust & Shock Absorber Centres Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A20SW (NE)	934	-	255148 667142
203	<p>Contemporary Trade Directory Entries</p> <p>Name: Westline Cars Location: 279-281, Clarence Drive, Glasgow, G11 7JU Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A20SW (NE)	934	-	255148 667142
203	<p>Contemporary Trade Directory Entries</p> <p>Name: Caruth Jordanhill Ltd Location: 281, Clarence Drive, Glasgow, G11 7JU Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A20SW (NE)	964	-	255144 667175
204	<p>Contemporary Trade Directory Entries</p> <p>Name: Quality Repair Centre Location: 75 Hardgate Rd, Glasgow, G51 4SX Classification: Car Body Repairs Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location</p>	A9SE (W)	940	-	253412 665929
205	<p>Contemporary Trade Directory Entries</p> <p>Name: Motor Care Ltd Location: Unit 3, 646, South Street, Glasgow, G14 0TR Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14NW (NW)	947	-	253759 666853
205	<p>Contemporary Trade Directory Entries</p> <p>Name: Stewart Elder Motors Location: Unit 4, 646, South Street, Glasgow, G14 0TR Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A14NW (NW)	954	-	253752 666857
205	<p>Contemporary Trade Directory Entries</p> <p>Name: John Young & Co (Kelvinaugh) Ltd Location: 1071 South St, Glasgow, G14 0DW Classification: Crane Hire, Sales & Service Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A14NW (NW)	955	-	253750 666856
205	<p>Contemporary Trade Directory Entries</p> <p>Name: Advanced Window Films Location: Unit 5,636 South St, Glasgow, Lanarkshire, G14 0TR Classification: Window Tinting Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A14NW (NW)	962	-	253743 666860
205	<p>Contemporary Trade Directory Entries</p> <p>Name: Van Glass Conversions Glasgow Location: Unit 5, 636, South Street, Glasgow, G14 0TR Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14NW (NW)	963	-	253744 666861

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
205	<p>Contemporary Trade Directory Entries</p> <p>Name: Advanced Window Films Location: Unit 5 636 South Street, Glasgow, Lanarkshire, G14 0TR Classification: Window Tinting Status: Active Positional Accuracy: Manually positioned to the address or location</p>	A14NW (NW)	965	-	253742 666863
205	<p>Contemporary Trade Directory Entries</p> <p>Name: Recoat Location: 157 Curle St, Glasgow, Lanarkshire, G14 0TT Classification: Powder Coatings Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14NW (NW)	968	-	253761 666882
205	<p>Contemporary Trade Directory Entries</p> <p>Name: Regency Garage Location: 33, Edzell Street, Glasgow, G14 0TW Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A14NW (NW)	988	-	253715 666870
206	<p>Contemporary Trade Directory Entries</p> <p>Name: The Woodhouse Location: 254, Crow Road, Glasgow, G11 7LA Classification: Furniture - Repairing & Restoring Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A20SW (N)	954	-	254978 667208
207	<p>Contemporary Trade Directory Entries</p> <p>Name: The Scottish Metal Studios Location: 2, Curle St, Glasgow, Lanarkshire, G14 0TT Classification: Metal Workers Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location</p>	A14NW (NW)	955	-	253783 666882
207	<p>Contemporary Trade Directory Entries</p> <p>Name: I M Systems Location: 157, Curle Street, Glasgow, G14 0TT Classification: Vacuum Cleaners - Sales & Service Status: Inactive Positional Accuracy: Automatically positioned in the proximity of the address</p>	A14NW (NW)	966	-	253786 666899
208	<p>Contemporary Trade Directory Entries</p> <p>Name: Intercopy Location: 5, Kirkmichael Avenue, Glasgow, G11 7QQ Classification: Photocopiers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A20SE (NE)	965	-	255256 667139
209	<p>Contemporary Trade Directory Entries</p> <p>Name: Pipe Center Glasgow Location: 31-37 Orton Place, Glasgow, Lanarkshire, G51 2HF Classification: Engineering Materials Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A4NE (SE)	965	-	255353 665012
209	<p>Contemporary Trade Directory Entries</p> <p>Name: Prysmian Group Location: 49, Orton Place, Glasgow, G51 2HF Classification: Power Transmission Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A4NE (SE)	991	-	255345 664980
210	<p>Contemporary Trade Directory Entries</p> <p>Name: Western Commercial Location: 260, Broomloan Road, Glasgow, G51 2JQ Classification: Commercial Vehicle Dealers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A4NE (SE)	980	-	255419 665010
211	<p>Contemporary Trade Directory Entries</p> <p>Name: C M I Waste Management Location: 60a, Clydeholm Road, Glasgow, G14 0QQ Classification: Waste Disposal Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14SW (NW)	987	-	253559 666702
212	<p>Contemporary Trade Directory Entries</p> <p>Name: Donald Bros Ltd Location: 148, Craigton Road, Glasgow, G51 3RH Classification: Hardware Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A3NE (S)	989	-	254672 664892

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
212	Contemporary Trade Directory Entries Name: Craig Builders Engineers Ltd Location: 148, Craighton Road, Glasgow, G51 3RH Classification: Blacksmiths & Forgemasters Status: Inactive Positional Accuracy: Automatically positioned to the address	A3NE (S)	989	-	254672 664892
213	Contemporary Trade Directory Entries Name: Japanese Auto Parts Location: 161, Helen Street, Glasgow, G51 3HD Classification: Mot Testing Centres Status: Inactive Positional Accuracy: Automatically positioned to the address	A4NW (SE)	995	-	255092 664904
213	Contemporary Trade Directory Entries Name: Govan Motors Location: 161, Helen Street, Glasgow, G51 3HD Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A4NW (SE)	995	-	255092 664904
213	Contemporary Trade Directory Entries Name: Auto-Mot Arcade Location: 161, Helen Street, Glasgow, G51 3HD Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A4NW (SE)	995	-	255092 664904
213	Contemporary Trade Directory Entries Name: Japanese Auto Parts Location: 161, Helen Street, Glasgow, G51 3HD Classification: Car Breakers & Dismantlers Status: Inactive Positional Accuracy: Automatically positioned to the address	A4NW (SE)	995	-	255092 664904
214	Fuel Station Entries Name: Castlebank Service Station Location: 210, Castlebank Street , , Glasgow, Glasgow City, G11 6AR Brand: BP Premises Type: Petrol Station Status: Open Positional Accuracy: Manually positioned to the address or location	A12NE (E)	293	-	255423 666314
215	Fuel Station Entries Name: Tunnel Service Station Location: 1249, Govan Road , Govan , Glasgow, Glasgow City, G51 4PL Brand: Gulf Premises Type: Petrol Station Status: Open Positional Accuracy: Automatically positioned to the address	A10SE (W)	321	-	254034 665920
216	Fuel Station Entries Name: Crow Road Filling Station Location: 24-28, Crow Road , Partick , Glasgow, Glasgow City, G11 7PD Brand: OBSOLETE Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Located by supplier to within 100m	A16SE (NE)	678	-	255440 666750
217	Points of Interest - Commercial Services Name: Weirs Garage Location: 12 Cressy Street, Glasgow, G51 4RB Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A11SW (SW)	3	9	254350 665969
217	Points of Interest - Commercial Services Name: T T Tyre Services Location: 12 Cressy Street, Glasgow, G51 4RB Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A11SW (SW)	4	9	254349 665968
217	Points of Interest - Commercial Services Name: Weirs Garage Location: 12 Cressy Street, Glasgow, G51 4RB Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A11SW (SW)	4	9	254349 665968

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
218	Points of Interest - Commercial Services Name: Anixter Ltd Location: 1048 Govan Road, Glasgow, G51 4XP Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A12SW (SE)	18	9	254887 665874
219	Points of Interest - Commercial Services Name: Shape Empire Location: 10 Garmouth Place, Glasgow, G51 3PA Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A12SW (SE)	130	9	254912 665755
220	Points of Interest - Commercial Services Name: West End Details Location: 0/1 353 Glasgow Harbour Terraces, Glasgow, G11 6DJ Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A12NW (NE)	191	9	254974 666415
221	Points of Interest - Commercial Services Name: Rainbow Soft Cloth Carwash & Valet Centre Location: 210 Castlebank Street, Glasgow, G11 6DN Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A12NE (E)	285	9	255404 666317
221	Points of Interest - Commercial Services Name: Castlebank Service Station Location: 210 Castlebank Street, Glasgow, G11 6DN Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A12NE (E)	293	9	255423 666314
221	Points of Interest - Commercial Services Name: Rainbow Soft Cloth Carwash & Valet Centre Location: 210 Castlebank Street, Glasgow, G11 6DN Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A12NE (E)	293	9	255423 666314
221	Points of Interest - Commercial Services Name: B P Car Wash Location: 210 Castlebank Street, Glasgow, G11 6DN Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A12NE (E)	315	9	255454 666320
221	Points of Interest - Commercial Services Name: B P Car Wash Location: 210 Castlebank Street, Glasgow, G11 6DN Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A12NE (E)	315	9	255454 666320
222	Points of Interest - Commercial Services Name: Blue Sky Car Wash Ltd Location: 1233 Govan Road, Glasgow, G51 4PL Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A10SE (W)	317	9	254038 665918
222	Points of Interest - Commercial Services Name: Car Wash Location: 1249 Govan Road, Govan, Glasgow, Lanarkshire, G51 4PL Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A10SE (W)	321	9	254034 665920
223	Points of Interest - Commercial Services Name: Kessington Garage Ltd Location: 20 Meadow Road, Glasgow, G11 6HX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16SW (NE)	338	9	255112 666524
223	Points of Interest - Commercial Services Name: Frema Motor Repairs Location: 20 Meadow Road, Glasgow, G11 6HX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16SW (NE)	338	9	255112 666524

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
223	Points of Interest - Commercial Services Name: Frema Motor Repairs Location: 20 Meadow Road, Glasgow, G11 6HX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16SW (NE)	338	9	255112 666524
224	Points of Interest - Commercial Services Name: Pheonix Honda Hyndlend Location: 701 Dumbarton Road, Glasgow, G11 6HT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A15SE (N)	345	9	254591 666633
224	Points of Interest - Commercial Services Name: Hyndland Honda Location: 701 Dumbarton Road, Glasgow, G11 6HT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A15SE (N)	345	9	254591 666633
225	Points of Interest - Commercial Services Name: Machargs Location: 226 South Street, Glasgow, G11 6JY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A15SW (N)	391	9	254430 666652
226	Points of Interest - Commercial Services Name: Langlands Road Garage Location: 307 Langlands Road, Glasgow, G51 4AW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NW (SW)	437	9	254280 665511
226	Points of Interest - Commercial Services Name: Langlands Road Garage Location: 307 Langlands Road, Glasgow, G51 4AW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NW (SW)	442	9	254275 665508
227	Points of Interest - Commercial Services Name: Auto-Tech Coachworks Ltd Location: 20 Robert Drive, Glasgow, G51 3HE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NE (SE)	456	9	255394 665548
228	Points of Interest - Commercial Services Name: National Tyres and Autocare Location: 7-11 Rosevale Street, Glasgow, G11 6EL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16SE (NE)	484	9	255424 666537
228	Points of Interest - Commercial Services Name: National Tyres and Autocare Location: 7-11 Rosevale Street, Glasgow, G11 6EL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16SE (NE)	492	9	255446 666533
229	Points of Interest - Commercial Services Name: Partick Auto Electrics Location: 2-4 Apsley Lane, Glasgow, G11 7SU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16SE (NE)	487	9	255214 666642
229	Points of Interest - Commercial Services Name: J D V Location: 2-4 Apsley Lane, Glasgow, G11 7SU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16SE (NE)	492	9	255214 666647
229	Points of Interest - Commercial Services Name: J D V Location: 2-4 Apsley Lane, Glasgow, G11 7SU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16SE (NE)	498	9	255200 666660

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
229	Points of Interest - Commercial Services Name: Partick Location: 2-4 Apsley Lane, Glasgow, G11 7SU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16SE (NE)	498	9	255200 666660
230	Points of Interest - Commercial Services Name: Bus & Coach Parts Location: 506 Dumbarton Road, Glasgow, G11 6SN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16SE (NE)	510	9	255323 666622
231	Points of Interest - Commercial Services Name: Arnold Clark Ford Parts Location: 15 Dilwara Avenue, Glasgow, G14 0QS Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (NW)	517	9	254132 666601
232	Points of Interest - Commercial Services Name: C C F Ltd Location: 15 Robert Drive, Glasgow, G51 3HE Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A8NE (SE)	546	9	255325 665433
233	Points of Interest - Commercial Services Name: Crathie Motors Location: 30 Crathie Drive, Glasgow, G11 7XE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16NW (NE)	597	9	255104 666800
233	Points of Interest - Commercial Services Name: Crathie Motors Location: 30 Crathie Drive, Glasgow, G11 7XE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16NW (NE)	604	9	255105 666807
234	Points of Interest - Commercial Services Name: C M S Glasgow Location: 85 Clydeholm Road, Glasgow, G14 0QQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (NW)	600	9	254017 666613
234	Points of Interest - Commercial Services Name: C M S Location: 85 Clydeholm Road, Glasgow, G14 0SE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (NW)	606	9	253947 666565
234	Points of Interest - Commercial Services Name: Smith Location: 85 Clydeholm Road, Glasgow, G14 0SE Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A14SE (NW)	606	9	253947 666565
234	Points of Interest - Commercial Services Name: Lomond Fms Location: 142a Clydeholm Road, Glasgow, G14 0QQ Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A14SE (NW)	652	9	253909 666593
234	Points of Interest - Commercial Services Name: Lomond Fms Location: 142 Clydeholm Road, Glasgow, G14 0QQ Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A14SE (NW)	652	9	253895 666580
235	Points of Interest - Commercial Services Name: Ventrac Location: 20 Nimmo Drive, Glasgow, G51 3SX Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A7SE (S)	608	9	254748 665269

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
235	Points of Interest - Commercial Services Name: Ventrac Sheet Metals Location: 20 Nimmo Drive, Glasgow, G51 3SX Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A7SE (S)	608	9	254748 665269
236	Points of Interest - Commercial Services Name: Rhn Car Services Location: 7 Haylynn Street, Glasgow, G14 9RR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A15NW (N)	651	9	254291 666879
236	Points of Interest - Commercial Services Name: Rhn Car Services Location: 7 Haylynn Street, Glasgow, G14 9RR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A15NW (N)	651	9	254291 666879
237	Points of Interest - Commercial Services Name: Aranovus Location: 150 Helen Street, Glasgow, G51 3JS Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A8SE (SE)	692	9	255199 665244
238	Points of Interest - Commercial Services Name: McConechy's Location: 103 Crow Road, Partick, Glasgow, G11 7SH Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16NE (NE)	702	9	255308 666837
238	Points of Interest - Commercial Services Name: Hiq Tyre Services Location: 103 Crow Road, Glasgow, G11 7SH Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16NE (NE)	702	9	255308 666837
238	Points of Interest - Commercial Services Name: Halfords Autocentre Location: Crow Road, Glasgow, G11 7SH Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A16NE (NE)	704	9	255314 666837
239	Points of Interest - Commercial Services Name: Autoline Location: 60 Curle Street, Glasgow, G14 0RR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NE (NW)	703	9	254060 666795
240	Points of Interest - Commercial Services Name: Lorimer & Findlay Location: 28 Jordanvale Avenue, Glasgow, G14 0QP Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (NW)	704	9	253990 666722
240	Points of Interest - Commercial Services Name: Lorimer & Findlay Ltd Location: 28 Jordanvale Avenue, Glasgow, G14 0QP Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (NW)	704	9	253990 666722
240	Points of Interest - Commercial Services Name: West End Tyres Location: 24 Jordanvale Avenue, Glasgow, G14 0QP Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (NW)	704	9	253990 666722
241	Points of Interest - Commercial Services Name: Autoline Location: 60 Curle Street, Glasgow, G14 0RR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NE (NW)	717	9	254045 666800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
241	Points of Interest - Commercial Services Name: Arnold Clark Accident Repair Centre Location: 56 Jordanvale Avenue, Glasgow, G14 0QP Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (NW)	770	9	253914 666749
241	Points of Interest - Commercial Services Name: Westside Body Repair Center Ltd Location: 56 Jordanvale Avenue, Glasgow, G14 0QP Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (NW)	770	9	253914 666749
241	Points of Interest - Commercial Services Name: Eastvale Garage Ltd Location: 34 Squire Street, Glasgow, G14 0RS Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NE (NW)	782	9	253959 666805
241	Points of Interest - Commercial Services Name: Carhoods Direct Location: 44 Jordanvale Avenue, Glasgow, G14 0QP Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NE (NW)	790	9	253893 666758
241	Points of Interest - Commercial Services Name: Trim Line Car Trimmers Location: 44 Jordanvale Avenue, Glasgow, G14 0QP Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NE (NW)	790	9	253893 666758
241	Points of Interest - Commercial Services Name: Trim Workshops Location: 44 Jordanvale Avenue, Glasgow, G14 0QP Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NE (NW)	790	9	253893 666758
241	Points of Interest - Commercial Services Name: The D R Paterson Group Ltd Location: 79 Northinch Street, Glasgow, G14 0RL Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A14NE (NW)	808	9	253974 666858
241	Points of Interest - Commercial Services Name: D R Paterson Group Ltd Location: 79 Northinch Street, Glasgow, G14 0RL Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A14NE (NW)	808	9	253974 666858
242	Points of Interest - Commercial Services Name: McMillan Flooring Distribution Location: 58 Loanbank Quadrant, Glasgow, G51 3HZ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A8SW (SE)	727	9	254905 665151
242	Points of Interest - Commercial Services Name: C C S Ltd Location: 71 Loanbank Quadrant, Glasgow, G51 3HZ Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A8SW (SE)	776	9	254955 665106
242	Points of Interest - Commercial Services Name: C C S Scotland Ltd Location: 71 Loanbank Quadrant, Glasgow, G51 3HZ Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A8SW (SE)	776	9	254955 665106
242	Points of Interest - Commercial Services Name: R & R Validation Ltd Location: 75 Loanbank Quadrant, Glasgow, G51 3HZ Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A8SW (SE)	788	9	254969 665096

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
243	Points of Interest - Commercial Services Name: Infast Adesco Location: Unit 2 Harmony Court, Loanbank Place, Glasgow, G51 3HN Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A8SE (SE)	730	9	255294 665243
244	Points of Interest - Commercial Services Name: Freight Co International Location: 9 Loanbank Place, Glasgow, G51 3HN Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A8SE (SE)	784	9	255235 665159
244	Points of Interest - Commercial Services Name: Freight Co International Ltd Location: 9 Loanbank Place, Glasgow, G51 3HN Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A8SE (SE)	788	9	255225 665150
244	Points of Interest - Commercial Services Name: R Urquhart Location: 125 Helen Street, Glasgow, G51 3HD Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SE (SE)	821	9	255218 665113
244	Points of Interest - Commercial Services Name: Omand Motors Location: 125 Helen Street, Glasgow, G51 3HD Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SE (SE)	821	9	255218 665113
244	Points of Interest - Commercial Services Name: City Auto Electrics Location: 125 Helen Street, Glasgow, G51 3HD Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SE (SE)	821	9	255218 665113
244	Points of Interest - Commercial Services Name: Affordable Trades Location: 125 Helen Street, Glasgow, G51 3HD Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A8SE (SE)	821	9	255218 665113
244	Points of Interest - Commercial Services Name: Omand Motors Location: 125 Helen Street, Glasgow, G51 3HD Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SE (SE)	822	9	255216 665111
245	Points of Interest - Commercial Services Name: Monarch Transport Location: 27 Dava Street, Glasgow, G51 2JA Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A8SE (SE)	853	9	255428 665142
246	Points of Interest - Commercial Services Name: Imperial Commercials Ltd Location: 79 Hardgate Road, Glasgow, G51 4SX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A10SW (W)	864	9	253487 665993
247	Points of Interest - Commercial Services Name: Burns Environmental Pest Prevention Location: 76 Thornwood Drive, Glasgow, Lanarkshire, G11 7PR Category: Contract Services Class Code: Pest and Vermin Control Positional Accuracy: Positioned to address or location	A20SW (NE)	874	9	255018 667117
248	Points of Interest - Commercial Services Name: Nationwide Crash Repair Centre Location: 75 Hardgate Road, Glasgow, G51 4SX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A10SW (W)	881	9	253473 665896

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
248	Points of Interest - Commercial Services Name: Quality Repair Centre Location: 75 Hardgate Road, Glasgow, G51 4SX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A10SW (W)	881	9	253473 665897
249	Points of Interest - Commercial Services Name: Agmors Coachworks Ltd Location: 620 South Street, Glasgow, G14 0TR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NE (NW)	893	9	253814 666828
249	Points of Interest - Commercial Services Name: Agmors Coachworks Location: 620 South Street, Glasgow, G14 0TR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NE (NW)	895	9	253815 666831
249	Points of Interest - Commercial Services Name: Awg Windscreens Location: Unit 5, 636 South St, Glasgow, G14 0TR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (NW)	906	9	253791 666826
249	Points of Interest - Commercial Services Name: Whiteinch Location: 636 South St, Glasgow, G14 0TR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (NW)	906	9	253791 666826
249	Points of Interest - Commercial Services Name: City Garage Location: 157 Curle Street, Glasgow, G14 0TT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NE (NW)	907	9	253824 666853
249	Points of Interest - Commercial Services Name: Carbo Location: Unit 10-11 636, South Street, Glasgow, G14 0TR Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A14NW (NW)	907	9	253791 666827
249	Points of Interest - Commercial Services Name: Carbo Car Valet Services Location: Unit 10 636, South Street, Glasgow, G14 0TR Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A14NW (NW)	907	9	253791 666827
249	Points of Interest - Commercial Services Name: Van Glass Conversions Glasgow Location: Unit 5 636, South Street, Glasgow, G14 0TR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (NW)	910	9	253791 666831
249	Points of Interest - Commercial Services Name: F G A Windscreens Location: Unit 5, 636 South Street, Glasgow, G14 0TR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (NW)	910	9	253791 666831
249	Points of Interest - Commercial Services Name: Fastlane Motors Location: 177 Curle Street, Glasgow, G14 0TT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NE (NW)	916	9	253813 666856
249	Points of Interest - Commercial Services Name: Clyde Auto Repairs Location: 157 Curle Street, Glasgow, G14 0TT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NE (NW)	917	9	253810 666855

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
250	Points of Interest - Commercial Services Name: Cooper & Turner Distribution Location: 250 Helen Street, Glasgow, G51 3JG Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A4NW (SE)	913	9	255093 664987
250	Points of Interest - Commercial Services Name: Govan Motors Location: 161 Helen Street, Glasgow, G51 3HD Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A4NW (SE)	995	9	255092 664904
250	Points of Interest - Commercial Services Name: Govan Motors Location: 161 Helen Street, Glasgow, G51 3HD Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A4NW (SE)	996	9	255091 664903
250	Points of Interest - Commercial Services Name: Japanese Auto Parts Location: 161 Helen Street, Glasgow, G51 3HD Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A4NW (SE)	996	9	255091 664903
251	Points of Interest - Commercial Services Name: Broomhill Services Location: 279-281 Clarence Drive, Glasgow, G11 7JU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A20SW (NE)	934	9	255148 667142
251	Points of Interest - Commercial Services Name: Caruth Jordanhill Ltd Location: 281a Clarence Drive, Glasgow, G11 7JU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A20SW (NE)	956	9	255142 667167
251	Points of Interest - Commercial Services Name: Broomhill Exhausts & Tyre Services Location: 281a Clarence Drive, Glasgow, G11 7JU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A20SW (NE)	956	9	255142 667167
251	Points of Interest - Commercial Services Name: Caruth Jordan Hill Ltd Location: 281a Clarence Drive, Glasgow, G11 7JU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A20SW (NE)	956	9	255142 667167
251	Points of Interest - Commercial Services Name: Caruth Jordanhill Ltd Location: 281 Clarence Drive, Glasgow, G11 7JU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A20SW (NE)	964	9	255144 667175
252	Points of Interest - Commercial Services Name: Marbella Autos Ltd Location: Unit 2 646, South Street, Glasgow, G14 0TR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (NW)	937	9	253768 666847
252	Points of Interest - Commercial Services Name: Smart Oils Location: Unit 2 646, South Street, Glasgow, G14 0TR Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A14NW (NW)	937	9	253768 666847
252	Points of Interest - Commercial Services Name: Motor Care Ltd Location: Unit 3 646, South Street, Glasgow, G14 0TR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (NW)	947	9	253759 666853

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
252	Points of Interest - Commercial Services Name: R L Crawford Motor Engineers Ltd Location: Unit 3 646, South Street, Glasgow, G14 0TR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (NW)	948	9	253758 666853
252	Points of Interest - Commercial Services Name: Stewart Elder Motors Location: Unit 4 646, South Street, Glasgow, G14 0TR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (NW)	955	9	253751 666857
252	Points of Interest - Commercial Services Name: Whiteinch Auto's Location: Unit 4 636, South Street, Glasgow, G14 0TR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (NW)	955	9	253750 666856
252	Points of Interest - Commercial Services Name: Awg Windscreens Ltd Location: Unit 5 646, South Street, Glasgow, G14 0TR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (NW)	963	9	253744 666861
252	Points of Interest - Commercial Services Name: Advanced Window Films Location: Unit 5 636 South Street, Glasgow, Lanarkshire, G14 0TR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (NW)	964	9	253743 666862
252	Points of Interest - Commercial Services Name: Whiteinch M O T Centre Location: Unit 9 646, South Street, Glasgow, G14 0TR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (NW)	983	9	253712 666861
252	Points of Interest - Commercial Services Name: Brian Elder Location: Unit 9 646, South Street, Glasgow, G14 0TR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (NW)	987	9	253709 666863
252	Points of Interest - Commercial Services Name: Regency Garage Location: 33 Edzell Street, Glasgow, G14 0TW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (NW)	987	9	253717 666870
252	Points of Interest - Commercial Services Name: Regency Garage Location: 33 Edzell Street, Glasgow, G14 0TW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (NW)	988	9	253715 666870
253	Points of Interest - Commercial Services Name: Prysmian Group Location: 49 Orton Place, Glasgow, G51 2HF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A4NE (SE)	991	9	255345 664980
254	Points of Interest - Education and Health Name: The William Quarrier Scottish Epilepsy Centre Location: 20 St. Kenneth Drive, Glasgow, G51 4QD Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A7NW (SW)	351	9	254237 665640
255	Points of Interest - Education and Health Name: Southern General Hospital Location: Glasgow, G51 4TF Category: Health Practitioners and Establishments Class Code: Accident & Emergency Department Positional Accuracy: Positioned to address or location	A10SE (W)	548	9	253808 665893

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
255	Points of Interest - Education and Health Name: Southern General Hospital Location: 1345 Govan Road, Glasgow, G51 4TF Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A10SE (W)	549	9	253808 665893
255	Points of Interest - Education and Health Name: Southern General Hospital Location: 1345 Govan Road, Glasgow, G51 4TF Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A10SE (W)	549	9	253808 665893
255	Points of Interest - Education and Health Name: Southern General Hospital Location: 1345 Govan Road, Glasgow, G51 4TF Category: Health Practitioners and Establishments Class Code: Accident & Emergency Department Positional Accuracy: Positioned to address or location	A10SE (W)	549	9	253808 665893
255	Points of Interest - Education and Health Name: Southern General Hospital Location: 1345 Govan Road, Glasgow, G51 4TF Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A10SE (W)	549	9	253808 665893
256	Points of Interest - Education and Health Name: Royal Hospital for Children Location: Govan Road, Glasgow, G51 4TF Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A6NW (SW)	632	9	253792 665677
257	Points of Interest - Education and Health Name: The Queen Elizabeth University Hospital Glasgow Location: 1345 Govan Road, Glasgow, G51 4TF Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A6NW (W)	863	9	253539 665680
258	Points of Interest - Education and Health Name: Royal Hospital for Children Location: Govan Road, Glasgow, G51 4TF Category: Health Practitioners and Establishments Class Code: Accident & Emergency Department Positional Accuracy: Positioned to address or location	A6NW (SW)	914	9	253523 665583
258	Points of Interest - Education and Health Name: The Queen Elizabeth University Hospital Glasgow Location: 1345 Govan Road, Glasgow, G51 4TF Category: Health Practitioners and Establishments Class Code: Accident & Emergency Department Positional Accuracy: Positioned to address or location	A6NW (SW)	954	9	253476 665592
259	Points of Interest - Manufacturing and Production Name: Works Location: G51 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A12SE (E)	165	9	255239 665805
259	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (E)	168	9	255238 665802
259	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (SE)	203	9	255211 665766
259	Points of Interest - Manufacturing and Production Name: Works Location: G51 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (SE)	204	9	255211 665765

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
259	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (SE)	210	9	255247 665761
259	Points of Interest - Manufacturing and Production Name: Works Location: G51 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (SE)	211	9	255247 665760
260	Points of Interest - Manufacturing and Production Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A16SW (NE)	335	9	255111 666521
260	Points of Interest - Manufacturing and Production Name: Factory Location: G11 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A16SW (NE)	338	9	255117 666522
261	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NE (SE)	379	9	255315 665602
261	Points of Interest - Manufacturing and Production Name: Works Location: G51 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A8NE (SE)	380	9	255320 665603
261	Points of Interest - Manufacturing and Production Name: Works Location: G51 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A8NE (SE)	430	9	255286 665544
261	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NE (SE)	431	9	255282 665542
261	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NE (SE)	464	9	255256 665506
262	Points of Interest - Manufacturing and Production Name: Factory Location: G51 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A10NE (W)	427	9	253928 666158
263	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (NW)	524	9	254116 666592
263	Points of Interest - Manufacturing and Production Name: Clydeside Industrial Estate Location: G14 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A14SE (NW)	530	9	254133 666623

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
263	Points of Interest - Manufacturing and Production Name: Works Location: G14 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A14SE (NW)	531	9	254111 666596
263	Points of Interest - Manufacturing and Production Name: Clydeside Industrial Estate Location: G14 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A14SE (NW)	532	9	254132 666624
264	Points of Interest - Manufacturing and Production Name: Works Location: G51 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A8NE (SE)	530	9	255253 665440
264	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NE (SE)	533	9	255251 665437
265	Points of Interest - Manufacturing and Production Name: Elmpark Centre Location: G51 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A7SE (S)	598	9	254678 665283
266	Points of Interest - Manufacturing and Production Name: Works Location: G51 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A8SE (SE)	600	9	255216 665351
266	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SE (SE)	610	9	255228 665346
267	Points of Interest - Manufacturing and Production Name: Tank Location: G51 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A6NW (SW)	700	9	253704 665705
267	Points of Interest - Manufacturing and Production Name: Tank Location: G51 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A6NW (SW)	749	9	253657 665688
268	Points of Interest - Manufacturing and Production Name: Tanks Location: G14 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A14SE (NW)	722	9	253840 666624
269	Points of Interest - Manufacturing and Production Name: Elderpark Workspace Location: G51 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7SE (S)	728	9	254698 665152
269	Points of Interest - Manufacturing and Production Name: Elderpark Workspace Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7SE (S)	730	9	254677 665151

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
270	Points of Interest - Manufacturing and Production Name: Works Location: G51 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A10NW (W)	732	9	253622 666160
271	Points of Interest - Manufacturing and Production Name: Factory Location: G51 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A8SW (SE)	743	9	254965 665141
271	Points of Interest - Manufacturing and Production Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SW (SE)	747	9	254972 665137
272	Points of Interest - Manufacturing and Production Name: Industrial Estate Location: G51 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A8SW (SE)	754	9	255068 665144
273	Points of Interest - Manufacturing and Production Name: Tank Location: G14 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A14SW (NW)	804	9	253745 666642
274	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NE (NW)	822	9	253934 666837
275	Points of Interest - Manufacturing and Production Name: Tanks Location: G14 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A14SW (W)	839	9	253579 666441
275	Points of Interest - Manufacturing and Production Name: Tank Location: G14 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A14SW (W)	846	9	253569 666434
275	Points of Interest - Manufacturing and Production Name: Tank Location: G14 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A14SW (W)	847	9	253571 666441
276	Points of Interest - Manufacturing and Production Name: Tank Location: G51 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A4NW (SE)	899	9	254999 664988
276	Points of Interest - Manufacturing and Production Name: Tanks Location: G51 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A4NW (SE)	899	9	254986 664986
276	Points of Interest - Manufacturing and Production Name: Tank Location: G51 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A4NW (SE)	901	9	255007 664987

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
276	Points of Interest - Manufacturing and Production Name: Tank Location: G51 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A4NW (SE)	903	9	254997 664983
276	Points of Interest - Manufacturing and Production Name: Works Location: G51 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A4NW (SE)	934	9	255056 664961
276	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A4NW (SE)	935	9	255051 664959
276	Points of Interest - Manufacturing and Production Name: Works Location: G51 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A4NW (SE)	943	9	254986 664942
277	Points of Interest - Manufacturing and Production Name: Tank Location: G14 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A14SW (NW)	910	9	253617 666651
278	Points of Interest - Manufacturing and Production Name: Tank Location: G14 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A14NW (NW)	912	9	253758 666807
278	Points of Interest - Manufacturing and Production Name: Tank Location: G14 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A14NW (NW)	913	9	253756 666806
278	Points of Interest - Manufacturing and Production Name: Tank Location: G14 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A14NW (NW)	914	9	253759 666810
278	Points of Interest - Manufacturing and Production Name: Tanks Location: G14 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A14NW (NW)	918	9	253752 666809
278	Points of Interest - Manufacturing and Production Name: Works Location: G14 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A14NE (NW)	921	9	253811 666860
278	Points of Interest - Manufacturing and Production Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NE (NW)	924	9	253807 666861
279	Points of Interest - Manufacturing and Production Name: Rowan Business Park Location: G51 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A4NW (S)	938	9	254909 664940

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
280	Points of Interest - Public Infrastructure Name: BP Services Castlebank Connect Location: 210 Castlebank Street, Glasgow, G11 6DN Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12NE (E)	285	9	255404 666317
280	Points of Interest - Public Infrastructure Name: BP Service Stations Castlebank Service Station Location: 210 Castlebank Street, Glasgow, G11 6DN Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12NE (E)	285	9	255404 666317
280	Points of Interest - Public Infrastructure Name: BP Service Station Location: 210 Castlebank Street, Glasgow, G11 6DN Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12NE (E)	292	9	255421 666314
280	Points of Interest - Public Infrastructure Name: Castlebank Connect Location: 210 Castlebank Street, Glasgow, G11 6DN Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12NE (E)	292	9	255421 666315
280	Points of Interest - Public Infrastructure Name: Castlebank Service Station Location: 210 Castlebank Street, Glasgow, G11 6DN Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12NE (E)	293	9	255423 666314
280	Points of Interest - Public Infrastructure Name: BP Petrol Station Location: 210 Castlebank Street, Glasgow, G11 6DN Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12NE (E)	315	9	255454 666320
280	Points of Interest - Public Infrastructure Name: BP Service Station Location: 210 Castlebank Street, Glasgow, G11 6DN Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12NE (E)	315	9	255454 666320
281	Points of Interest - Public Infrastructure Name: Gulf Location: 1249 Govan Road, Glasgow, G51 4PL Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A10SE (W)	316	9	254039 665918
281	Points of Interest - Public Infrastructure Name: Tunnel Petrol Station Location: 1249 Govan Road, Glasgow, G51 4PL Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A10SE (W)	321	9	254034 665919
281	Points of Interest - Public Infrastructure Name: Gulf Location: 1233-1259 Govan Road, Glasgow, G51 4PL Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A10SE (W)	321	9	254034 665920
281	Points of Interest - Public Infrastructure Name: Gulf Petrol Filling Station Location: 1233-1259 Govan Road, Glasgow, G51 4PL Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A10SE (W)	321	9	254034 665920
281	Points of Interest - Public Infrastructure Name: Tunnel Service Station Location: 1249 Govan Road, Govan, Glasgow, Lanarkshire, G51 4PL Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A10SE (W)	321	9	254034 665920

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
282	Points of Interest - Public Infrastructure Name: Glasgow West End Police Station Location: Partick Police Station 609-613, Dumbarton Road, Glasgow, G11 6HY Category: Central and Local Government Class Code: Police Stations Positional Accuracy: Positioned to address or location	A16SW (NE)	339	9	255027 666554
282	Points of Interest - Public Infrastructure Name: Strathclyde Police Location: Partick Police Office 609-613, Dumbarton Road, Glasgow, G11 6HY Category: Central and Local Government Class Code: Police Stations Positional Accuracy: Positioned to address or location	A16SW (NE)	339	9	255028 666554
282	Points of Interest - Public Infrastructure Name: Partick Police Station Location: Partick Police Station 609-613, Dumbarton Road, Glasgow, G11 6HY Category: Central and Local Government Class Code: Police Stations Positional Accuracy: Positioned to address or location	A16SW (NE)	339	9	255028 666554
283	Points of Interest - Public Infrastructure Name: Bus Station Location: G51 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A8NE (SE)	391	9	255442 665649
283	Points of Interest - Public Infrastructure Name: Bus Station Location: G51 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to an adjacent address or location	A8NE (SE)	392	9	255440 665646
284	Points of Interest - Public Infrastructure Name: Thornwood Fat & Oil Merchants Location: 170 Clydeholm Road, Glasgow, G14 0QQ Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A14SE (NW)	527	9	254050 666547
285	Points of Interest - Public Infrastructure Name: Slurry Tank Location: G11 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A16SE (NE)	622	9	255476 666666
286	Points of Interest - Public Infrastructure Name: Thornwood Fat & Oil Merchants Location: 170 Clydeholm Road, Glasgow, G14 0QQ Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A14SE (NW)	705	9	253857 666617
287	Points of Interest - Public Infrastructure Name: On Site Shredding Location: Unit 59 Elderpark Workspace 100, Elderpark Street, Glasgow, G51 3TR Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A7SE (S)	705	9	254680 665176
288	Points of Interest - Public Infrastructure Name: Sewage Works Location: G51 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A10SW (W)	738	9	253613 665982
289	Points of Interest - Public Infrastructure Name: Sewage Works Location: G51 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A10NW (W)	739	9	253615 666163
289	Points of Interest - Public Infrastructure Name: Sewage Works Location: G51 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A10NW (W)	777	9	253584 666228

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
290	Points of Interest - Public Infrastructure Name: Sewage Works Location: G51 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A10NW (W)	892	9	253464 666195
291	Points of Interest - Public Infrastructure Name: Partick Junction Location: G11 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to an adjacent address or location	A20SE (NE)	980	9	255342 667124
292	Points of Interest - Public Infrastructure Name: C M I Waste Management Location: 60a Clydeholm Road, Glasgow, G14 0QQ Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A14SW (NW)	987	9	253559 666702
293	Points of Interest - Recreational and Environmental Name: Playground Location: Drive Road, G51 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A11SW (S)	172	9	254395 665751
293	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A11SW (S)	179	9	254391 665745
294	Points of Interest - Recreational and Environmental Name: Play Area Location: G51 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A7NE (SE)	200	9	254744 665678
295	Points of Interest - Recreational and Environmental Name: Play Area Location: G51 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A10SE (W)	297	9	254055 666048
296	Points of Interest - Recreational and Environmental Name: Play Area Location: G11 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A16SW (NE)	435	9	255063 666643
296	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A16SW (NE)	435	9	255062 666644
297	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8NW (SE)	464	9	254988 665426
297	Points of Interest - Recreational and Environmental Name: Playground Location: G51 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8NW (SE)	464	9	254982 665426
297	Points of Interest - Recreational and Environmental Name: Playground Location: Harhill Street, G51 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8NW (SE)	466	9	255000 665425

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
298	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A16SE (NE)	512	9	255285 666643
298	Points of Interest - Recreational and Environmental Name: Playground Location: Arderly Street, G11 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A16SE (NE)	516	9	255286 666647
299	Points of Interest - Recreational and Environmental Name: Play Area Location: G51 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8SW (SE)	547	9	255142 665377
300	Points of Interest - Recreational and Environmental Name: Play Area Location: G14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A15NW (NW)	598	9	254194 666767
301	Points of Interest - Recreational and Environmental Name: Play Area Location: G11 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A16NE (NE)	815	9	255176 667006
302	Points of Interest - Recreational and Environmental Name: Playground Location: Dyce Lane, G11 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A16NE (NE)	856	9	255453 666944
302	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A16NE (NE)	859	9	255460 666944
303	Points of Interest - Recreational and Environmental Name: Play Area Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A20SW (N)	866	9	254855 667138
304	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A4NW (S)	917	9	254960 664965
305	Points of Interest - Recreational and Environmental Name: Victoria Park Location: 12 Victoria Park Drive North, Glasgow, G14 9NN Category: Recreational Class Code: Municipal Parks And Gardens Positional Accuracy: Positioned to address or location	A19SW (N)	970	9	254438 667248
306	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A3NE (S)	989	9	254737 664888

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices Scottish Environment Protection Agency - Head Office West Dunbartonshire Council - Public Health and Pollution East Dunbartonshire Council East Renfrewshire Council Glasgow City Council Renfrewshire Council	June 2020 October 2017 September 2017 September 2017 September 2017 September 2017	Annually Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Discharge Consents Scottish Environment Protection Agency - West Region	April 2002	
Enforcement and Prohibition Notices Scottish Environment Protection Agency - West Region	March 2013	
Integrated Pollution Controls Scottish Environment Protection Agency - Head Office Scottish Environment Protection Agency - West Region	February 1998 March 2002	
Local Authority Pollution Prevention and Controls Scottish Environment Protection Agency - West Region	March 2002	Not Applicable
Local Authority Pollution Prevention and Control Enforcements Scottish Environment Protection Agency - West Region	January 1998	Variable
Nearest Surface Water Feature Ordnance Survey	February 2022	
Prosecutions Relating to Authorised Processes Scottish Environment Protection Agency - West Region	March 2013	
Prosecutions Relating to Controlled Waters Scottish Environment Protection Agency - West Region	March 2013	
Registered Radioactive Substances Scottish Environment Protection Agency - East Region Scottish Environment Protection Agency - West Region Scottish Environment Protection Agency - Head Office	April 1996 April 1996 January 1998	
River Quality Scottish Environment Protection Agency - Head Office Scottish Environment Protection Agency - West Region	December 1990 December 1990	Not Applicable Not Applicable
Water Abstractions Scottish Government - Agriculture, Environment and Fisheries Department	February 2004	
Water Industry Act Referrals Scottish Environment Protection Agency - West Region	April 1996	
Groundwater Vulnerability Scottish Environment Protection Agency - West Region Scottish Environment Protection Agency - Head Office	December 1995 December 1995	Not Applicable
Drift Deposits Scottish Environment Protection Agency - Head Office Scottish Environment Protection Agency - West Region	December 1995 December 1995	Not Applicable Not Applicable
OS Water Network Lines Ordnance Survey	January 2022	Quarterly
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	As notified






Waste	Version	Update Cycle
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	November 2002	As notified
Integrated Pollution Control Registered Waste Sites Scottish Environment Protection Agency - Head Office Scottish Environment Protection Agency - West Region	March 2002 March 2002	Not Applicable Not Applicable
Local Authority Landfill Coverage East Dunbartonshire Council - Development And Environment Directorate East Renfrewshire Council Glasgow City Council Renfrewshire Council West Dunbartonshire Council - Public Health and Pollution	February 2003 February 2003 February 2003 February 2003 February 2003	Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable
Local Authority Recorded Landfill Sites East Dunbartonshire Council - Development And Environment Directorate East Renfrewshire Council Glasgow City Council Renfrewshire Council West Dunbartonshire Council - Public Health and Pollution	October 2018 October 2018 October 2018 October 2018 October 2018	
Potentially Infilled Land (Non-Water) Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water) Landmark Information Group Limited	December 1999	
Registered Landfill Sites Scottish Environment Protection Agency - Head Office Scottish Environment Protection Agency - West Region	March 2006 March 2006	Not Applicable Not Applicable
Registered Waste Transfer Sites Scottish Environment Protection Agency - Head Office Scottish Environment Protection Agency - West Region	April 2018 April 2018	
Registered Waste Treatment or Disposal Sites Scottish Environment Protection Agency - Head Office Scottish Environment Protection Agency - West Region	June 2015 June 2015	
Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	January 2022	Bi-Annually
Explosive Sites Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	August 2001	
Planning Hazardous Substance Enforcements East Dunbartonshire Council - Planning Department East Renfrewshire Council - Planning and Development Services Glasgow City Council - Planning Department West Dunbartonshire Council - Planning Department Renfrewshire Council - Planning Department	February 2016 February 2016 February 2016 February 2016 October 2015	Variable Variable Variable Variable Variable
Planning Hazardous Substance Consents East Dunbartonshire Council - Planning Department East Renfrewshire Council - Planning and Development Services Glasgow City Council - Planning Department West Dunbartonshire Council - Planning Department Renfrewshire Council - Planning Department	February 2016 February 2016 February 2016 February 2016 October 2015	Variable Variable Variable Variable Variable

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	As notified
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	December 2015	As notified
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2021	Bi-Annually
BGS Urban Soil Chemistry British Geological Survey - National Geoscience Information Service	December 2015	As notified
BGS Urban Soil Chemistry Averages British Geological Survey - National Geoscience Information Service	December 2015	As notified
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB) Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011 November 2020	As notified
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	June 1998	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	As notified
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	January 2022	Quarterly
Fuel Station Entries Catalist Ltd - Experian	March 2022	Quarterly
Gas Pipelines National Grid	October 2021	Bi-Annually
Points of Interest - Commercial Services PointX	March 2022	Quarterly
Points of Interest - Education and Health PointX	March 2022	Quarterly
Points of Interest - Manufacturing and Production PointX	March 2022	Quarterly
Points of Interest - Public Infrastructure PointX	March 2022	Quarterly
Points of Interest - Recreational and Environmental PointX	March 2022	Quarterly

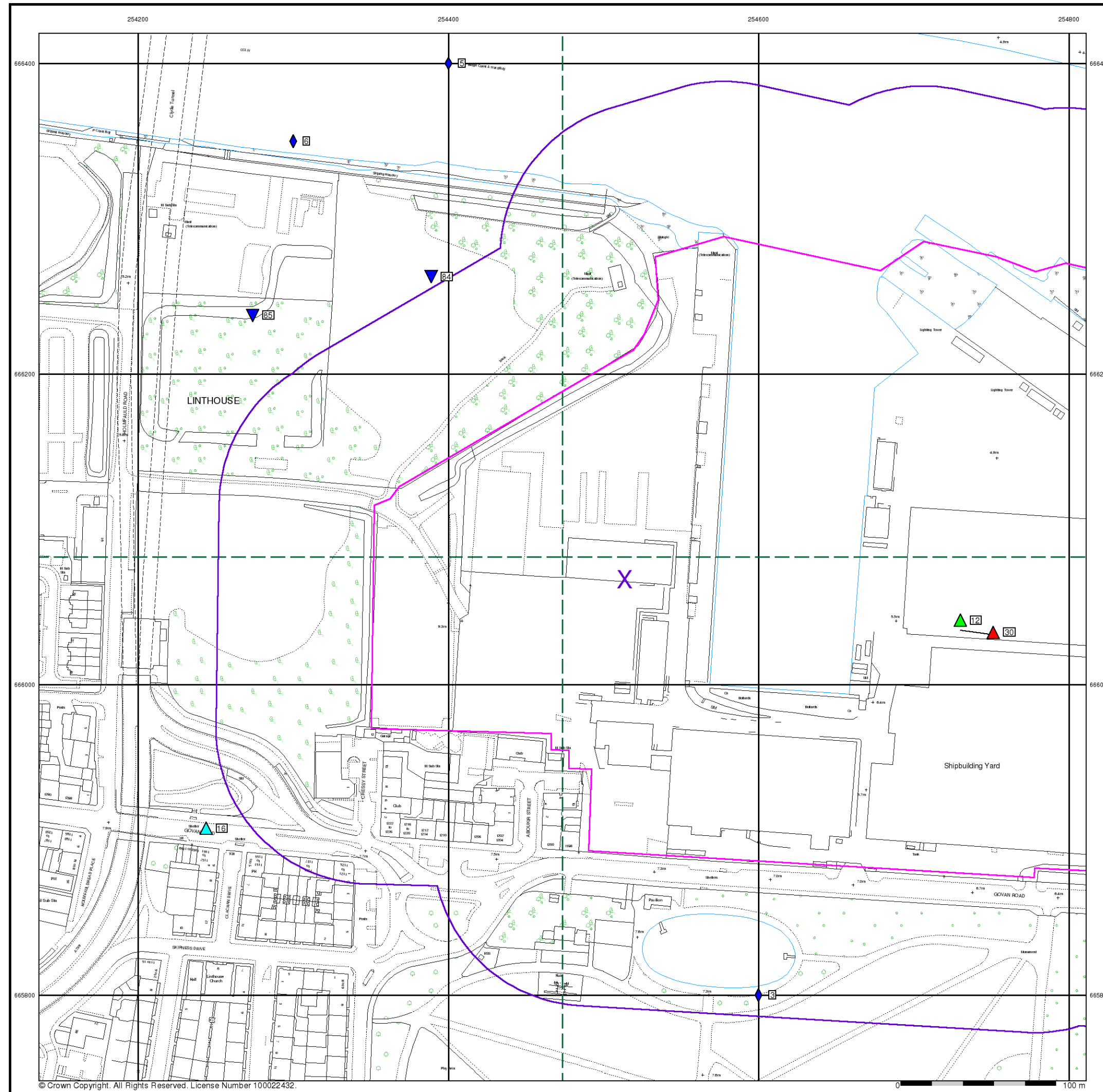
Sensitive Land Use	Version	Update Cycle
Ancient Woodland NatureScot	September 2017	Bi-Annually
Areas of Adopted Green Belt East Dunbartonshire Council East Renfrewshire Council Glasgow City Council Renfrewshire Council West Dunbartonshire Council	October 2020 October 2020 October 2020 October 2020 October 2020	Quarterly Quarterly Quarterly Quarterly Quarterly
Areas of Unadopted Green Belt East Dunbartonshire Council East Renfrewshire Council Glasgow City Council Renfrewshire Council West Dunbartonshire Council	October 2020 October 2020 October 2020 October 2020 October 2020	Quarterly Quarterly Quarterly Quarterly Quarterly
Environmentally Sensitive Areas Scottish Government	January 2017	
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves East Dunbartonshire Council East Renfrewshire Council Glasgow City Council Renfrewshire Council West Dunbartonshire Council	February 2018 February 2018 February 2018 February 2018 February 2018	Bi-Annually Bi-Annually Bi-Annually Bi-Annually Bi-Annually
Marine Nature Reserves NatureScot	July 2019	Bi-Annually
National Nature Reserves NatureScot	June 2019	Bi-Annually
National Parks Scottish Government	February 2018	Bi-Annually
National Scenic Areas Scottish Government	February 2018	Bi-Annually
Nitrate Vulnerable Zones Scottish Government	July 2019	Annually
Ramsar Sites NatureScot	April 2019	Bi-Annually
Sites of Special Scientific Interest NatureScot	March 2019	Bi-Annually
Special Areas of Conservation NatureScot	August 2020	Bi-Annually
Special Protection Areas NatureScot	February 2021	Bi-Annually

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	 British Geological Survey <small>NATURAL ENVIRONMENT RESEARCH COUNCIL</small>
Centre for Ecology and Hydrology	 Centre for Ecology & Hydrology <small>NATURAL ENVIRONMENT RESEARCH COUNCIL</small>
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Stantec UK Ltd	

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	Scottish Environment Protection Agency - West Region 5 Redwood Crescent, Peel Park, East Kilbride, South Lanarkshire, G74 5PP	Telephone: 01355 574200 Fax: 01355 574688
3	Scottish Environment Protection Agency - Head Office Erskine Court, The Castle Business Park, Stirling, Stirlingshire, FK9 4TR	Telephone: 01786 457700 Fax: 01786 446885
4	Scottish Environment Protection Agency - East Region Clearwater House, Heriot Watt Research Park, Avenue North, Riccarton, Edinburgh, Midlothian, EH14 4AP	Telephone: 0131 449 7296 Fax: 0131 449 7277
5	Ordnance Survey Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
6	Glasgow City Council Exchange House, 229 George Street, Glasgow, Strathclyde, G1 1QU	Telephone: 0141 287 2000 Fax: 0141 287 5666 Website: www.glasgow.gov.uk
7	Glasgow City Council - Planning Department 231 George Street, GLASGOW, G1 1RX	Telephone: 0141 287 2000 Fax: 0141 287 5666 Website: www.glasgow.gov.uk
8	The Coal Authority - Property Searches 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
9	PointX 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
10	NatureScot Great Glen House, Leachkin Road, Inverness, IV3 8NW	Telephone: 01463 725000 Email: enquiries@nature.scot Website: www.nature.scot
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

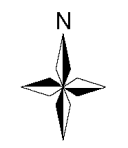
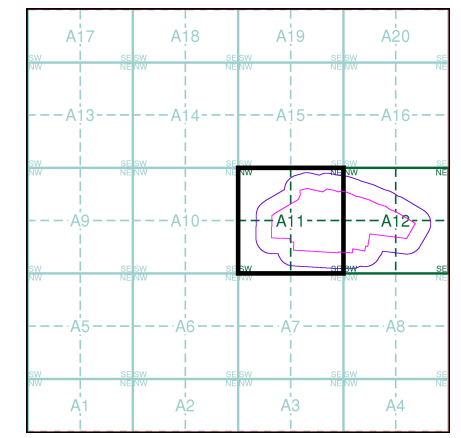
Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.



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- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location
 - Pylon
 - Overhead Transmission Line
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
 - Contaminated Land Register Entry or Notice
 - Discharge Consent
 - Enforcement or Prohibition Notice
 - Integrated Pollution Control
 - Integrated Pollution Prevention and Control
 - Local Authority Integrated Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control Enforcement
 - Pollution Incident to Controlled Waters
 - Prosecution Relating to Authorised Processes
 - Prosecution Relating to Controlled Waters
 - Registered Radioactive Substance
 - River Network or Water Feature
 - Substantiated Pollution Incident Register
 - Water Abstraction
 - Water Industry Act Referral
- Waste**
- BGS Recorded Landfill Site (Location)
 - BGS Recorded Landfill Site
 - Integrated Pollution Control Registered Waste Site
 - Local Authority Recorded Landfill Site (Location)
 - Local Authority Recorded Landfill Site
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Registered Landfill Site
 - Registered Landfill Site (Location)
 - Registered Landfill Site (Point Buffered to 100m)
 - Registered Landfill Site (Point Buffered to 250m)
 - Registered Waste Transfer Site (Location)
 - Registered Waste Transfer Site
 - Registered Waste Treatment or Disposal Site (Location)
 - Registered Waste Treatment or Disposal Site
- Hazardous Substances**
- COMAH Site
 - Explosive Site
 - NIHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
- Geological**
- BGS Recorded Mineral Site

Site Sensitivity Map - Segment A11



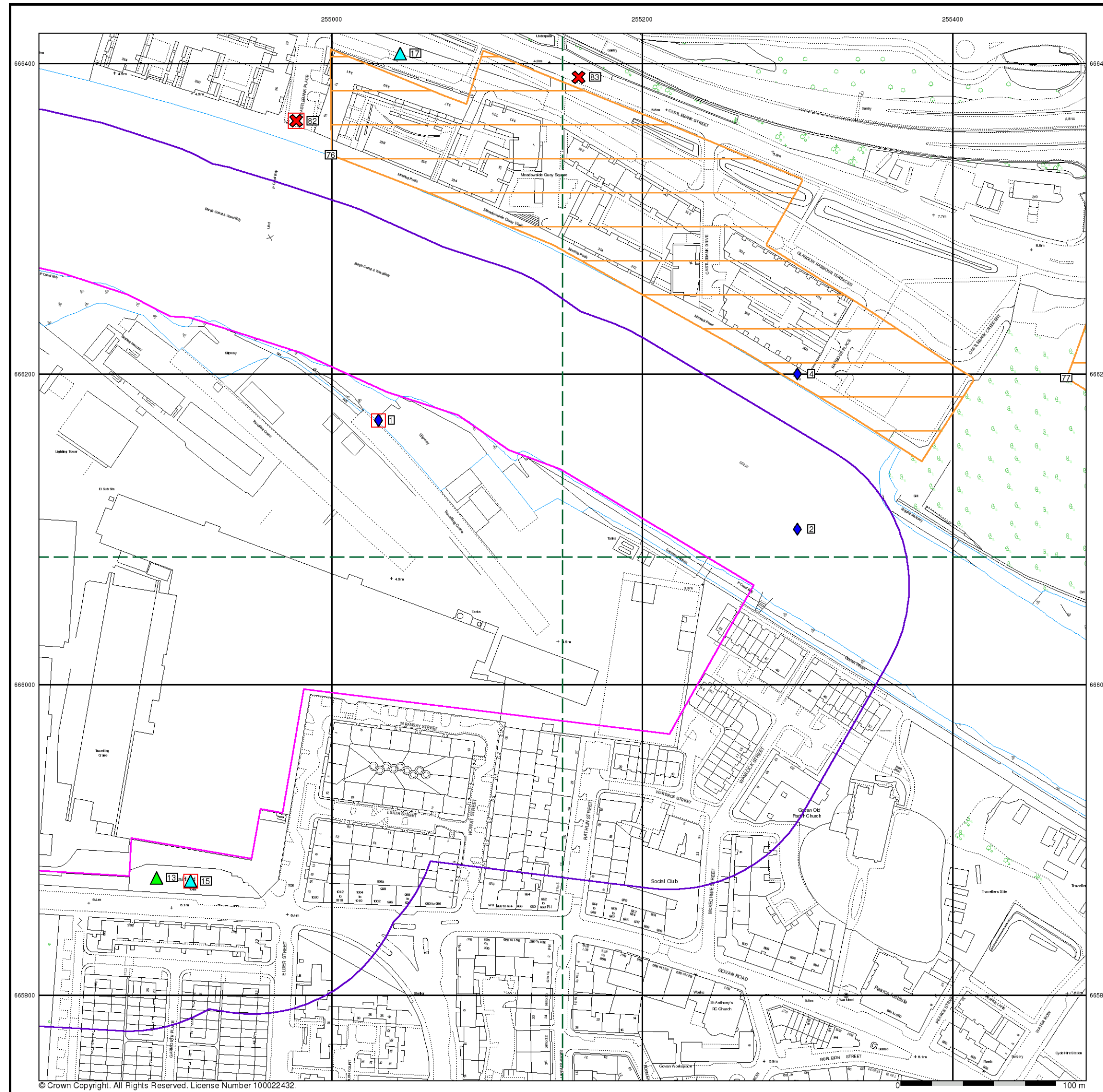
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 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Plot Buffer (m): 100

Site Details
 Site at 254780, 666140

Landmark
 INFORMATION GROUP

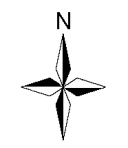
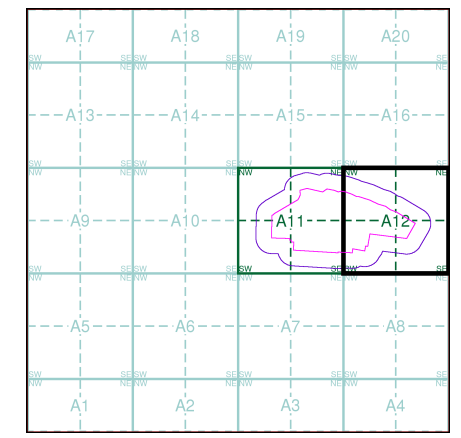
Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



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- General**
- Specified Site
 - Specified Buffer(s)
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 - Map ID
 - Severalty of Type at Location
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- Hazardous Substances**
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 - Explosive Site
 - NIHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
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- BGS Recorded Landfill Site (Location)
 - BGS Recorded Landfill Site
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 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Registered Landfill Site
 - Registered Landfill Site (Location)
 - Registered Landfill Site (Point Buffered to 100m)
 - Registered Landfill Site (Point Buffered to 250m)
 - Registered Waste Transfer Site (Location)
 - Registered Waste Transfer Site
 - Registered Waste Treatment or Disposal Site (Location)
 - Registered Waste Treatment or Disposal Site
- Geological**
- BGS Recorded Mineral Site

Site Sensitivity Map - Segment A12



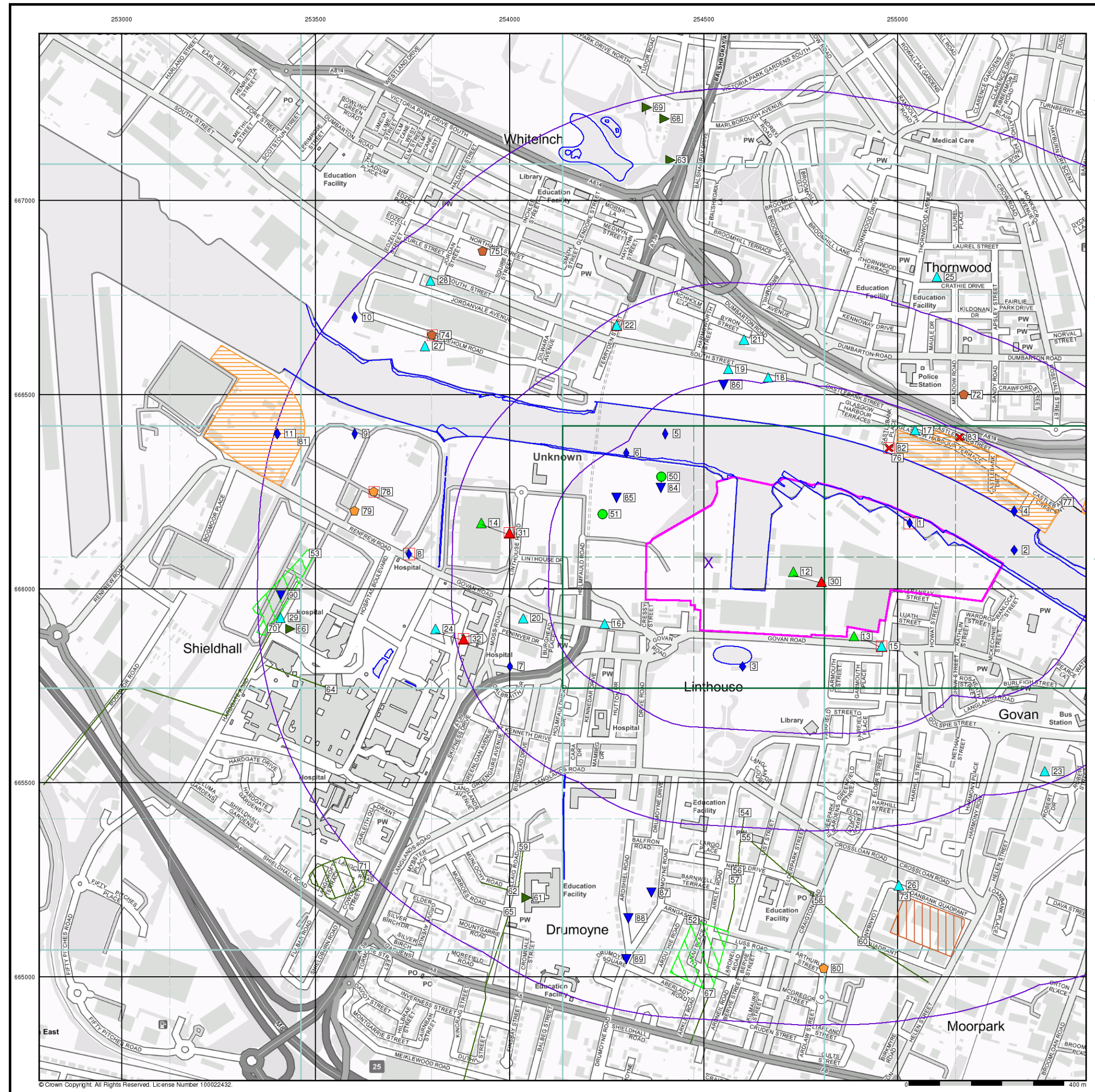
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 National Grid Reference: 254510, 666070
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 Site Area (Ha): 25.37
 Plot Buffer (m): 100

Site Details
 Site at 254780, 666140

Landmark
 INFORMATION GROUP

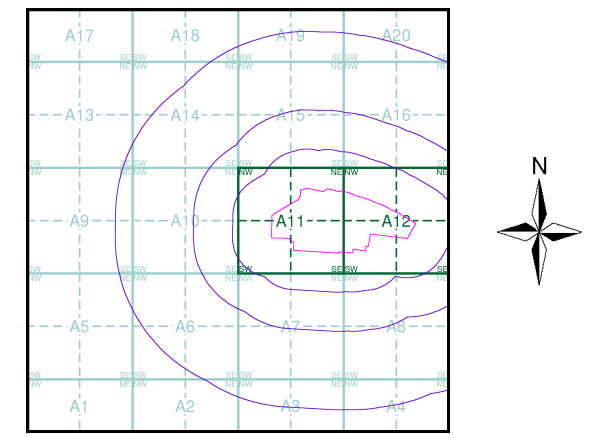
Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



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 - Prosecution Relating to Authorised Processes
 - Prosecution Relating to Controlled Waters
 - Registered Radioactive Substance
 - River Network or Water Feature
 - Substantiated Pollution Incident Register
 - Water Abstraction
 - Water Industry Act Referral
- Hazardous Substances**
- COMAH Site
 - NIHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
 - Explosive Site
- Waste**
- BGS Recorded Landfill Site (Location)
 - BGS Recorded Landfill Site
 - Integrated Pollution Control Registered Waste Site
 - Local Authority Recorded Landfill Site (Location)
 - Local Authority Recorded Landfill Site
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Registered Landfill Site (Location)
 - Registered Landfill Site (Point Buffered to 100m)
 - Registered Landfill Site (Point Buffered to 250m)
 - Registered Waste Transfer Site (Location)
 - Registered Waste Transfer Site
 - Registered Waste Treatment or Disposal Site (Location)
 - Registered Waste Treatment or Disposal Site
- Geological**
- BGS Recorded Mineral Site

Site Sensitivity Map - Slice A



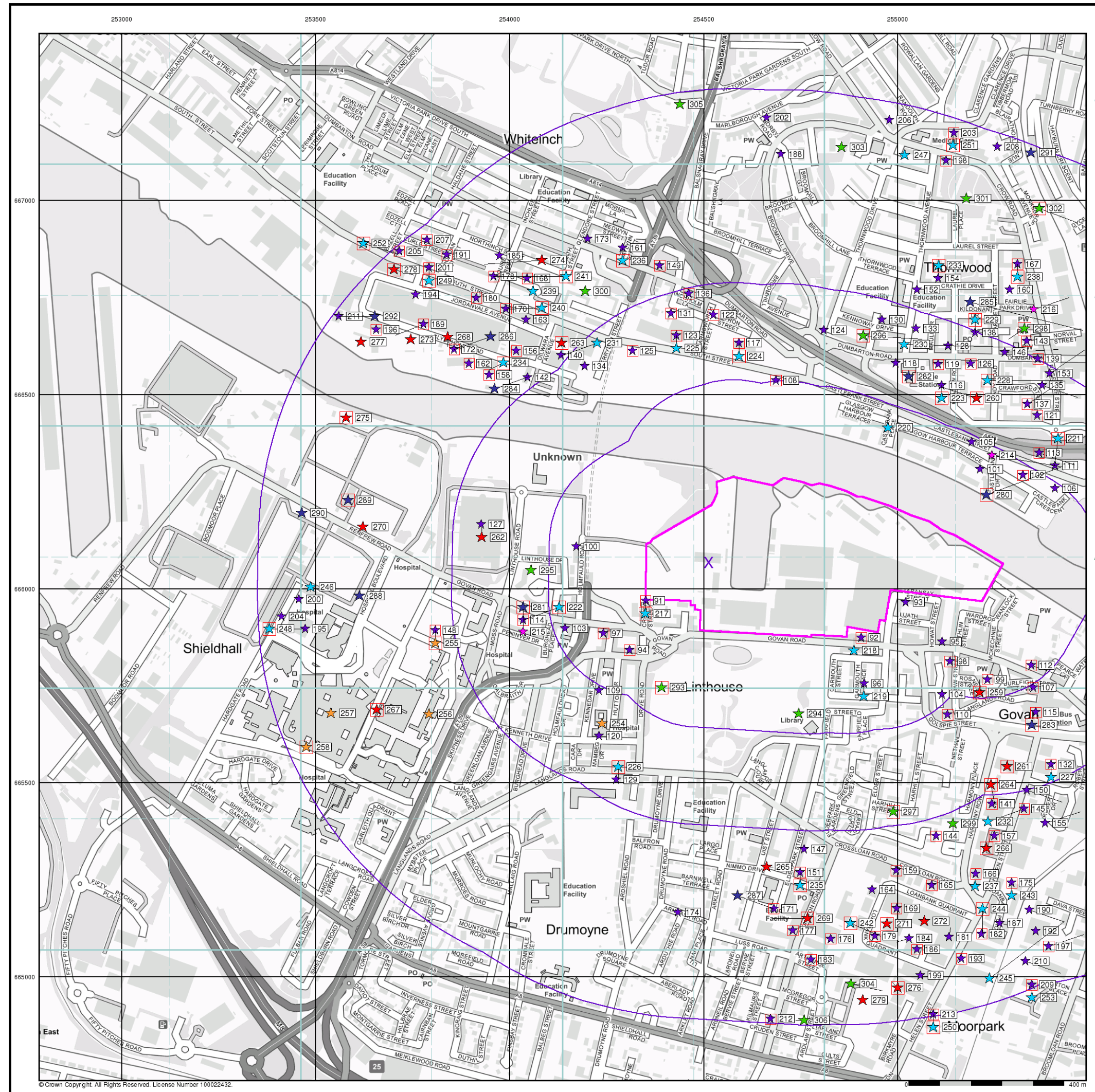
Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details
 Site at 254780, 666140

Landmark
 INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



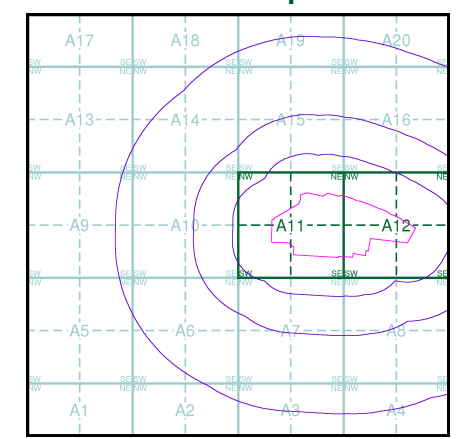
M M

MOTT MACDONALD Industrial Land Use Map

- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Slice
 - Map ID

- Industrial Land Use**
- Contemporary Trade Directory Entry
 - Fuel Station Entry
 - Gas Pipeline
 - Points of Interest - Commercial Services
 - Points of Interest - Education and Health
 - Points of Interest - Manufacturing and Production
 - Points of Interest - Public Infrastructure
 - Points of Interest - Recreational and Environmental
 - Underground Electrical Cables

Industrial Land Use Map - Slice A



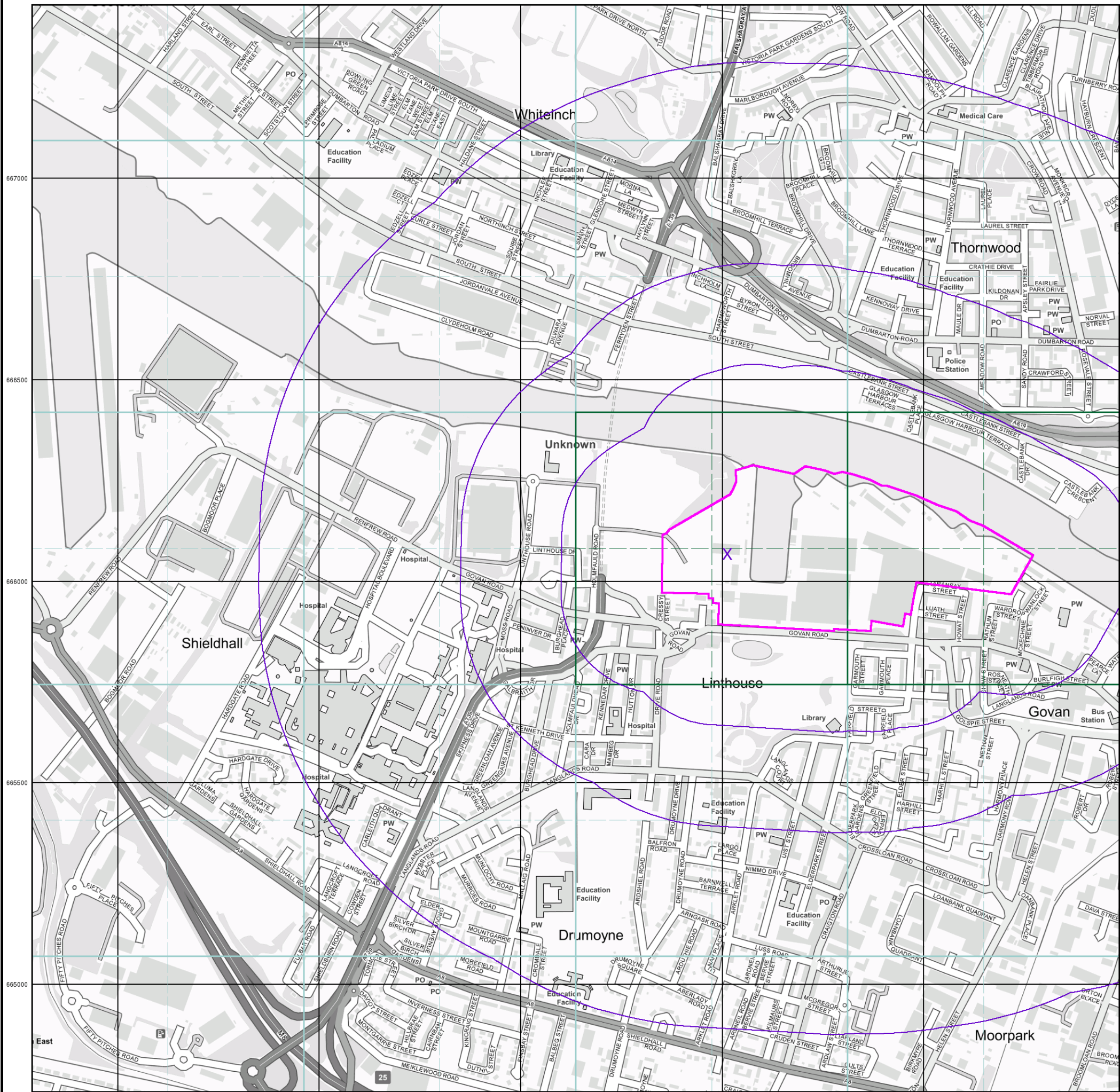
Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

Site at 254780, 666140

253000 253500 254000 254500 255000



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General

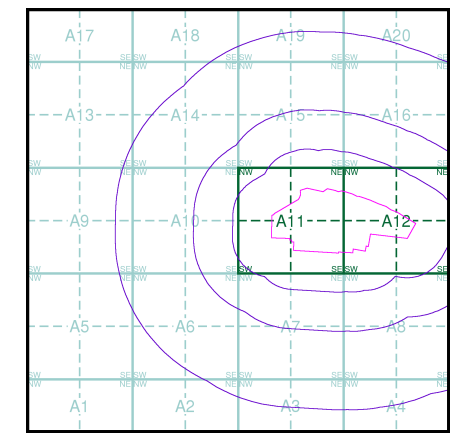
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Agency and Hydrological (Flood)

- 0 - 1m estimated 100yr flood depth
- 1 - 2m estimated 100yr flood depth
- Over 2m estimated 100yr flood depth

The flooded areas have been generated using a generalised technique and should not, by themselves, be used to infer that specific areas are or are not at risk of inundation. Flood risk at any specific location may be influenced by local factors - not least flood defence - that have not been taken into account.

Flood Map - Slice A



Order Details

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 Customer Ref: 100107212-001
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 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

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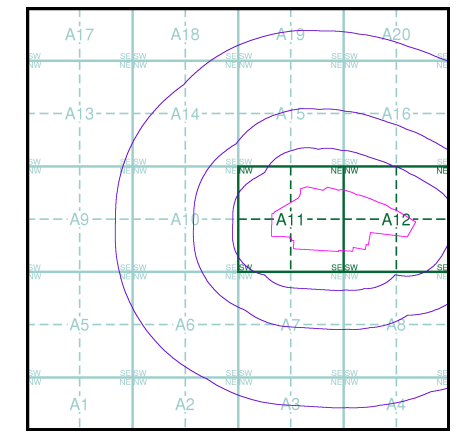
- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location

- Agency and Hydrological (Boreholes)**
- BGS Borehole Depth 0 - 10m
 - BGS Borehole Depth 10 - 30m
 - BGS Borehole Depth 30m +
 - Confidential
 - Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A



Order Details

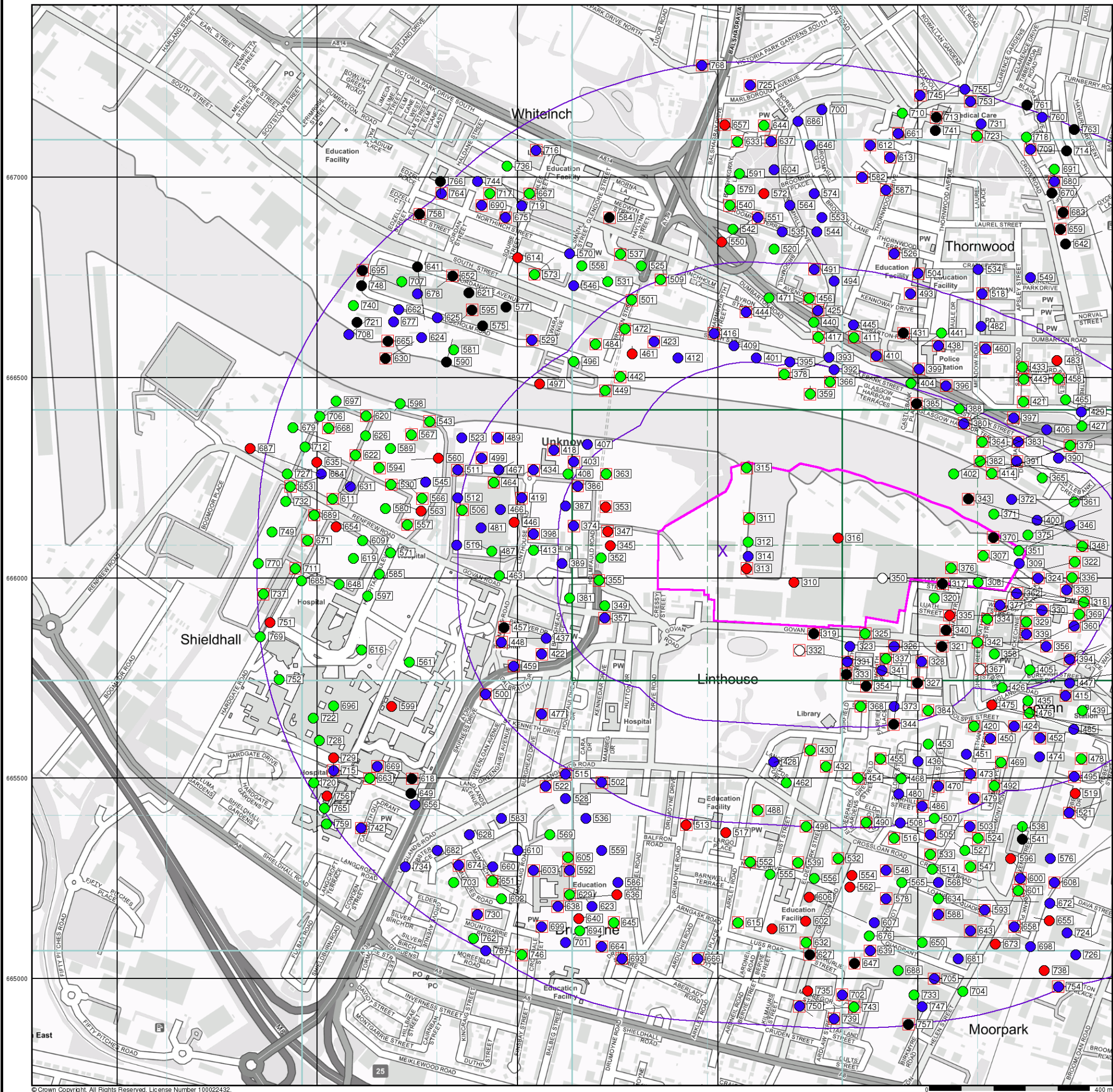
Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

Site at 254780, 666140

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General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

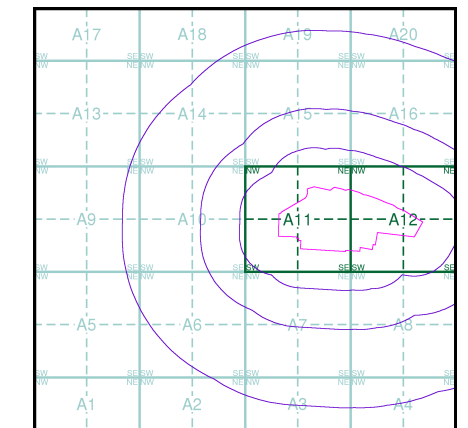
OS Water Network Data

- Canal
- Reservoir
- Foreshore
- Marsh
- Tidal River
- Inland River
- Drain
- Other
- Lake
- Transfer
- Lock Or Flight Of Locks
- Sea

Contours (height in meters)

- Standard Contour: 105, 100, 95
- Master Contour
- Spot Height: 167.3
- MLW: Mean Low Water Springs
- MHW: Mean High Water Springs

OS Water Network Map - Slice A

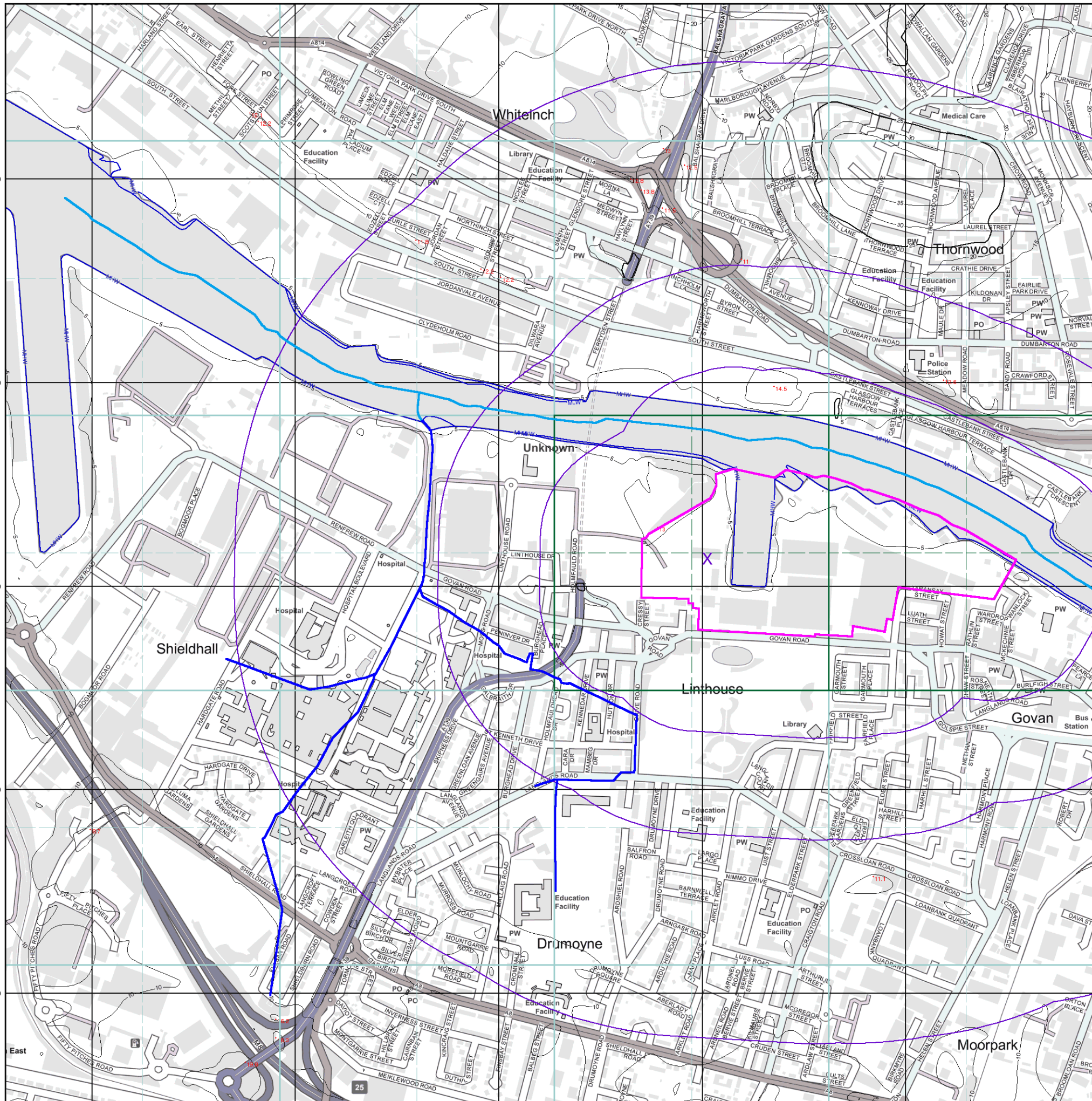


Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
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Site Details

Site at 254780, 666140



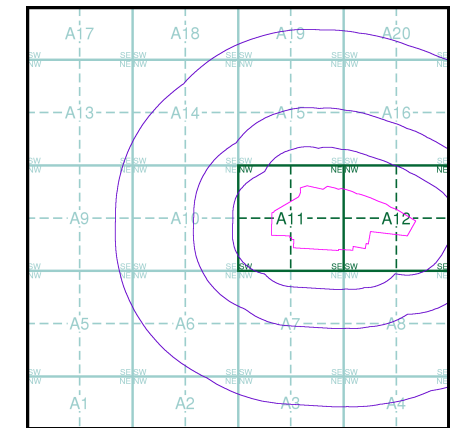
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- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point

- Risk of Flooding from Surface Water**
- High - 30 Year Return
 - Medium - 100 Year Return
 - Low - 1000 Year Return

- Suitability**
- See the suitability map below
- National to county
 - County to town
 - Town to street
 - Street to parcels of land
 - Property

EANRW Suitability Map - Slice A

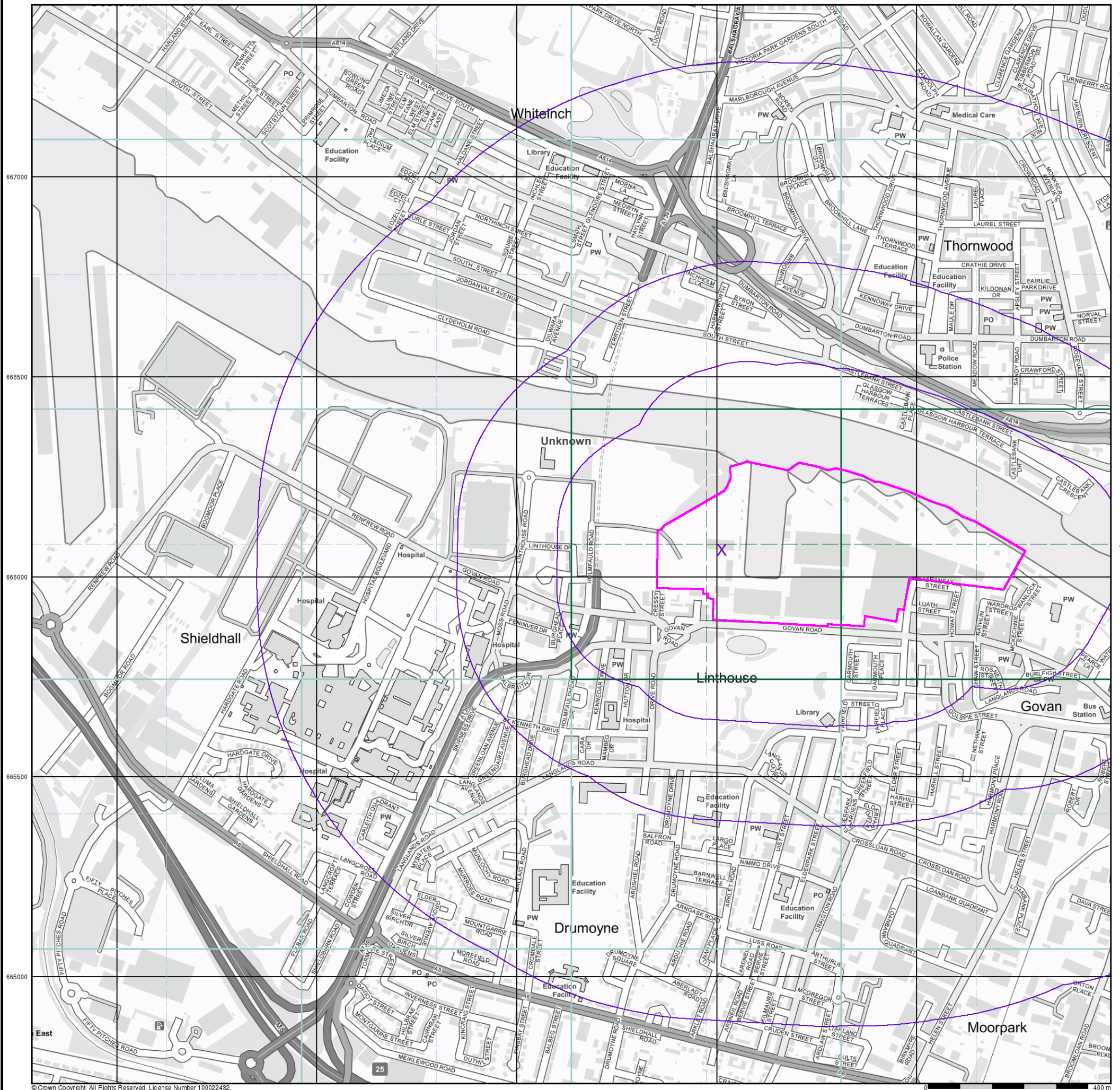


Order Details

Order Number: 293036501_1_1
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Site Details

Site at 254780, 666140



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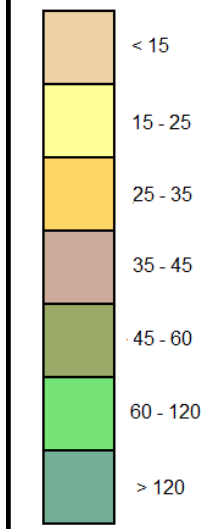
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

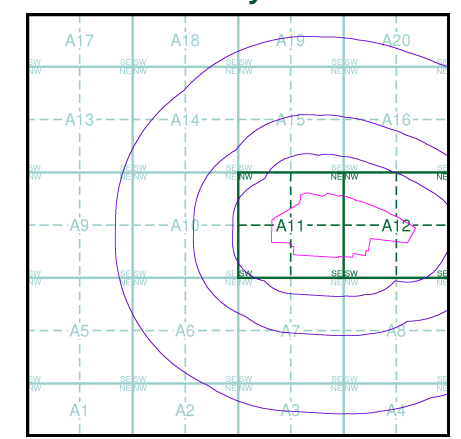
Urban Soil Chemistry Arsenic

● BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Arsenic Concentrations mg/kg



Urban Soil Chemistry Arsenic - Slice A



Order Details

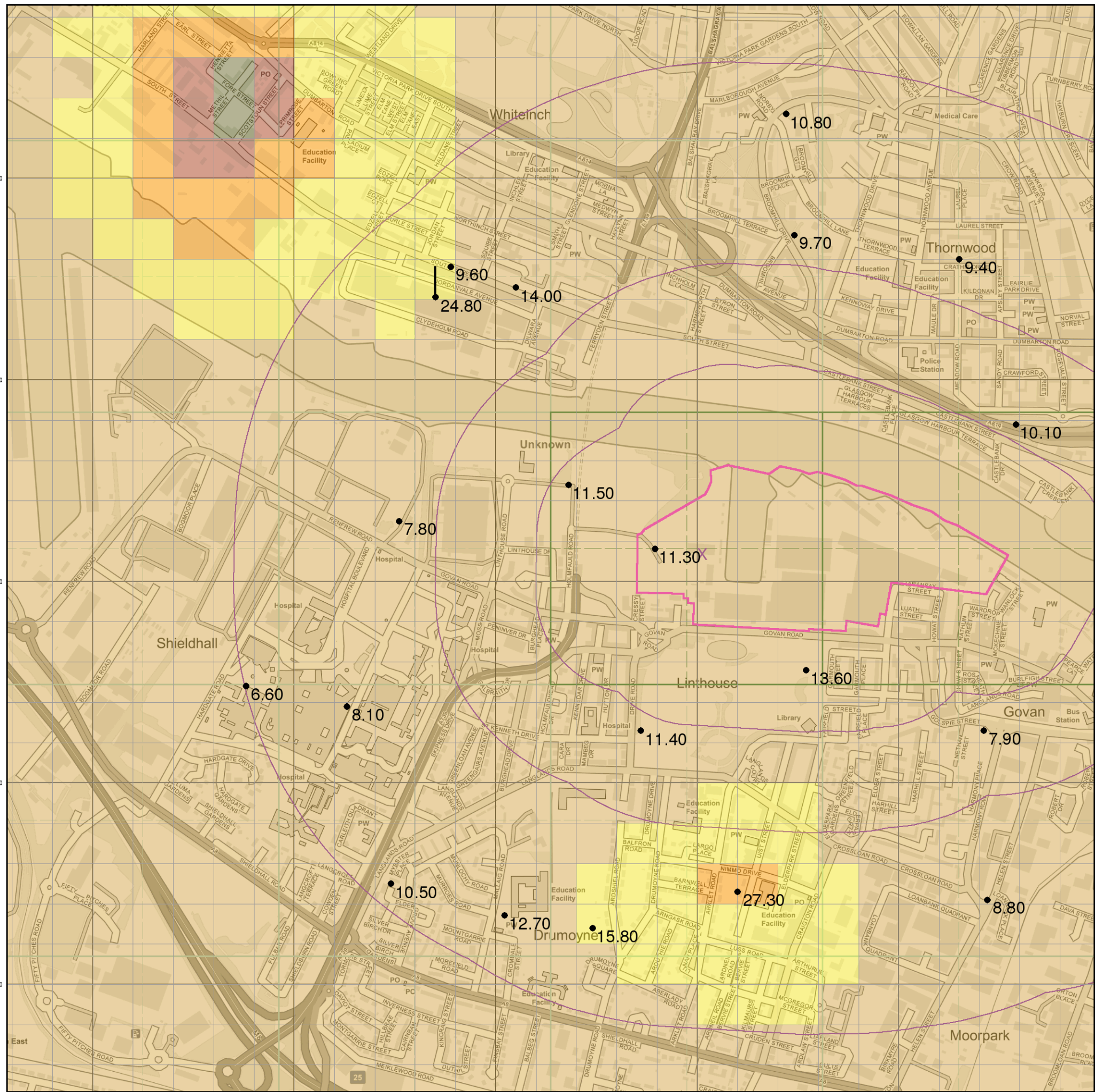
Order Details: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search buffer (m): 1000

Site Details

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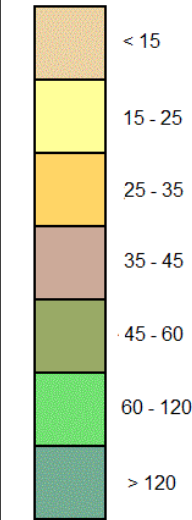
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General

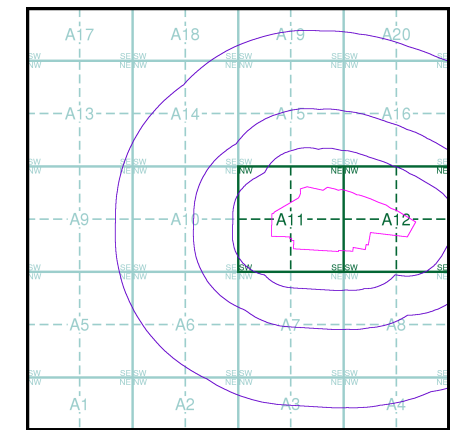
- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg



Estimated Soil Chemistry Arsenic - Slice A



Order Details

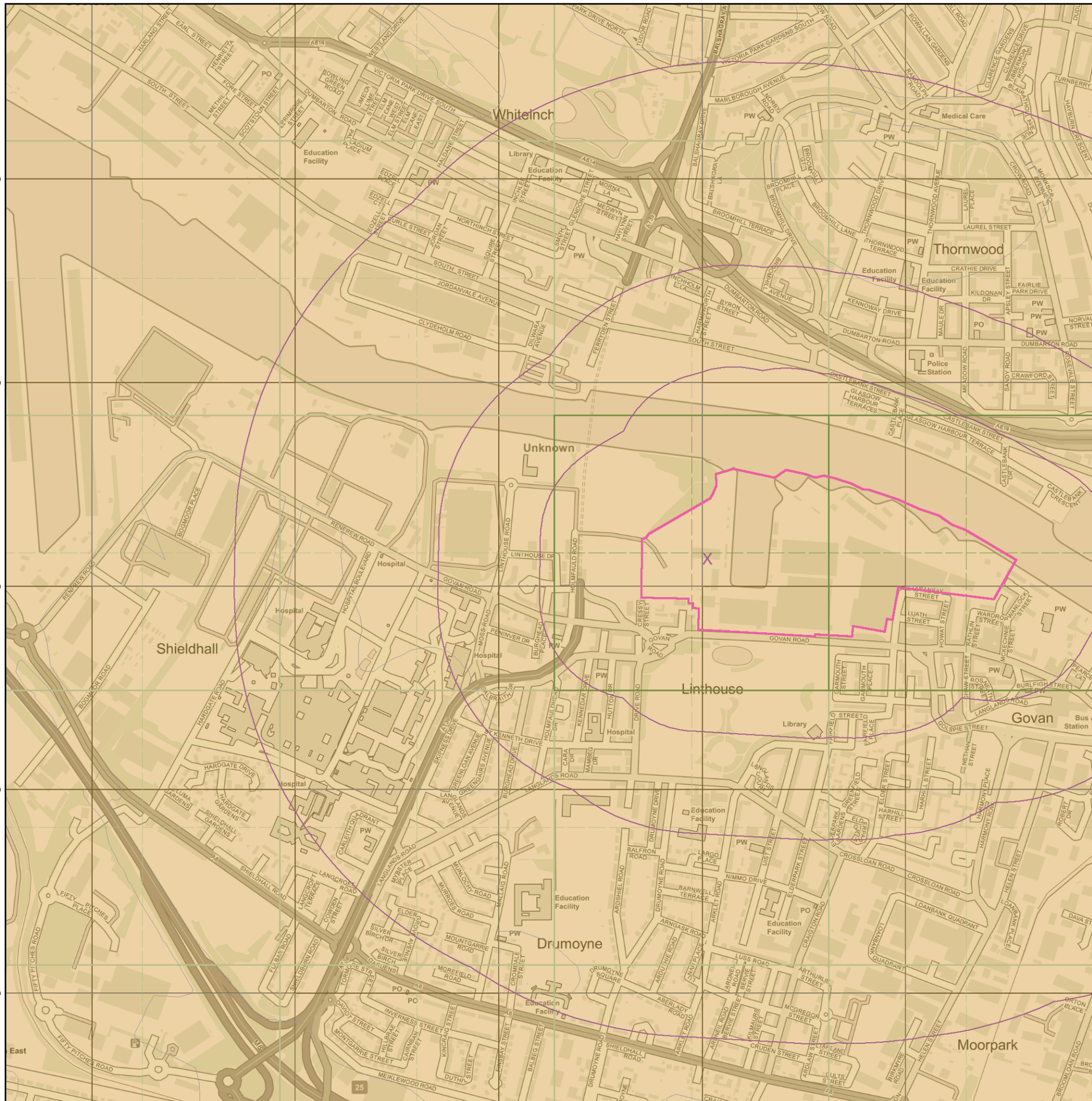
Order Details: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search buffer (m): 1000

Site Details

Site at 254780, 666140

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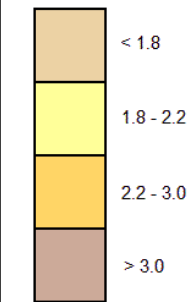
General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

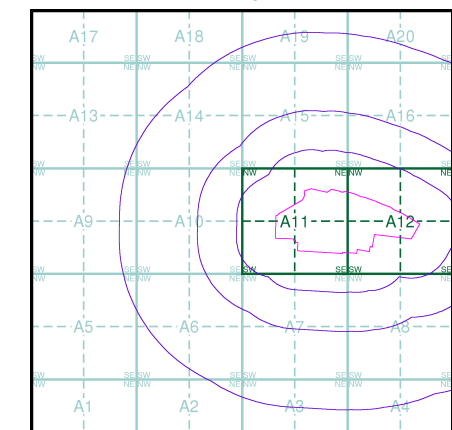
Urban Soil Chemistry Cadmium

● BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Cadmium Concentrations mg/kg



Urban Soil Chemistry Cadmium - Slice A



Order Details

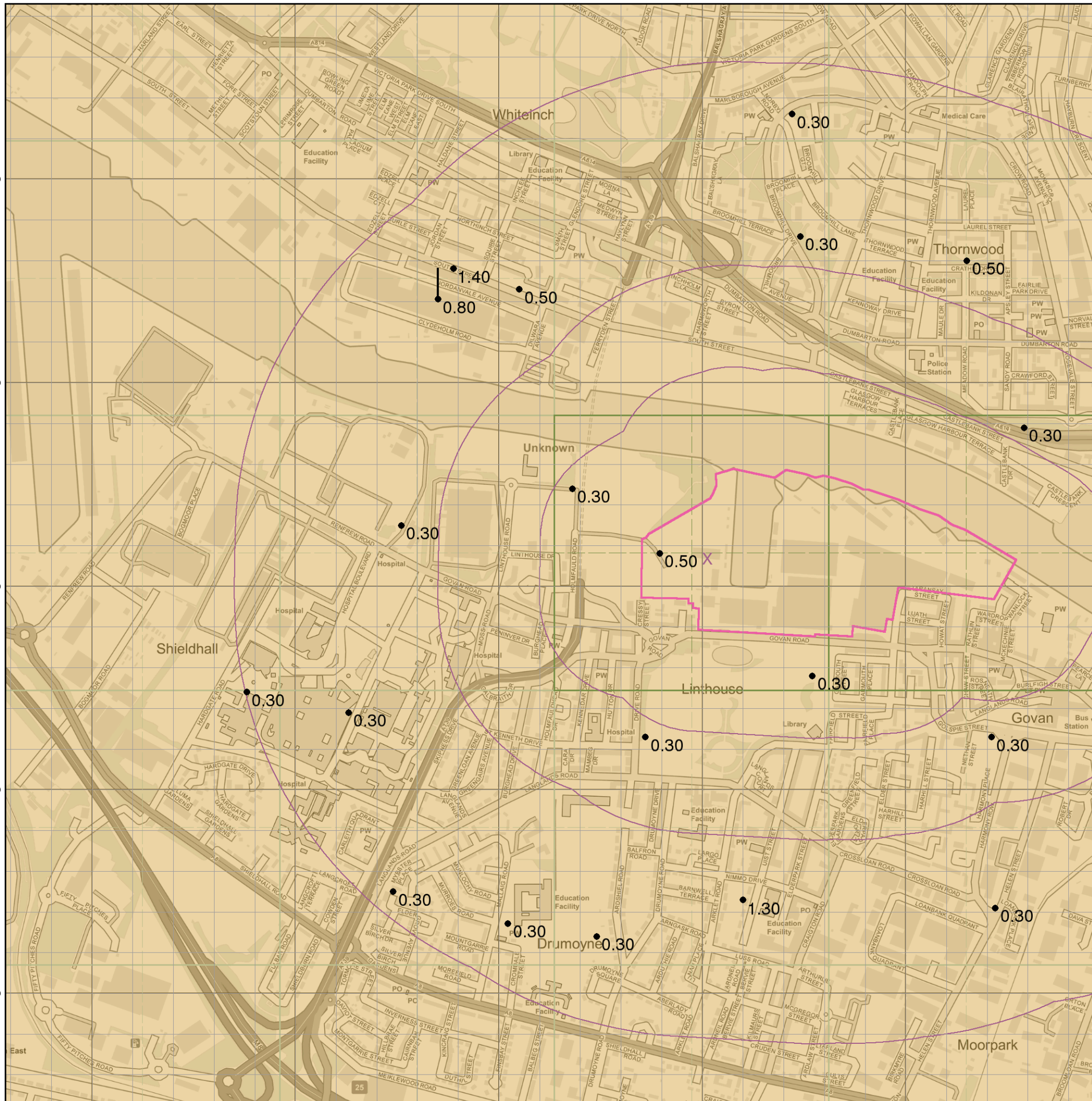
Order Details: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search buffer (m): 1000

Site Details

Site at 254780, 666140

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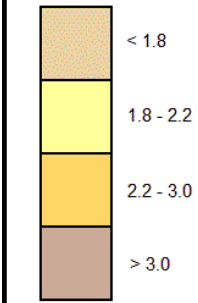
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General

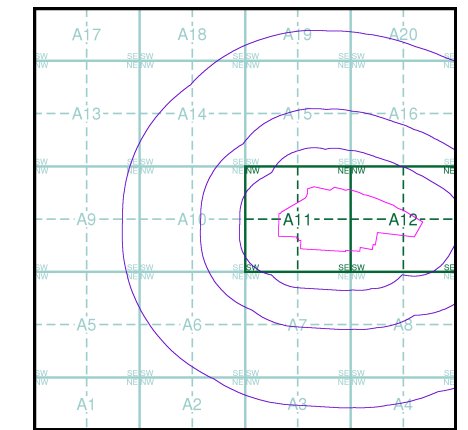
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg



Estimated Soil Chemistry Cadmium - Slice A



Order Details

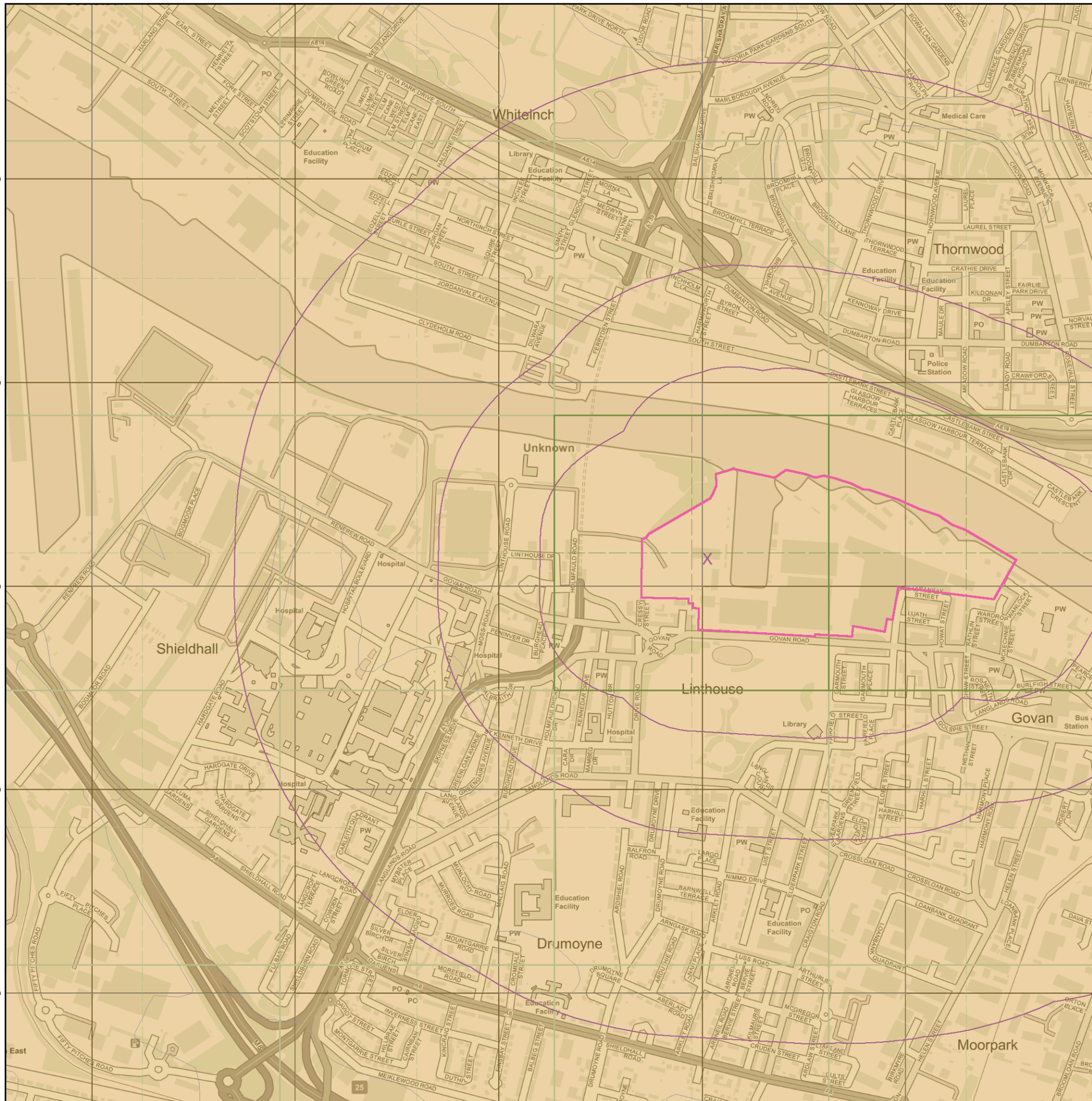
Order Details: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
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 Site Area (Ha): 25.37
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Site Details

Site at 254780, 666140

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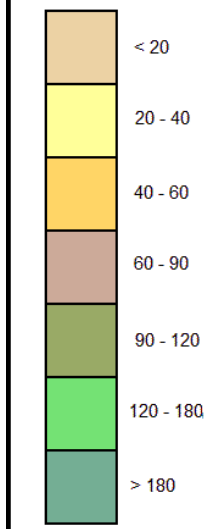
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

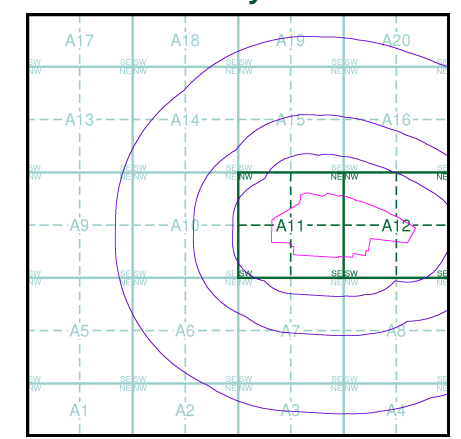
Urban Soil Chemistry Chromium

● BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Chromium Concentrations mg/kg



Urban Soil Chemistry Chromium - Slice A



Order Details

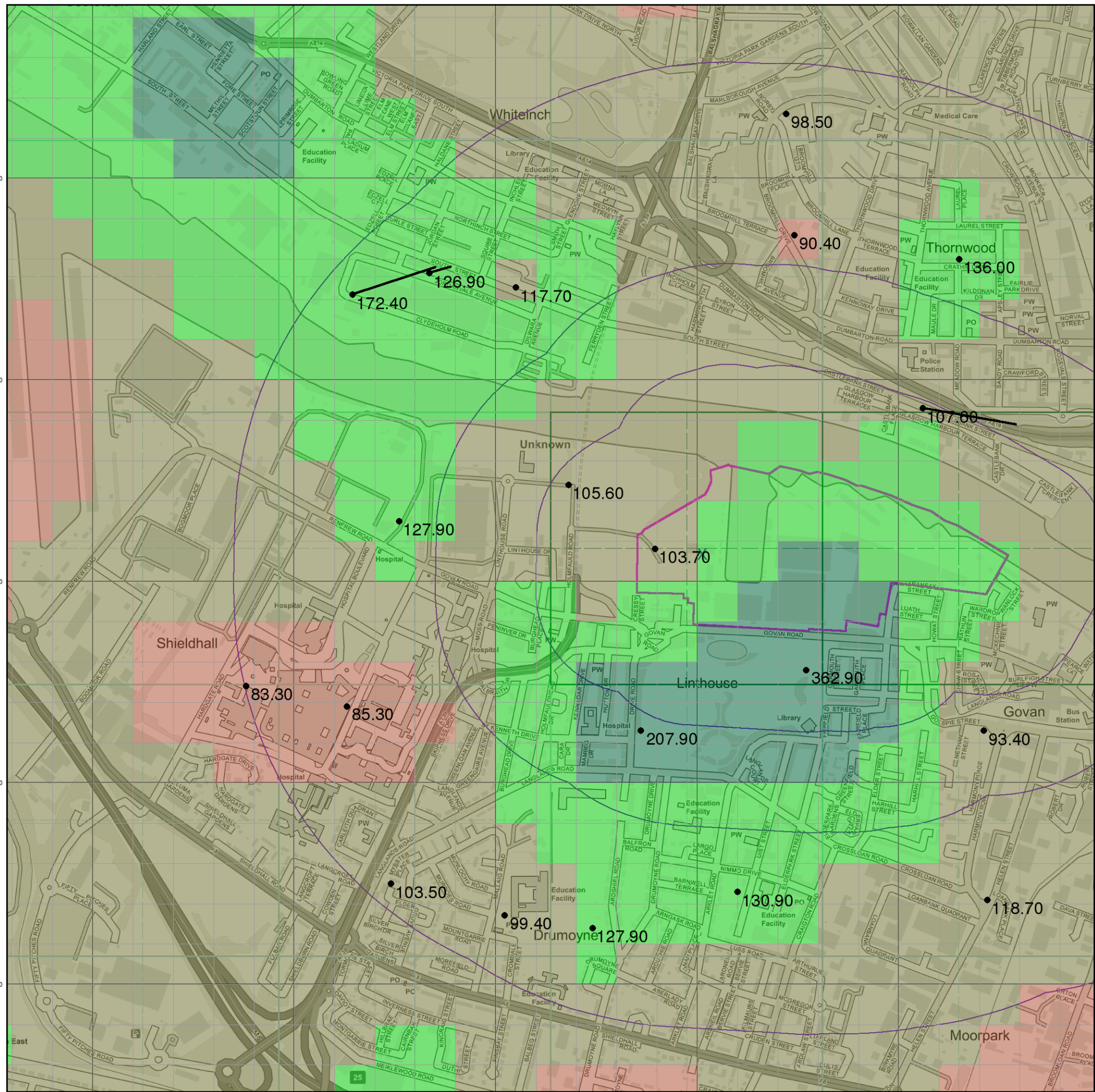
Order Details: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search buffer (m): 1000

Site Details

Site at 254780, 666140

Landmark
INFORMATION GROUP

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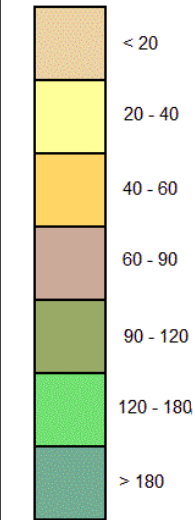
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General

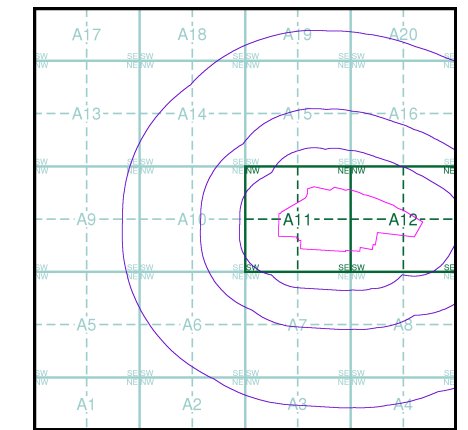
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg



Estimated Soil Chemistry Chromium - Slice A



Order Details

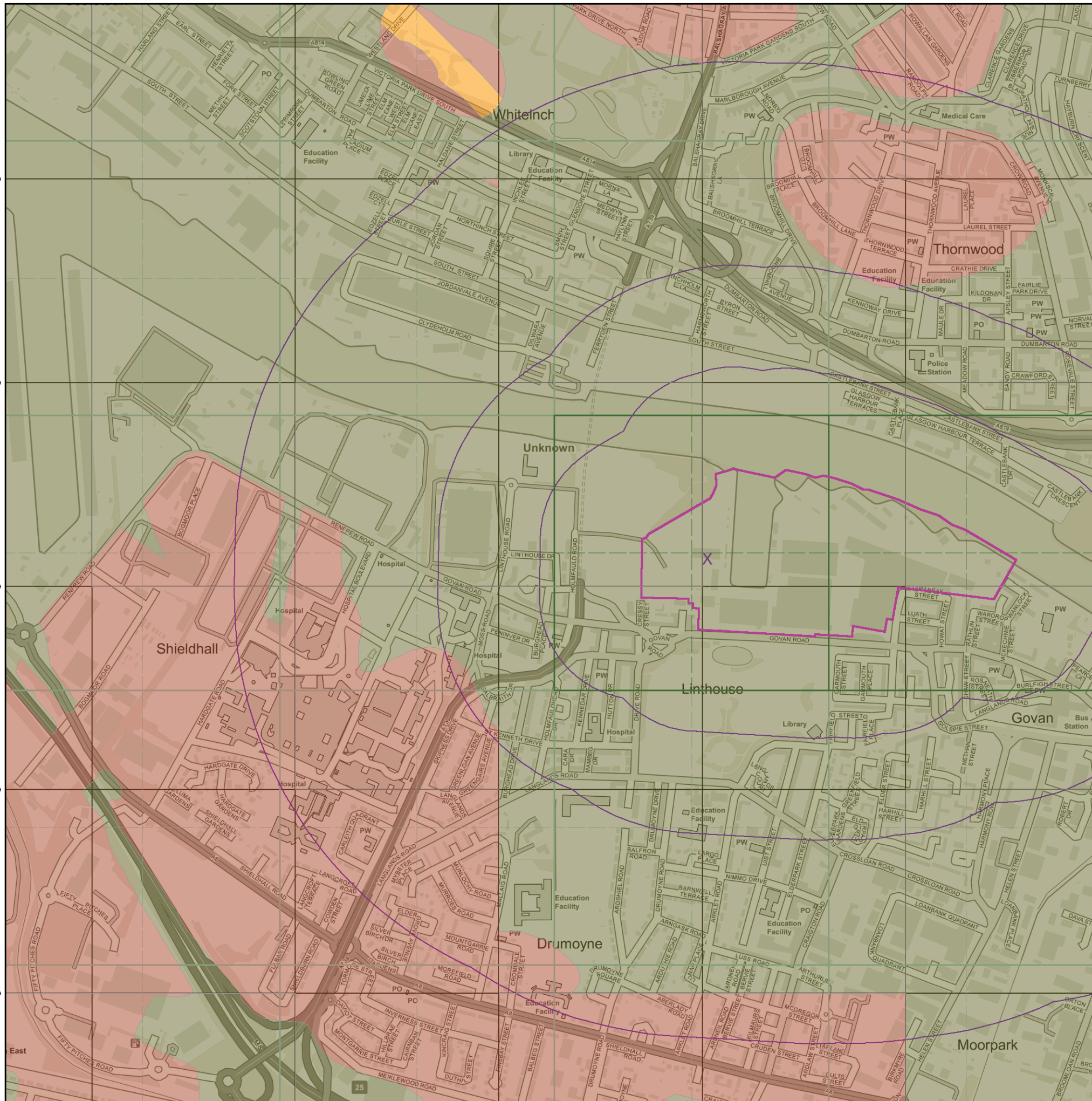
Order Details: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
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Site Details

Site at 254780, 666140

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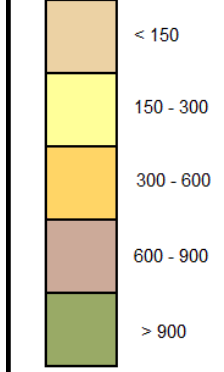
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

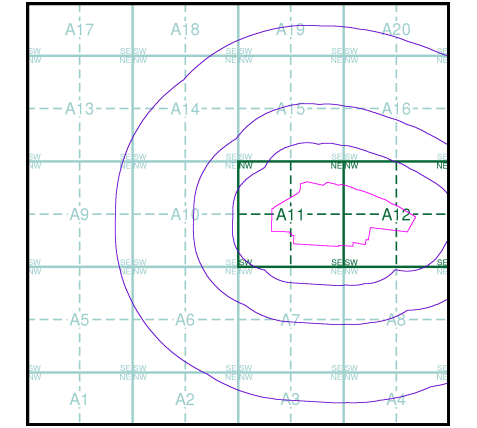
Urban Soil Chemistry Lead

● BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Lead Concentrations mg/kg



Urban Soil Chemistry Lead - Slice A



Order Details

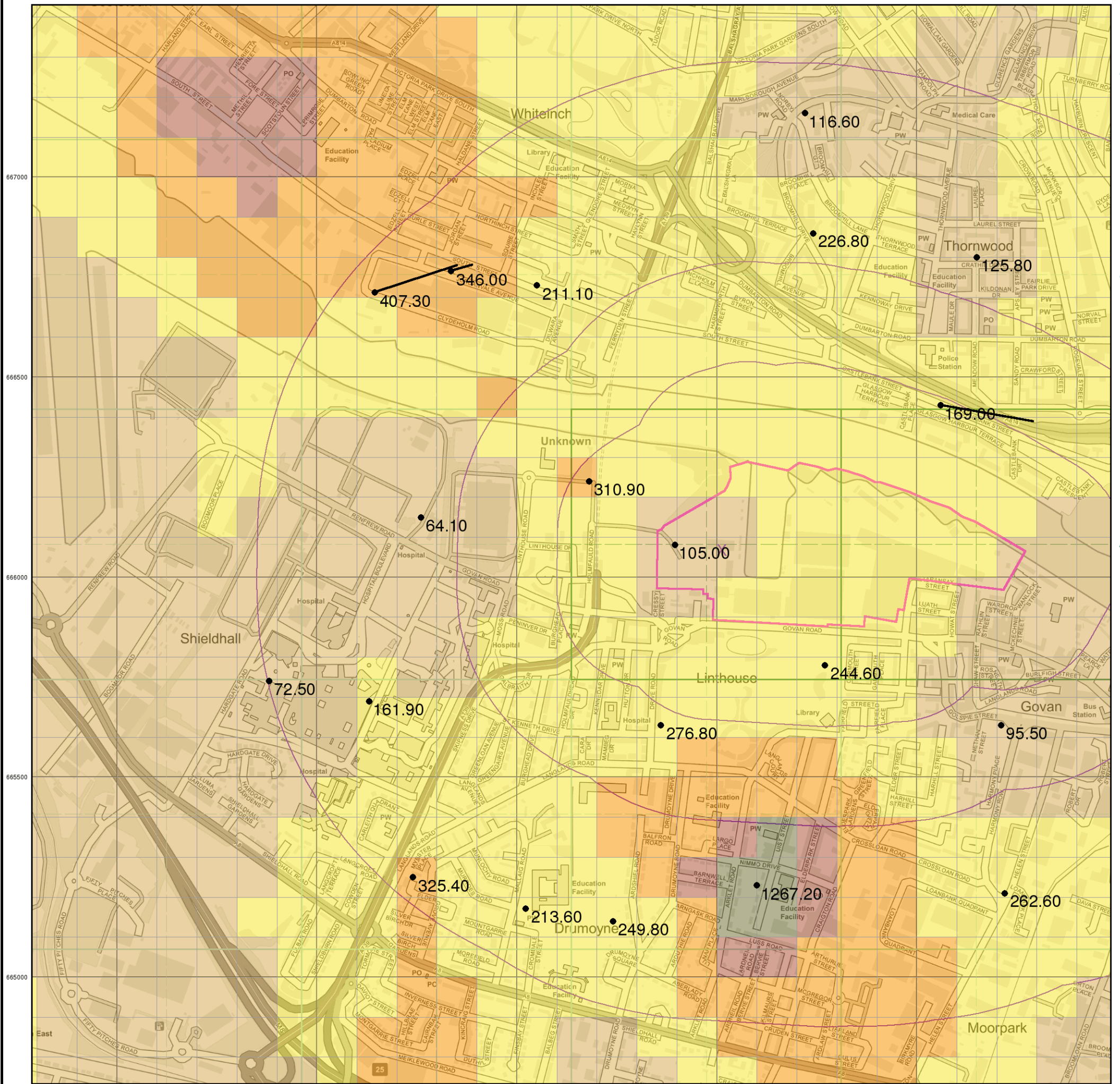
Order Details: 293036501_1_1
 Customer Ref: 100107212-001
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 Site Area (Ha): 25.37
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Site Details

Site at 254780, 666140

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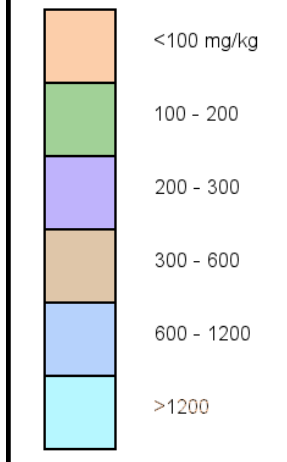
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General

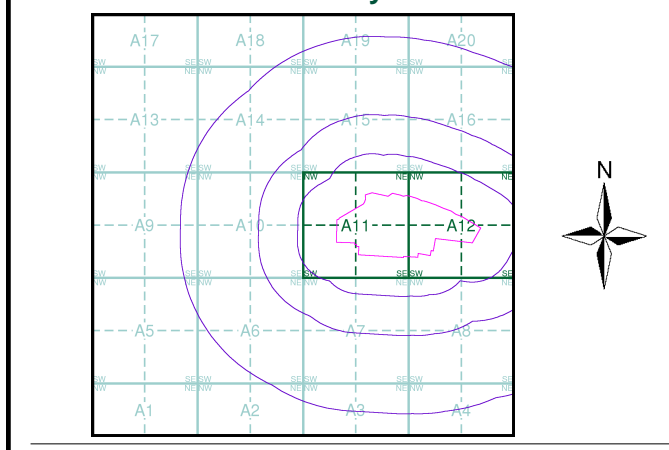
- Specified Site
- Specified Buffer(s)
- x Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg



Estimated Soil Chemistry Lead - Slice A



Order Details

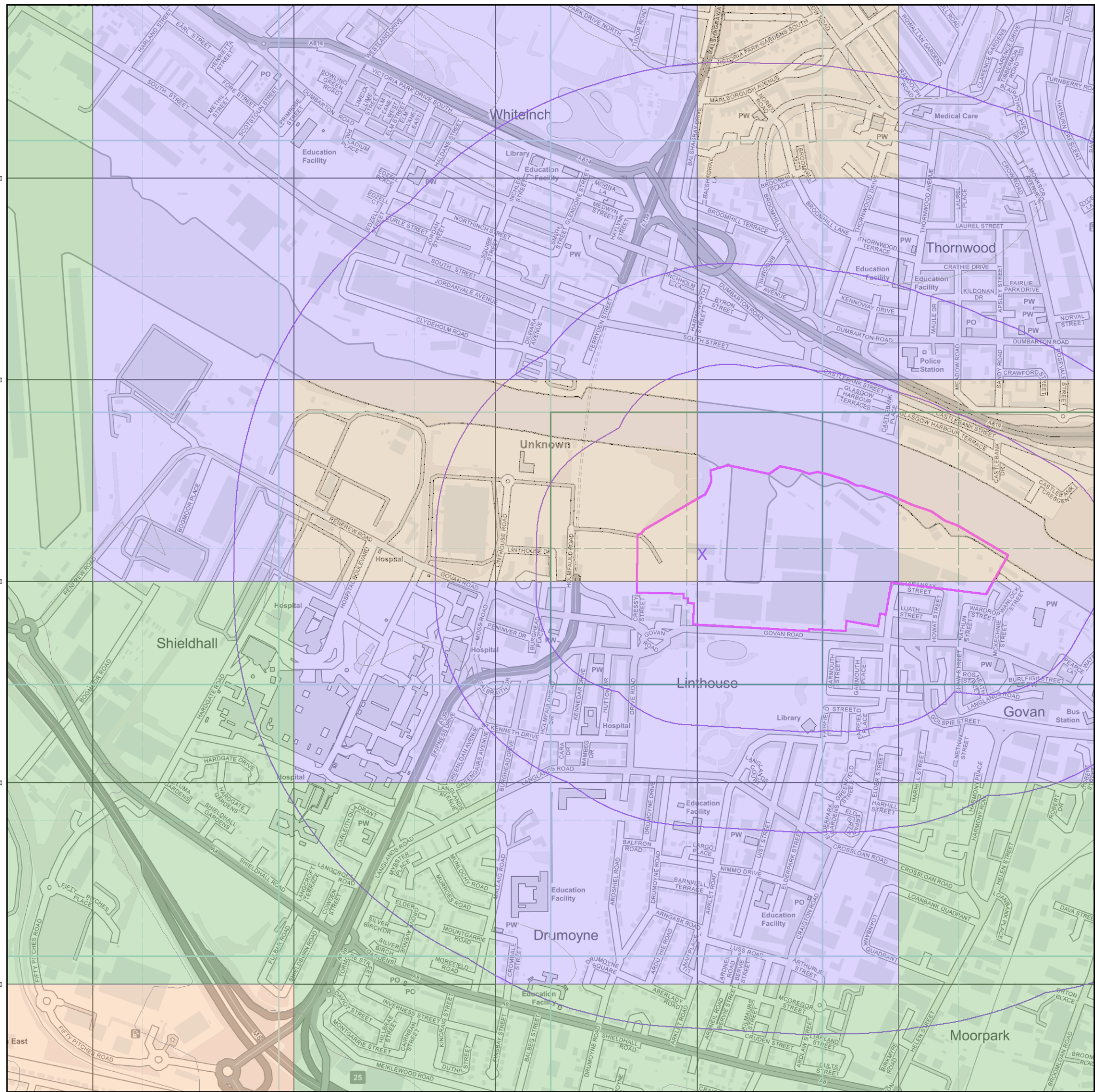
Order Details: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search buffer (m): 1000

Site Details

Site at 254780, 666140

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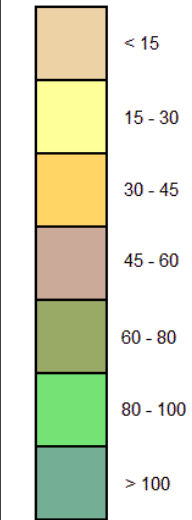
General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

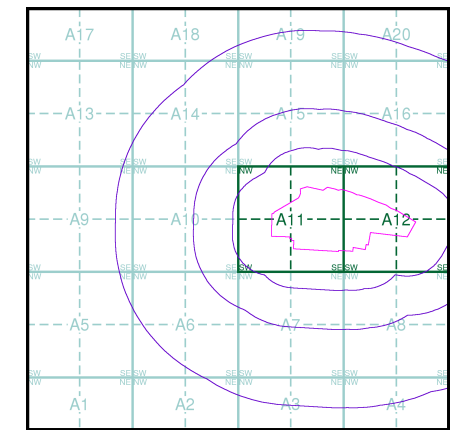
Urban Soil Chemistry Nickel

● BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Nickel Concentrations mg/kg



Urban Soil Chemistry Nickel - Slice A



Order Details

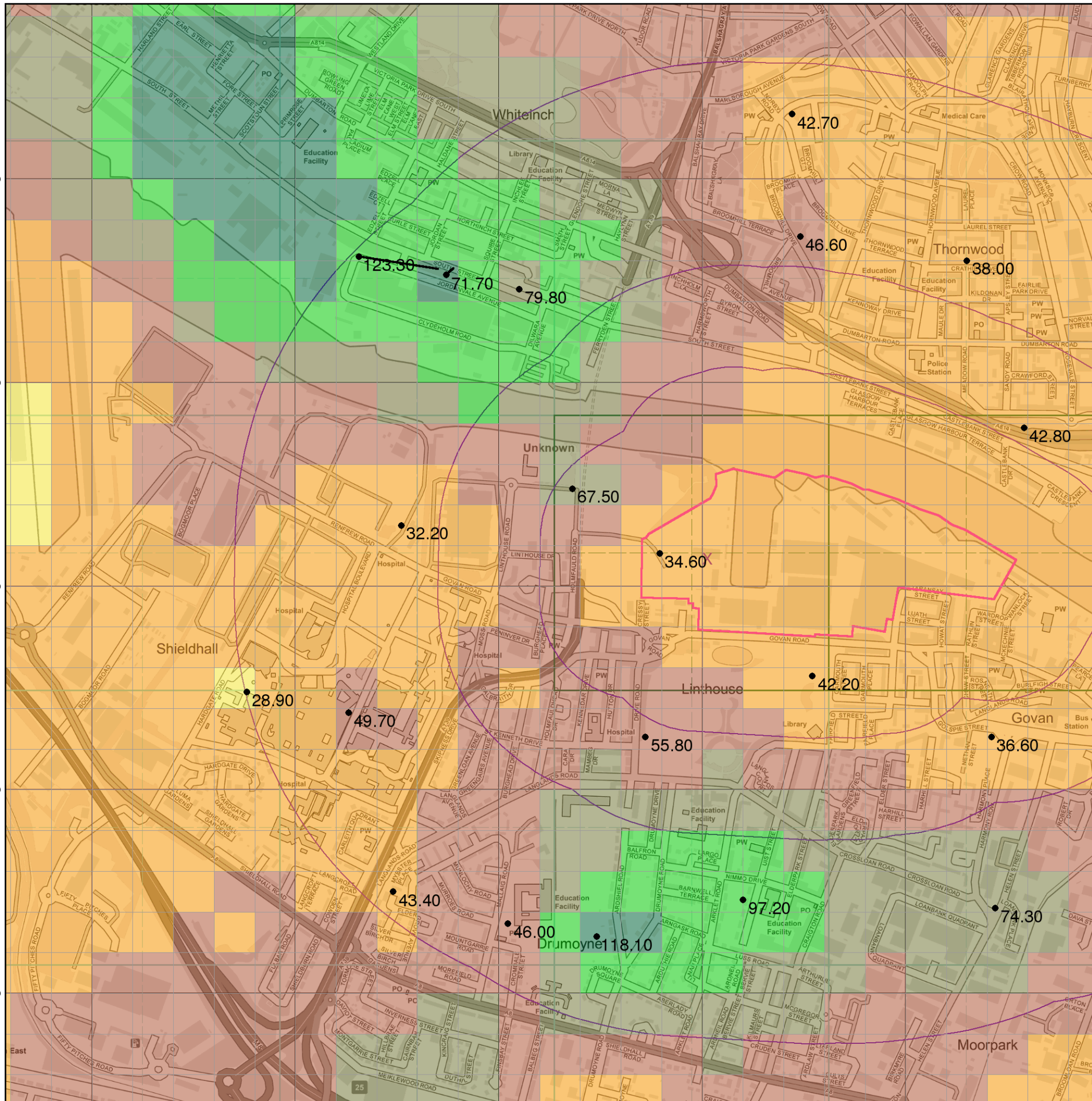
Order Details: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search buffer (m): 1000

Site Details

Site at 254780, 666140

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Historical Mapping Legends

Ordnance Survey County Series 1:10,560

	Gravel Pit		Sand Pit		Other Pits
	Quarry		Shingle		Orchard
	Osiers		Reeds		Marsh
	Mixed Wood		Deciduous		Brushwood
	Fir		Furze		Rough Pasture
	Arrow denotes flow of water		Trigonometrical Station		
	Site of Antiquities		Bench Mark		
	Pump, Guide Post, Signal Post		Well, Spring, Boundary Post		
	-285 Surface Level				
	Sketched Contour		Instrumental Contour		
	Main Roads		Minor Roads		
	Sunken Road		Raised Road		
	Road over Railway		Railway over River		
	Railway over Road		Level Crossing		
	Road over River or Canal		Road over Stream		
	Road over Stream				
	County Boundary (Geographical)				
	County & Civil Parish Boundary				
	Administrative County & Civil Parish Boundary				
	County Borough Boundary (England)				
	County Burgh Boundary (Scotland)				
	Rural District Boundary				
	Civil Parish Boundary				

Ordnance Survey Plan 1:10,000

	Chalk Pit, Clay Pit or Quarry		Gravel Pit
	Sand Pit		Disused Pit or Quarry
	Refuse or Slag Heap		Lake, Loch or Pond
	Dunes		Boulders
	Coniferous Trees		Non-Coniferous Trees
	Orchard		Scrub
	Coppice		
	Bracken		Heath
	Rough Grassland		
	Marsh		Reeds
	Saltings		
	Building		Glasshouse
	Sloping Masonry		Pylon
	Electricity Transmission Line		Pole
	Cutting		Embankment
	Standard Gauge Multiple Track		
	Standard Gauge Single Track		
	Siding, Tramway or Mineral Line		
	Narrow Gauge		
	Geographical County		
	Administrative County, County Borough or County of City		
	Municipal Borough, Urban or Rural District, Burgh or District Council		
	Borough, Burgh or County Constituency Shown only when not coincident with other boundaries		
	Civil Parish Shown alternately when coincidence of boundaries occurs		
	BP, BS Boundary Post or Stone		Pol Sta Police Station
	Ch Church		PO Post Office
	CH Club House		PC Public Convenience
	F E Sta Fire Engine Station		PH Public House
	FB Foot Bridge		SB Signal Box
	Fn Fountain		Spr Spring
	GP Guide Post		TCB Telephone Call Box
	MP Mile Post		TCP Telephone Call Post
	MS Mile Stone		W Well

1:10,000 Raster Mapping

	Gravel Pit		Refuse tip or slag heap
	Rock		Rock (scattered)
	Boulders		Boulders (scattered)
	Shingle		Mud
	Sand		Sand Pit
	Slopes		Top of cliff
	General detail		Underground detail
	Overhead detail		Narrow gauge railway
	Multi-track railway		Single track railway
	County boundary (England only)		Civil, parish or community boundary
	District, Unitary, Metropolitan, London Borough boundary		Constituency boundary
	Area of wooded vegetation		Non-coniferous trees
	Non-coniferous trees (scattered)		Coniferous trees
	Coniferous trees (scattered)		Positioned tree
	Orchard		Coppice or Osiers
	Rough Grassland		Heath
	Scrub		Marsh, Salt Marsh or Reeds
	Water feature		Flow arrows
	MHW(S) Mean high water (springs)		MLW(S) Mean low water (springs)
	Telephone line (where shown)		Electricity transmission line (with poles)
	Bench mark (where shown)		Triangulation station
	Point feature (e.g. Guide Post or Mile Stone)		Pylon, flare stack or lighting tower
	Site of (antiquity)		Glasshouse
	General Building		Important Building

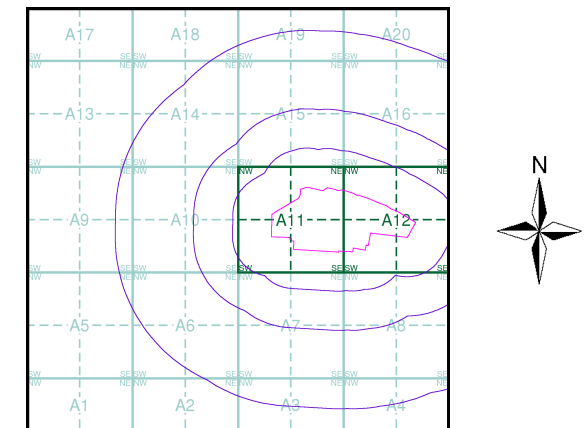
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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Renfrewshire	1:10,560	1863 - 1864	3
Dumbartonshire	1:10,560	1864	4
Lanarkshire	1:10,560	1864 - 1865	5
Lanarkshire	1:10,560	1897 - 1898	6
Renfrewshire	1:10,560	1898 - 1899	7
Renfrewshire	1:10,560	1914 - 1920	8
Lanarkshire	1:10,560	1914 - 1915	9
Dumbartonshire	1:10,560	1923	10
Dumbartonshire	1:10,560	1924	11
Lanarkshire	1:10,560	1933 - 1934	12
Dumbartonshire	1:10,560	1934	13
Renfrewshire	1:10,560	1938 - 1939	14
Lanarkshire	1:10,560	1938	15
Dumbartonshire	1:10,560	1938	16
Ordnance Survey Plan	1:10,000	1956	17
Ordnance Survey Plan	1:10,000	1966 - 1969	18
Ordnance Survey Plan	1:10,000	1973 - 1979	19
Glasgow	1:25,000	1981	20
Ordnance Survey Plan	1:10,000	1984 - 1989	21
Ordnance Survey Plan	1:10,000	1994	22
10K Raster Mapping	1:10,000	1999	23
10K Raster Mapping	1:10,000	2006	24
VectorMap Local	1:10,000	2021	25

Historical Map - Slice A



Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

Site at 254780, 666140

Landmark
 INFORMATION GROUP

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Russian Military Mapping Legends

1:5,000 and 1:10,000 mapping

a. Not drawn to scale b. Drawn to scale

	Government and Administrative Buildings		Military and Industrial Buildings
	Military and Communication Areas		Subway Entrance
	Fireproof Building		Prominent Fireproof Building
	Non-fireproof Building		Non-fireproof Building (non-dwelling)
	Factory, mill, and flour mill, with chimneys		Factory, mill, and flour mill, without chimneys
	Power Station, drawn to scale		Hydroelectric Power Station
	Radio Station, drawn to scale		Telephone Station, drawn to scale
	Abandoned Open-pit Mine or Quarry		Open-pit Salt Mine
	Pit		Oil Deposit or Well
	Oil Seepage		Natural Gas Tank
	Tailings Pile		Fuel Storage Tanks
	Bench Mark		Drill Hole
	Burial Mound		Triangulation Point on Burial Mound
	Single-track Railroad		Double-track Railroad
	Small Bridge		Pipe (Culvert)
	Tunnel		Railroad and Station Building
	Coniferous Forest		Deciduous Forest
	Mixed Forest		Lawns
	Citrus Orchard		Wet Ground
	Scattered Vegetation		

243,8 Values for prominent elevations
186.0 Numbers for spot elevations, depth soundings, contour lines, etc.
0,2 Velocity of the current, width of river bed, depth of river
180/12 Fractional terms: length and capacity of bridges; depth of fords and condition of the river bottom; height of forest and the diameter of trees

Russian Alphabet (For reference and phonetic interpretation of map text)

А а (A)	З з (Z)	П п (P)	Ч ч (CH)
Б б (B)	И и (I)	Р р (R)	Ш ш (SH)
В в (V)	Й й (Y)	С с (S)	Щ щ (SHCH)
Г г (G)	К к (K)	Т т (T)	Ъ (-)
Д д (D)	Л л (L)	У у (U)	Ы (Y)
Е е (E)	М м (M)	Ф ф (F)	Ь (')
Ё ё (YO)	Н н (N)	Х х (KH)	Э э (E)
Ж ж (ZH)	О о (O)	Ц ц (TS)	Ю ю (YU or IU)
			Я я (YA or IA)

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale

	Government and Administrative Buildings		Military and Industrial Buildings
	Military and Communication Areas		Subway Entrance
	Partly Demolished Buildings		Demolished Buildings
	Built-Up Area with Fireproof Buildings Predominant		Built-Up Area with Non-Fireproof Buildings Predominant
	Individual Fireproof Building		Prominent Industrial Building
	Individual Dwelling, Fireproof		Ruins of an Individual Dwelling
	Factory or Mill Chimney		Factory or Mill with Chimney
	Factory or Mill without Chimney		Salt Mine
	Mine or Open Pit Mine		Tailings Pile
	Operating Shaft or Mine		Non-Operating Shaft or Mine
	Pit		Gas Pump or Service Station
	Fuel Storage or Natural Gas Tank		Oil or Natural Gas Derrick
	Small Hydroelectric Power Station		Power Station
	Transformer Station		Cemetery
	Burial Mound (height in metres)		Triangulation Point on Burial Mound
	Triangulation Point		Telegraph Office
	Telephone Station		Radio Station
	Radio Tower		Airfield or Seaplane Base
	Landing Strip		Cut
	Fill		Km Post
	Plantings		Width of Road
	Steep Grade		Highway under Construction
	Improved Dirt Road (former truck road)		Small Bridge
	Pipe (Culvert)		Tunnel
	Dismantled Railroad		Double-track Railroad with First Class Station
	Railroad Under Construction		Shore Embankment
	River or Ditch with Embankment		Water Gauge
	Direction and velocity of current		Water Level Mark
	Well		Spring
	Water Reservoir or Rain Water Pit		Isobath with value
	Heavy (Index) Contour Line		Half Contour Line
	Contour Line and Value		Spot Elevation Value
	Coniferous		Deciduous
	Mixed		Scrub

Key to Numbers on Mapping

NS56_Glasgow

No.	Description
6	Dockyard (Ship Building)
8	Dockyard (Ship Building)
10	Dockyard (Ship Building)
40	Factory (Motors)
57	Sawmill
109	Factory (Pipe)
159	Railway Station (Freight)

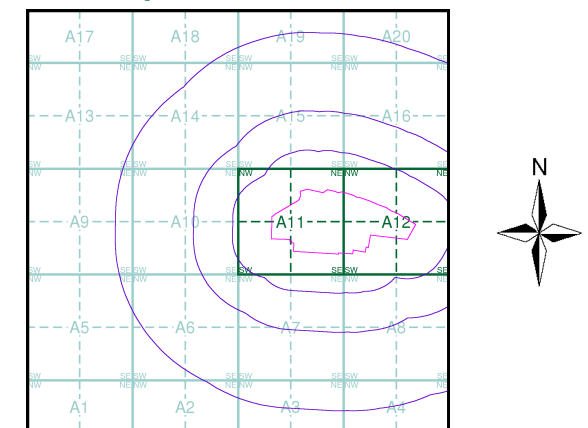
M M

MOTT
MACDONALD

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Renfrewshire	1:10,560	1863 - 1864	3
Dumbartonshire	1:10,560	1864	4
Lanarkshire	1:10,560	1864 - 1865	5
Lanarkshire	1:10,560	1897 - 1898	6
Renfrewshire	1:10,560	1898 - 1899	7
Renfrewshire	1:10,560	1914 - 1920	8
Lanarkshire	1:10,560	1914 - 1915	9
Dumbartonshire	1:10,560	1923	10
Dumbartonshire	1:10,560	1924	11
Lanarkshire	1:10,560	1933 - 1934	12
Dumbartonshire	1:10,560	1934	13
Renfrewshire	1:10,560	1938 - 1939	14
Lanarkshire	1:10,560	1938	15
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Ordnance Survey Plan	1:10,000	1966 - 1969	18
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Glasgow	1:25,000	1981	20
Ordnance Survey Plan	1:10,000	1984 - 1989	21
Ordnance Survey Plan	1:10,000	1994	22
10K Raster Mapping	1:10,000	1999	23
10K Raster Mapping	1:10,000	2006	24
VectorMap Local	1:10,000	2021	25

Russian Map - Slice A



Order Details

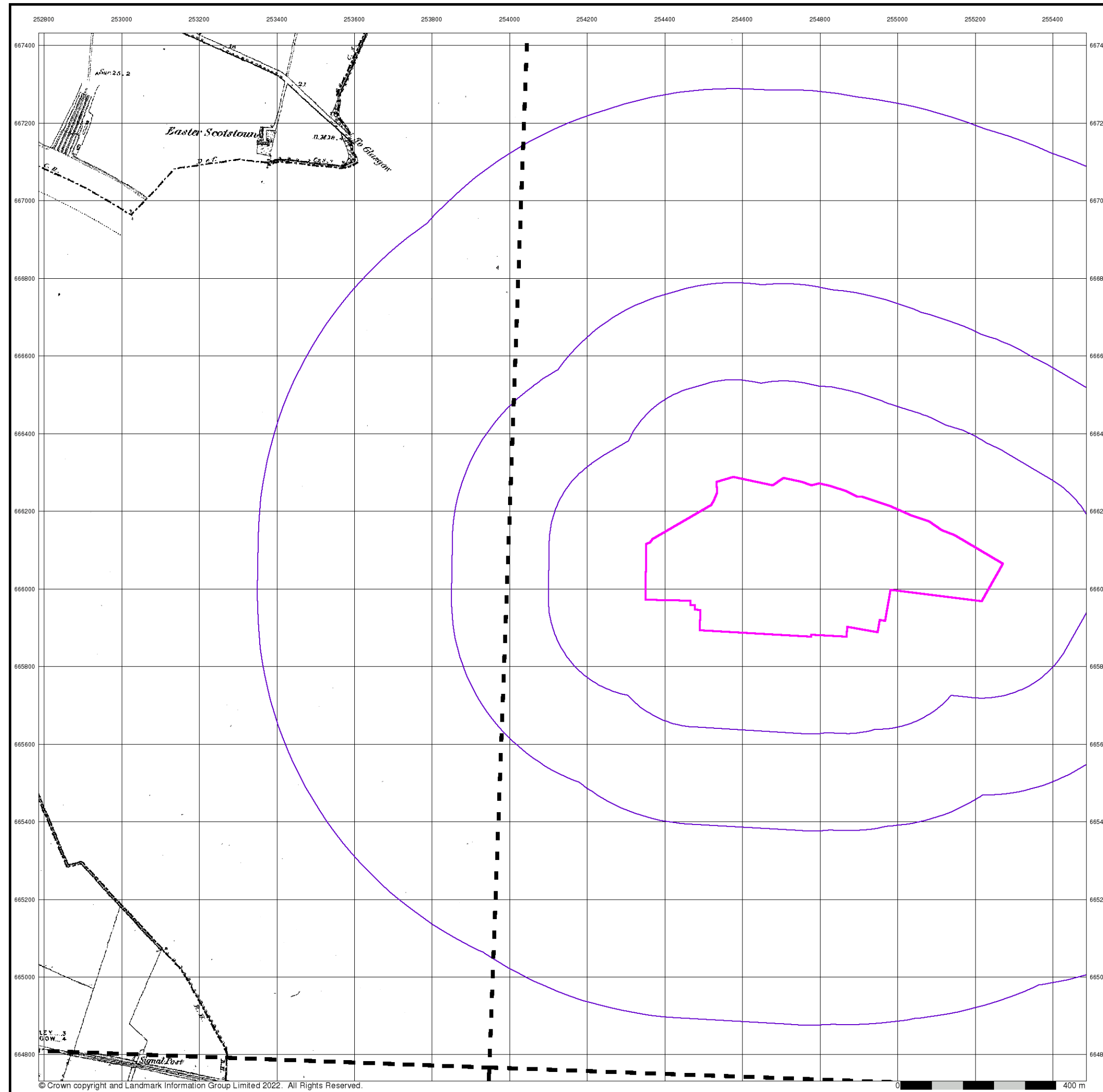
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 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

Site at 254780, 666140

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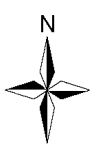
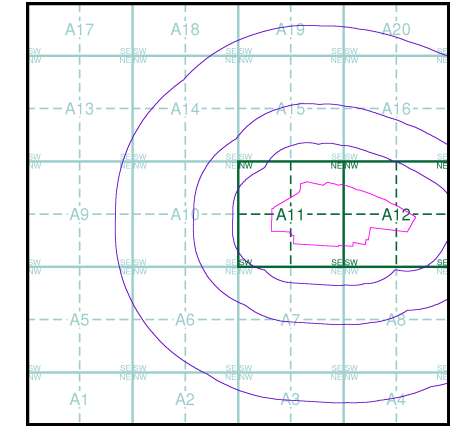
M M
MOTT MACDONALD
Renfrewshire
Published 1863 - 1864
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

00800 1864 1:10,560	00900 1864 1:10,560
01200 1864 1:10,560	01300 1863 1:10,560

Historical Map - Slice A



Order Details

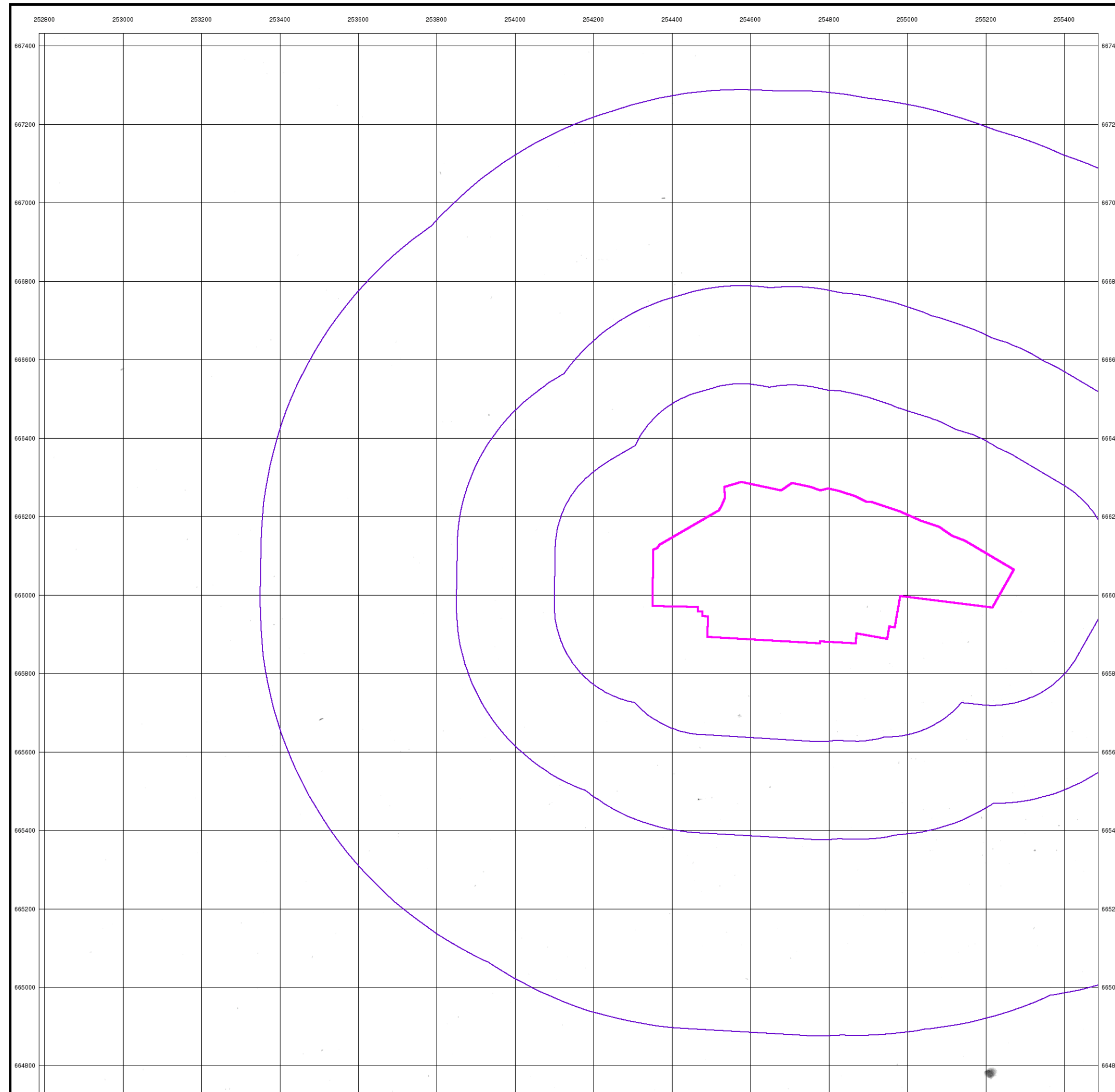
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 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
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MOTT
MACDONALD

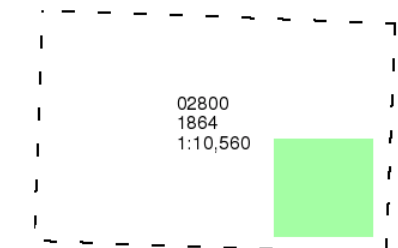
Dumbartonshire

Published 1864

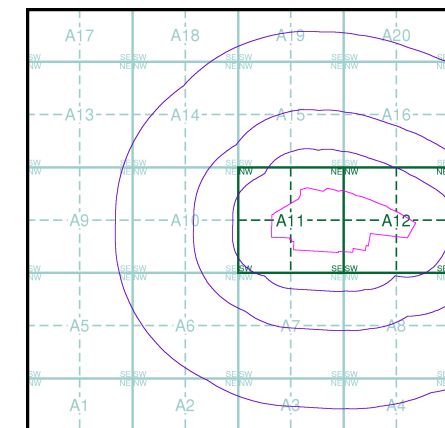
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

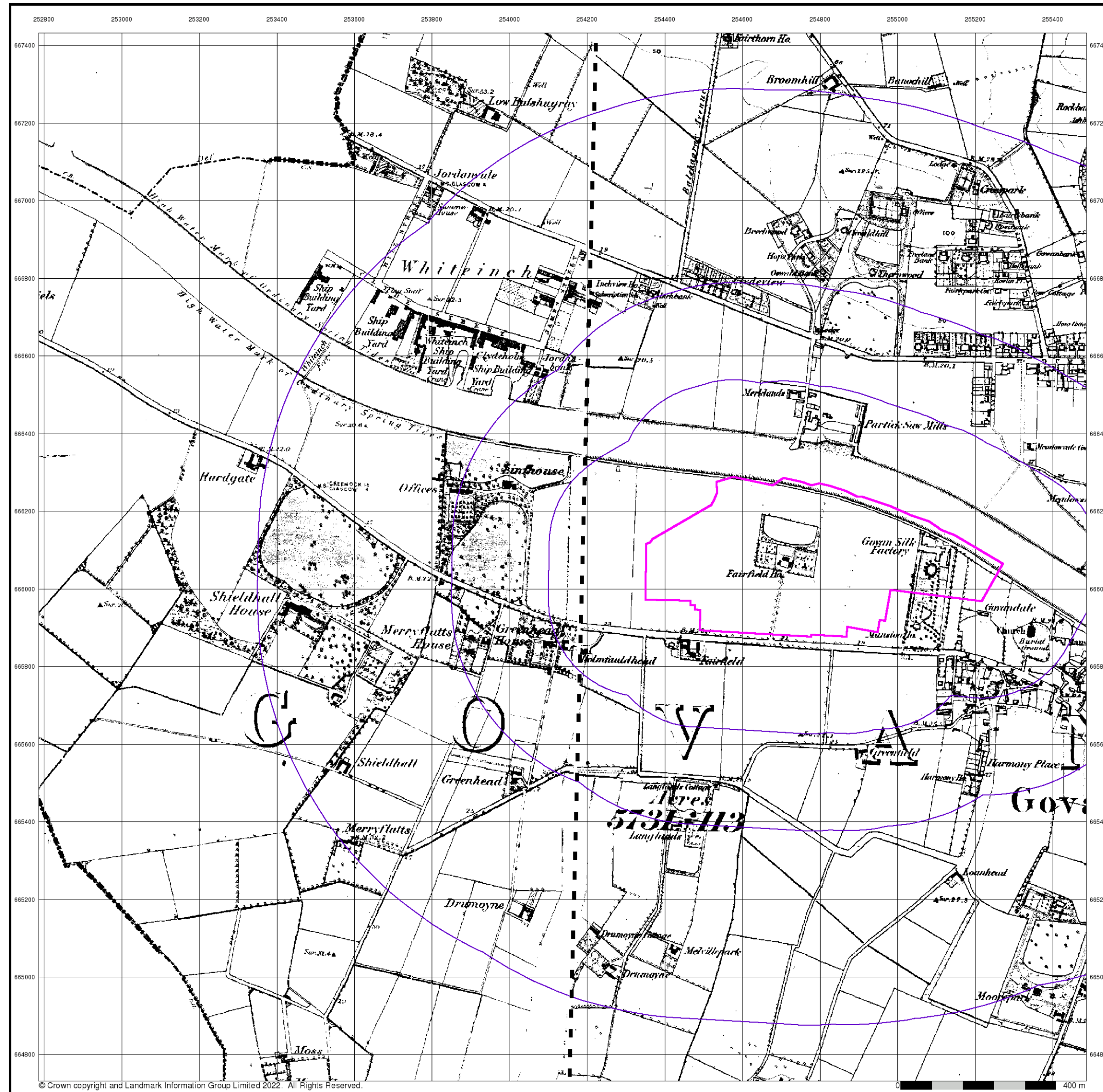
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Site Details

Site at 254780, 666140

Landmark
INFORMATION GROUP

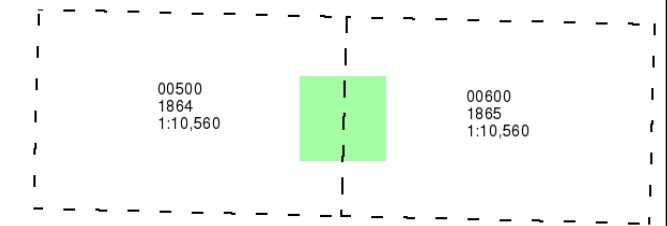
Tel: 0844 844 9952
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 Web: www.envirocheck.co.uk



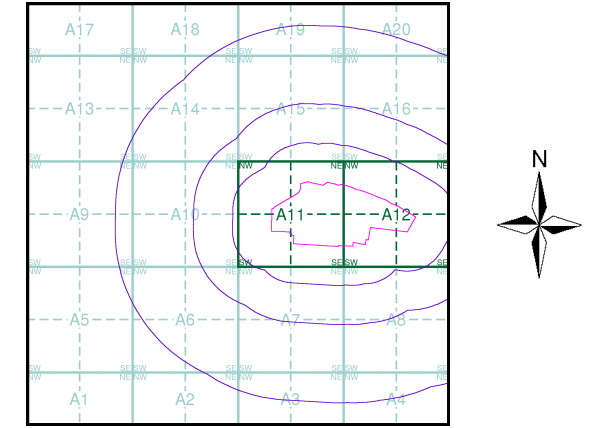
M M
MOTT MACDONALD
Lanarkshire
Published 1864 - 1865
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



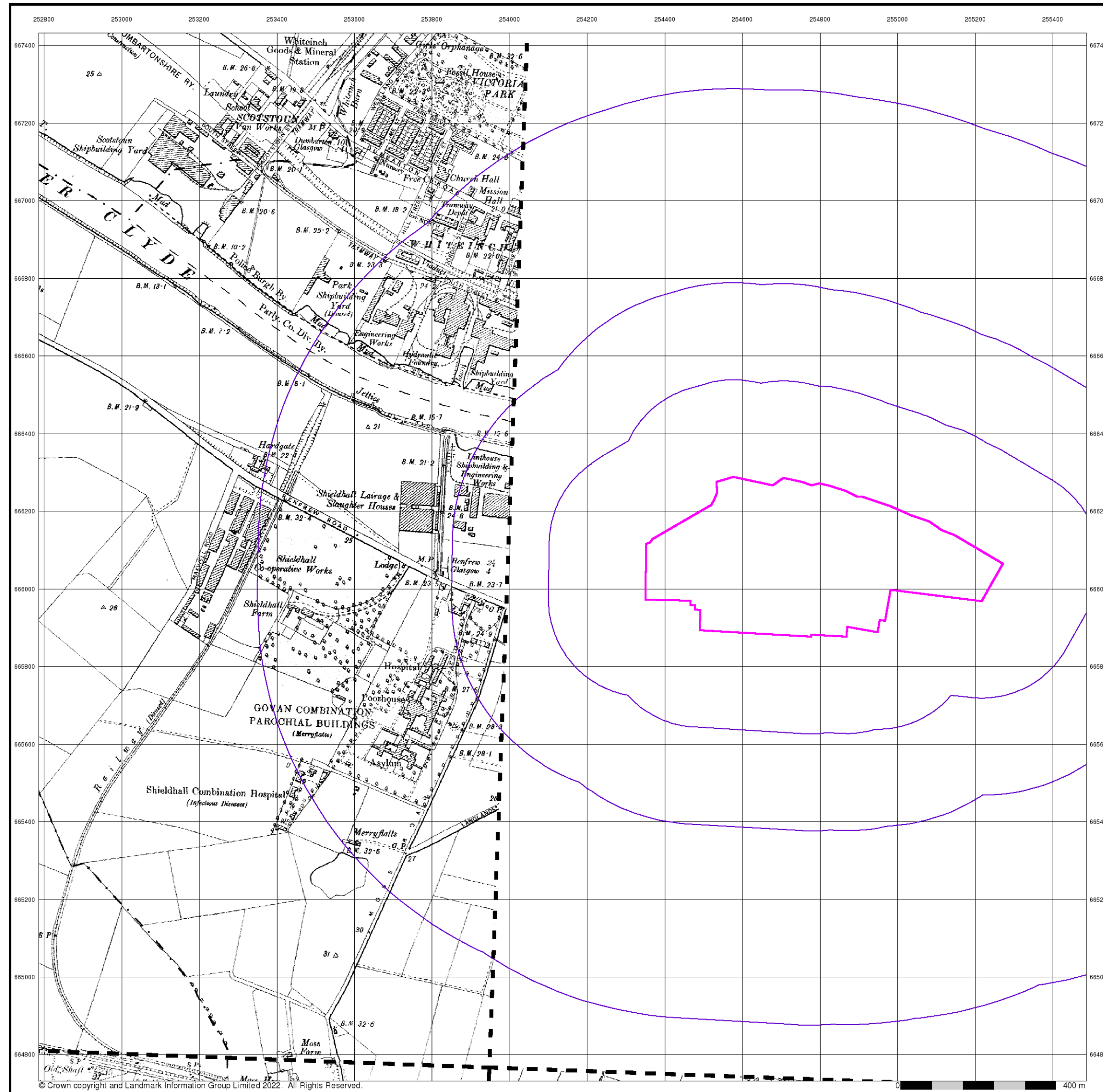
Historical Map - Slice A



Order Details
 Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
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Site Details
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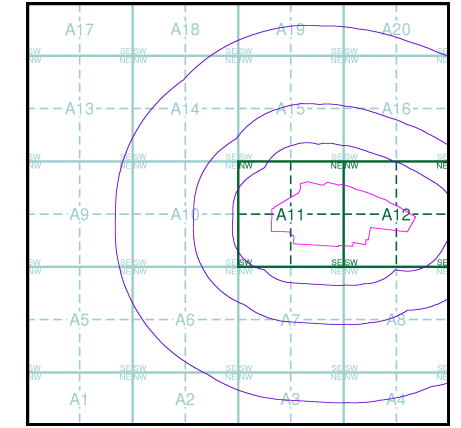
M M
MOTT
MACDONALD
Renfrewshire
Published 1898 - 1899
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

008SE 1899 1:10,560	009SW 1899 1:10,560
012NE 1898 1:10,560	013NW 1899 1:10,560

Historical Map - Slice A



Order Details

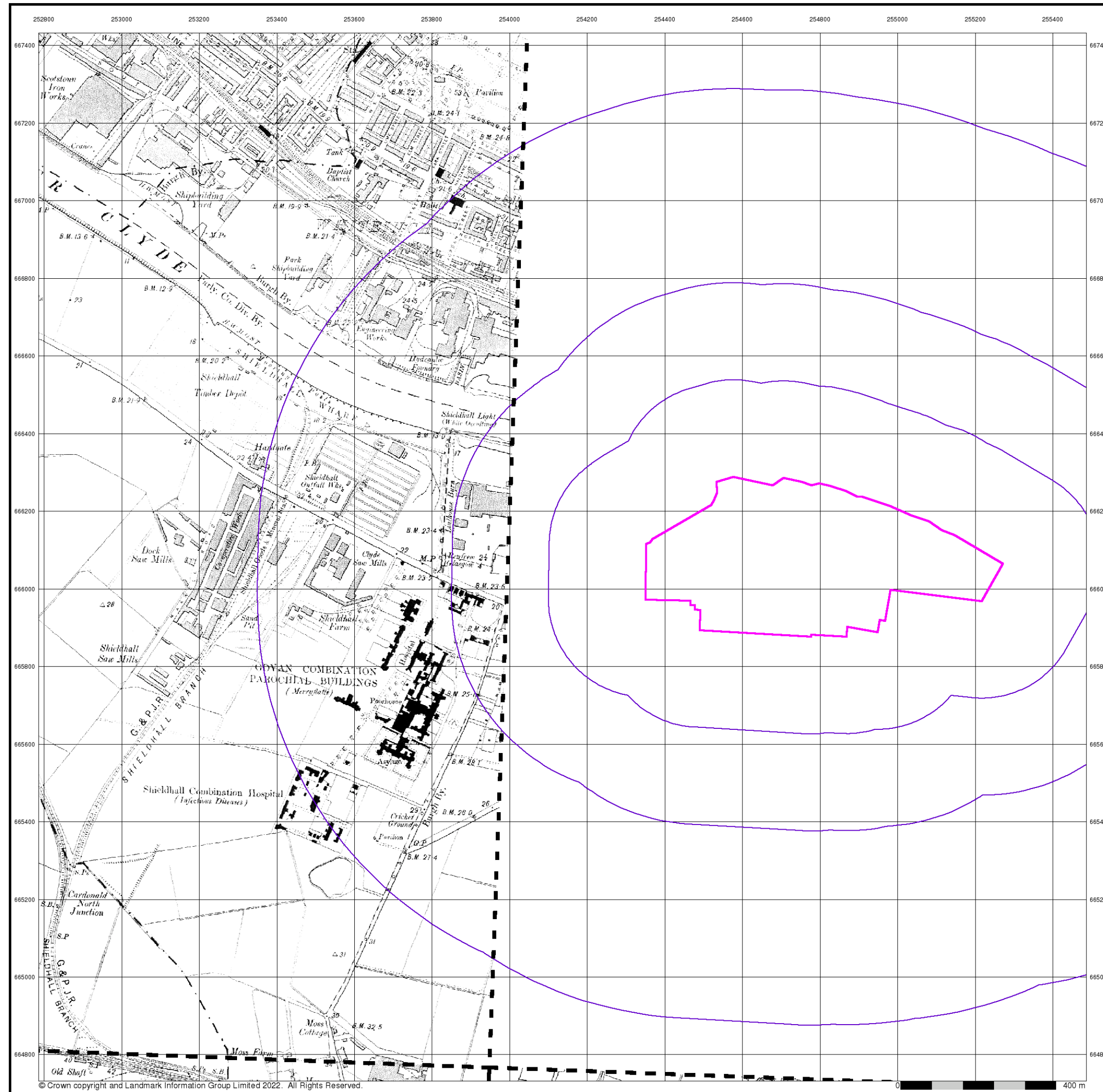
Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

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M
M

MOTT
MACDONALD

Renfrewshire

Published 1914 - 1920

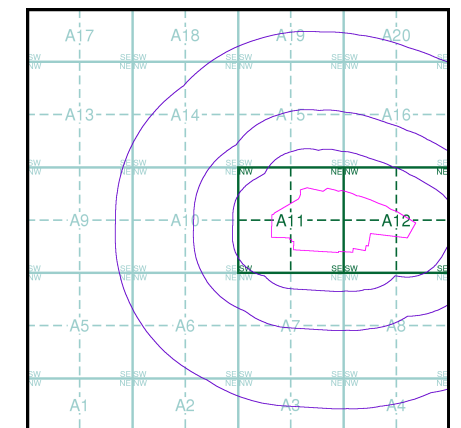
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

008SE 1914 1:10,560	009SW 1920 1:10,560
012NE 1916 1:10,560	013NW 1920 1:10,560

Historical Map - Slice A



Order Details

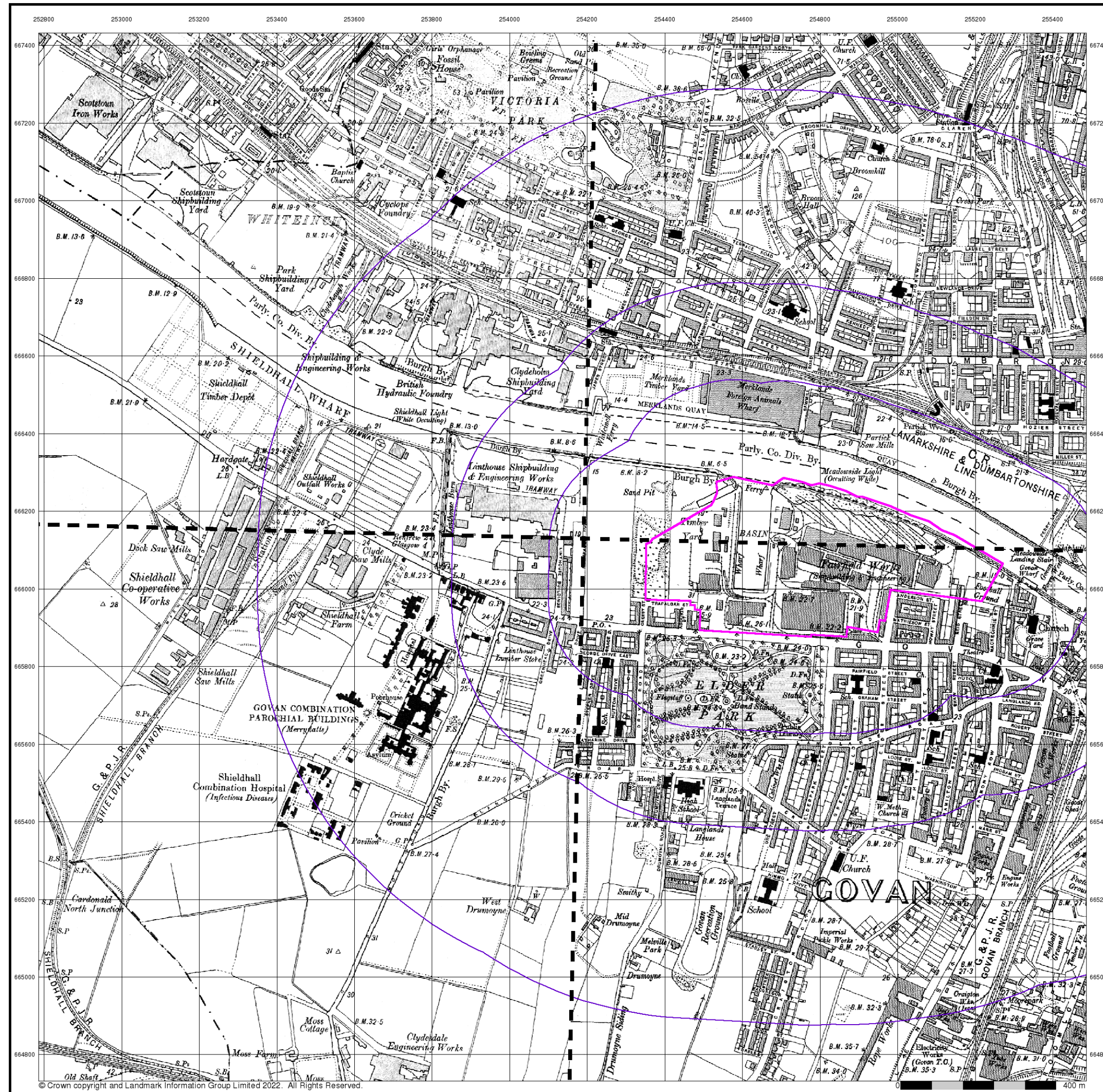
Order Number: 293036501_1_1
 Customer Ref: 100107212-001
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 Slice: A
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Site Details

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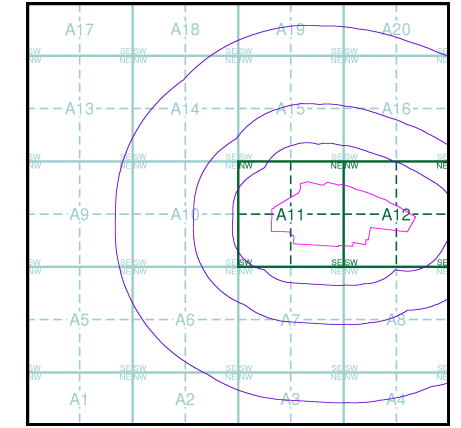
M M
MOTT
MACDONALD
Lanarkshire
Published 1914 - 1915
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

005NE 1915 1:10,560	006NW 1914 1:10,560
005SE 1914 1:10,560	006SW 1914 1:10,560

Historical Map - Slice A



Order Details

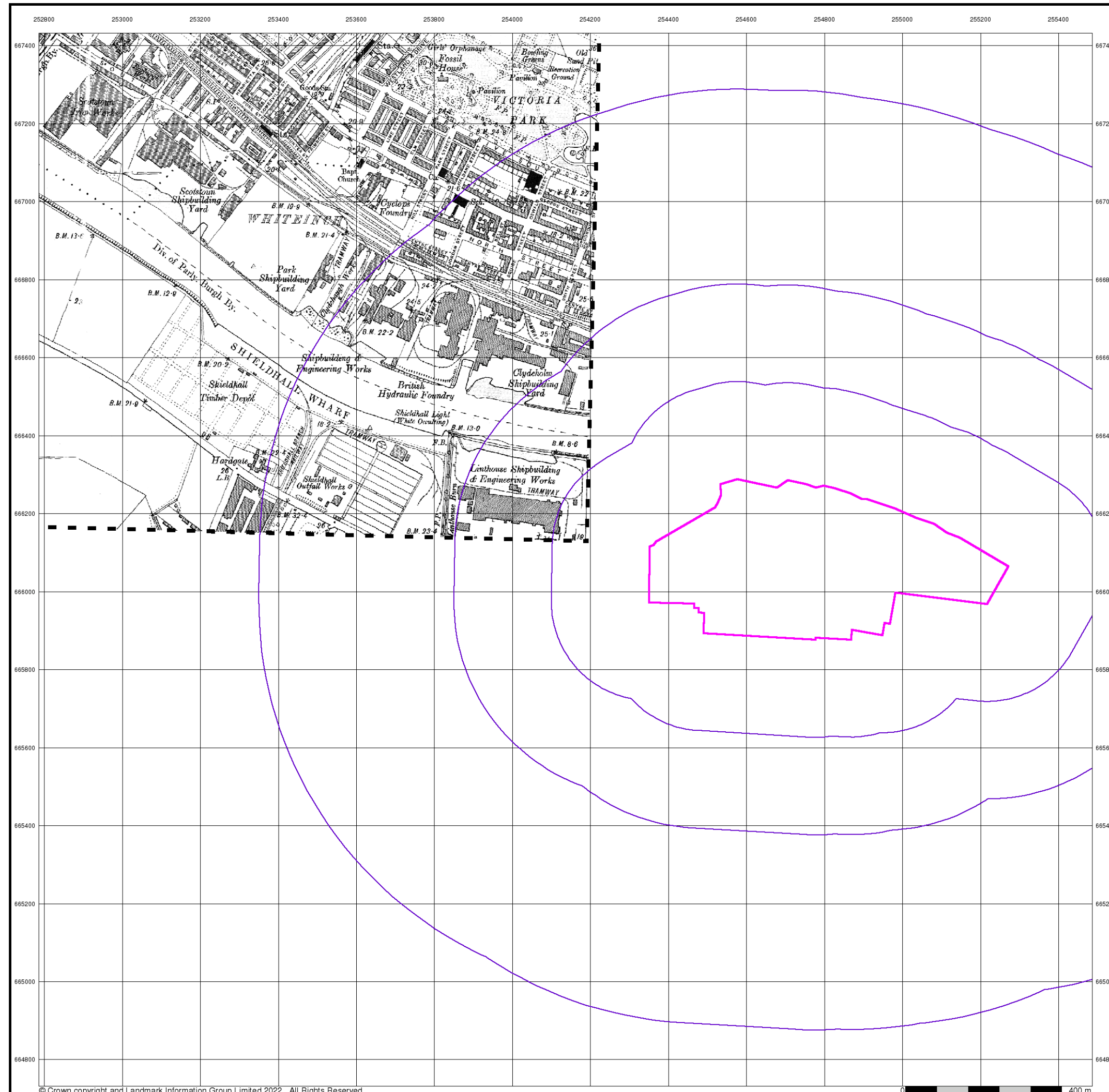
Order Number: 293036501_1_1
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Site Details

Site at 254780, 666140



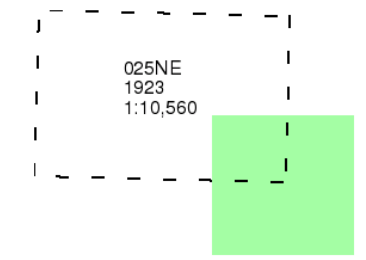
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 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



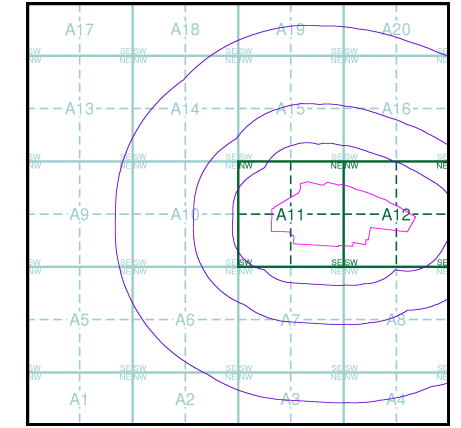
M M
MOTT MACDONALD
Dumbartonshire
Published 1923
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



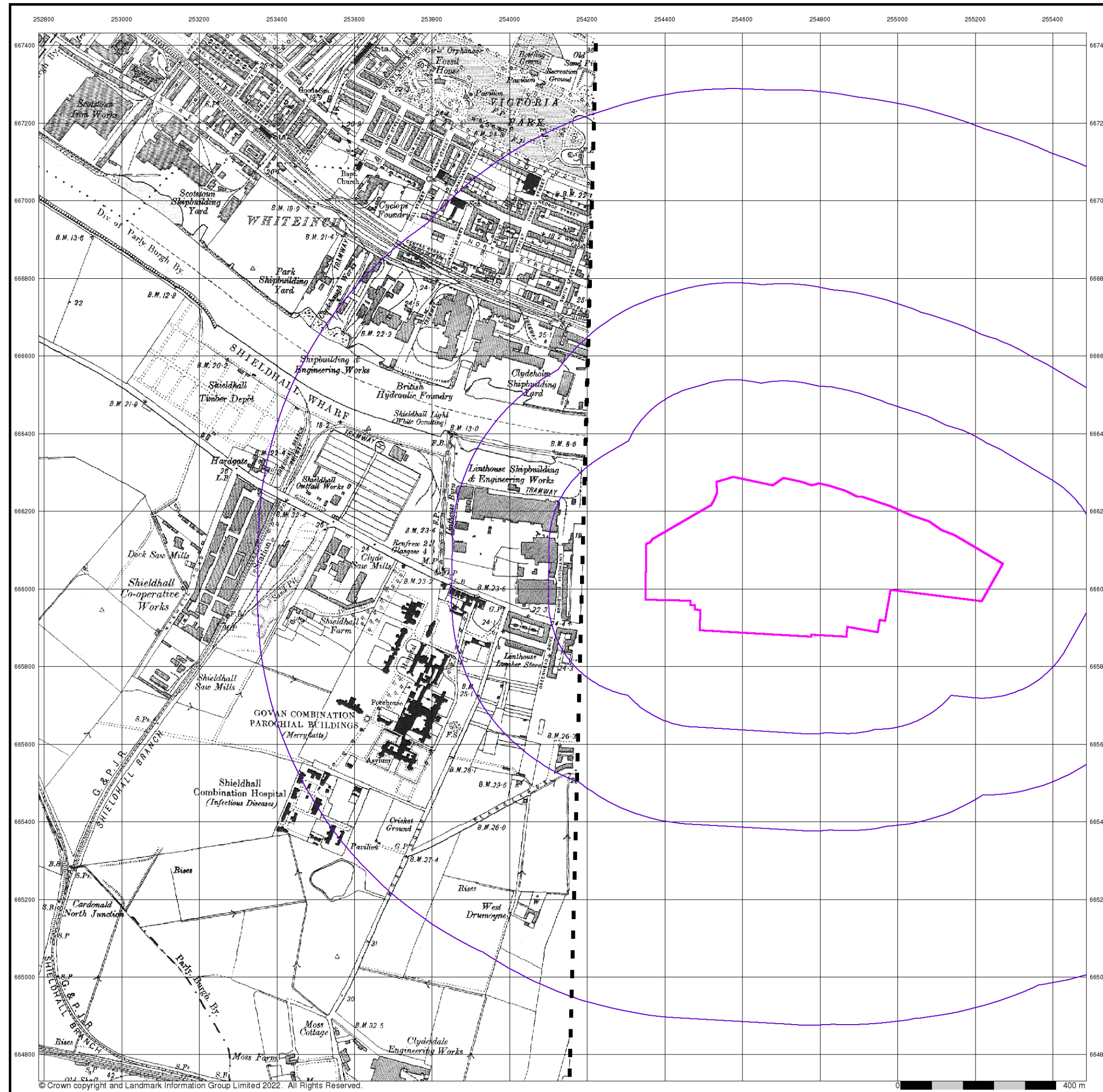
Historical Map - Slice A



Order Details
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Site Details
 Site at 254780, 666140

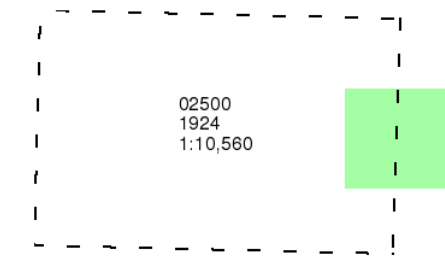




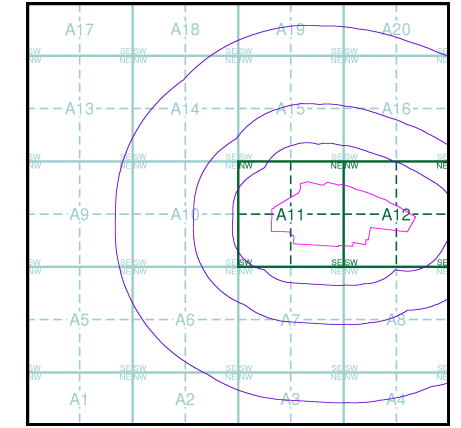
M M
MOTT MACDONALD
Dumbartonshire
Published 1924
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

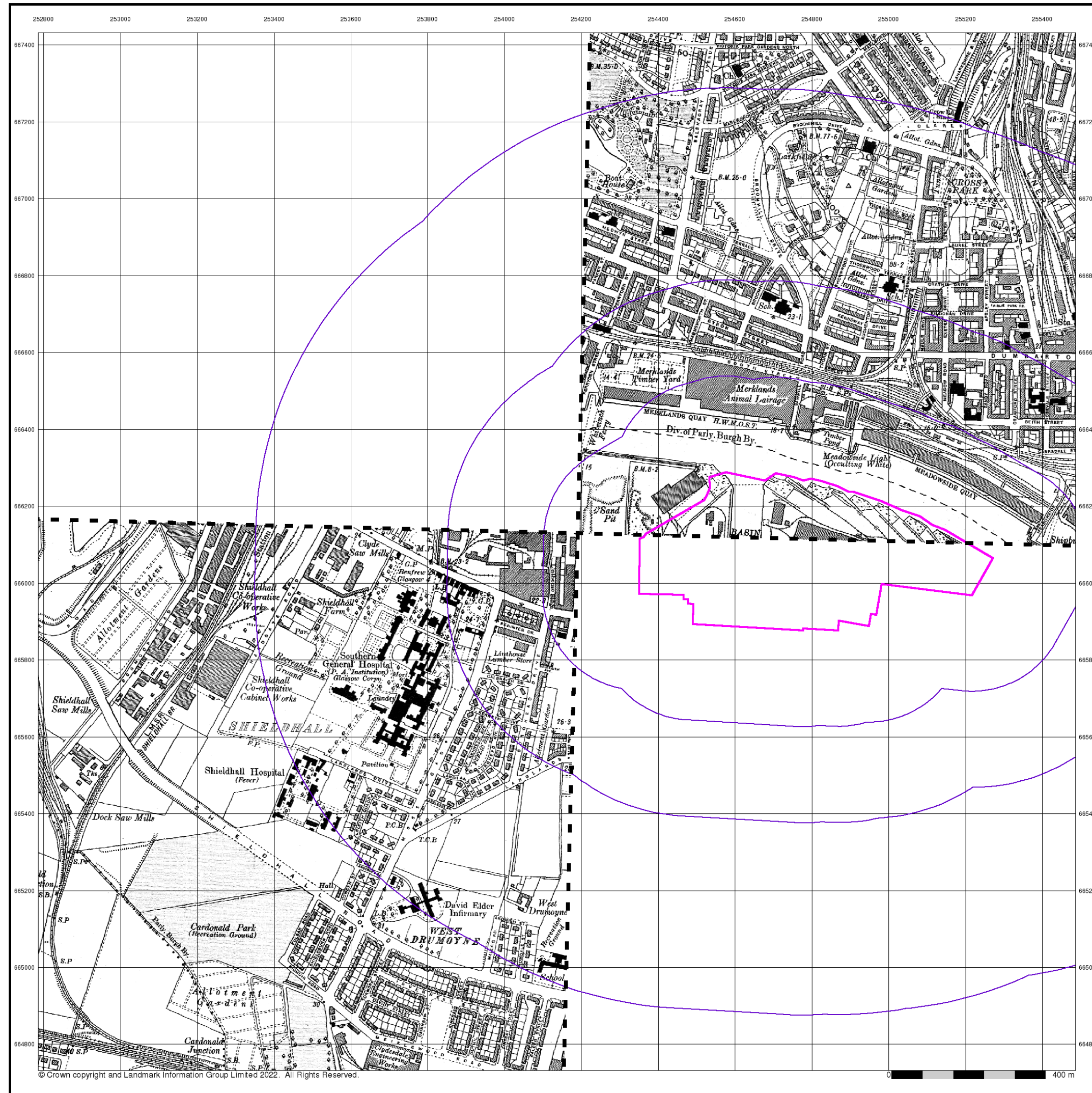
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Site Details

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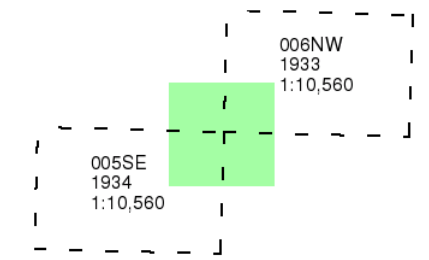
Tel: 0844 844 9952
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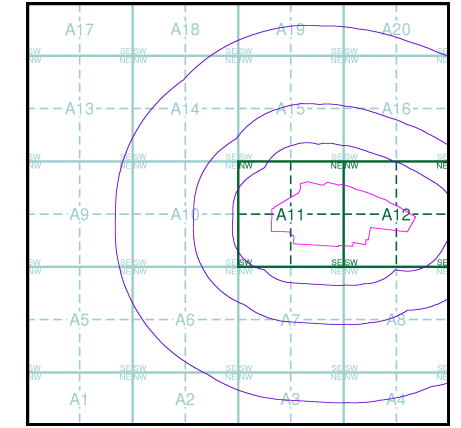
M M
MOTT
MACDONALD
Lanarkshire
Published 1933 - 1934
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details
 Order Number: 293036501_1_1
 Customer Ref: 100107212-001
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Site Details
 Site at 254780, 666140

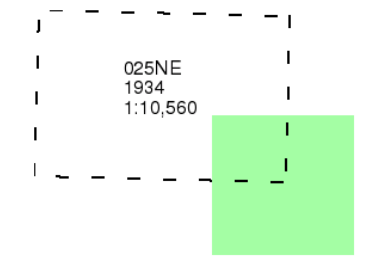
Landmark
 INFORMATION GROUP
 Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



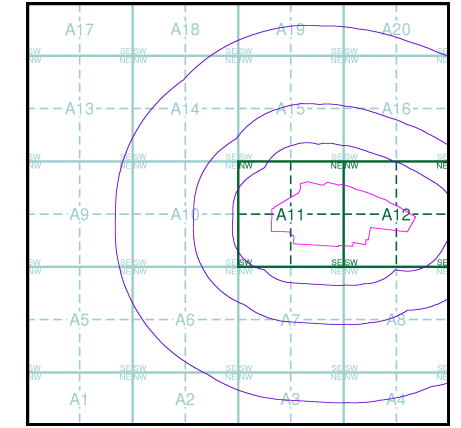
M M
MOTT MACDONALD
Dumbartonshire
Published 1934
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



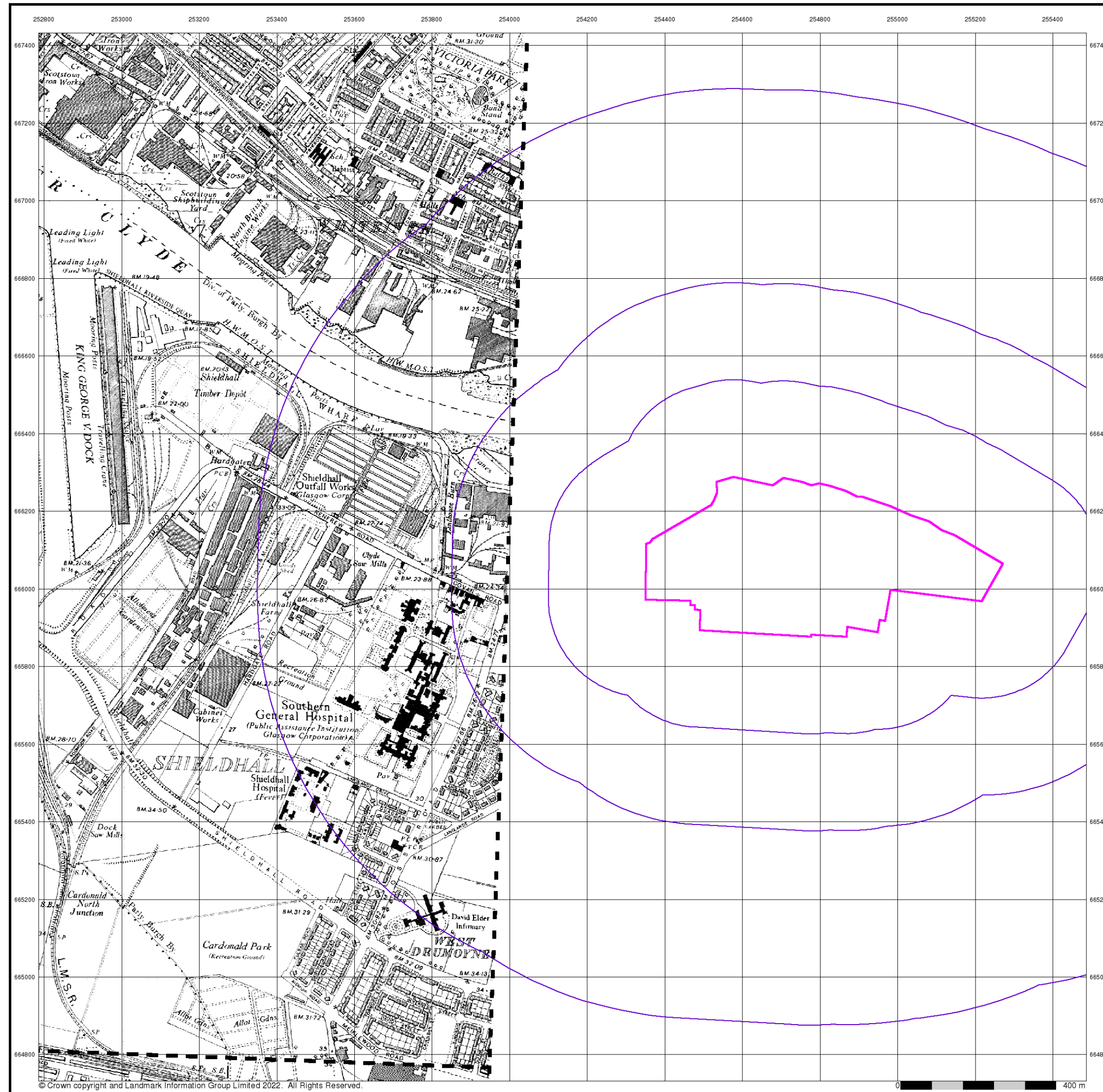
Historical Map - Slice A



Order Details
 Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details
 Site at 254780, 666140





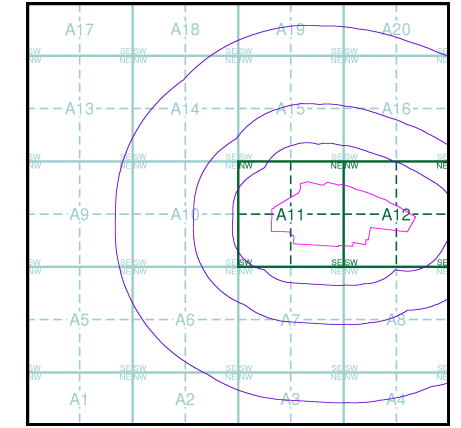
M M
MOTT MACDONALD
Renfrewshire
Published 1938 - 1939
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

008SE	1939	1:10,560
012NE	1938	1:10,560

Historical Map - Slice A



Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
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 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

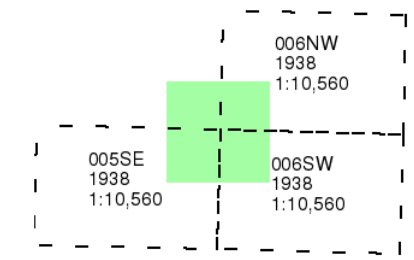
Site at 254780, 666140



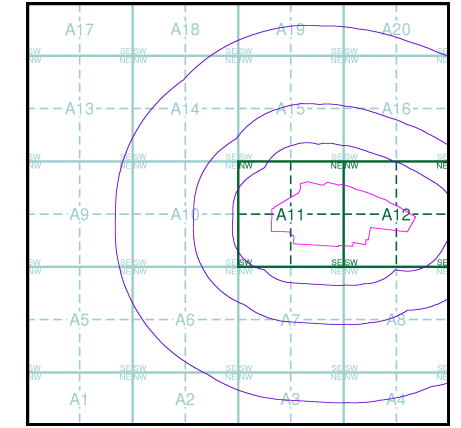
M M
MOTT MACDONALD
Lanarkshire
Published 1938
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details
 Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
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Site Details
 Site at 254780, 666140

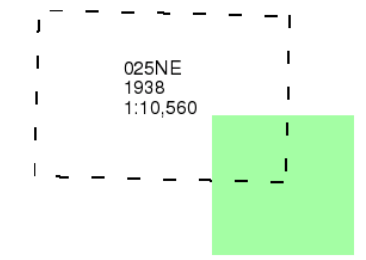
Landmark
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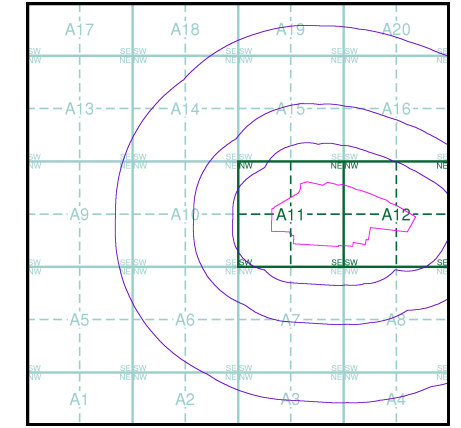
M M
MOTT MACDONALD
Dumbartonshire
Published 1938
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



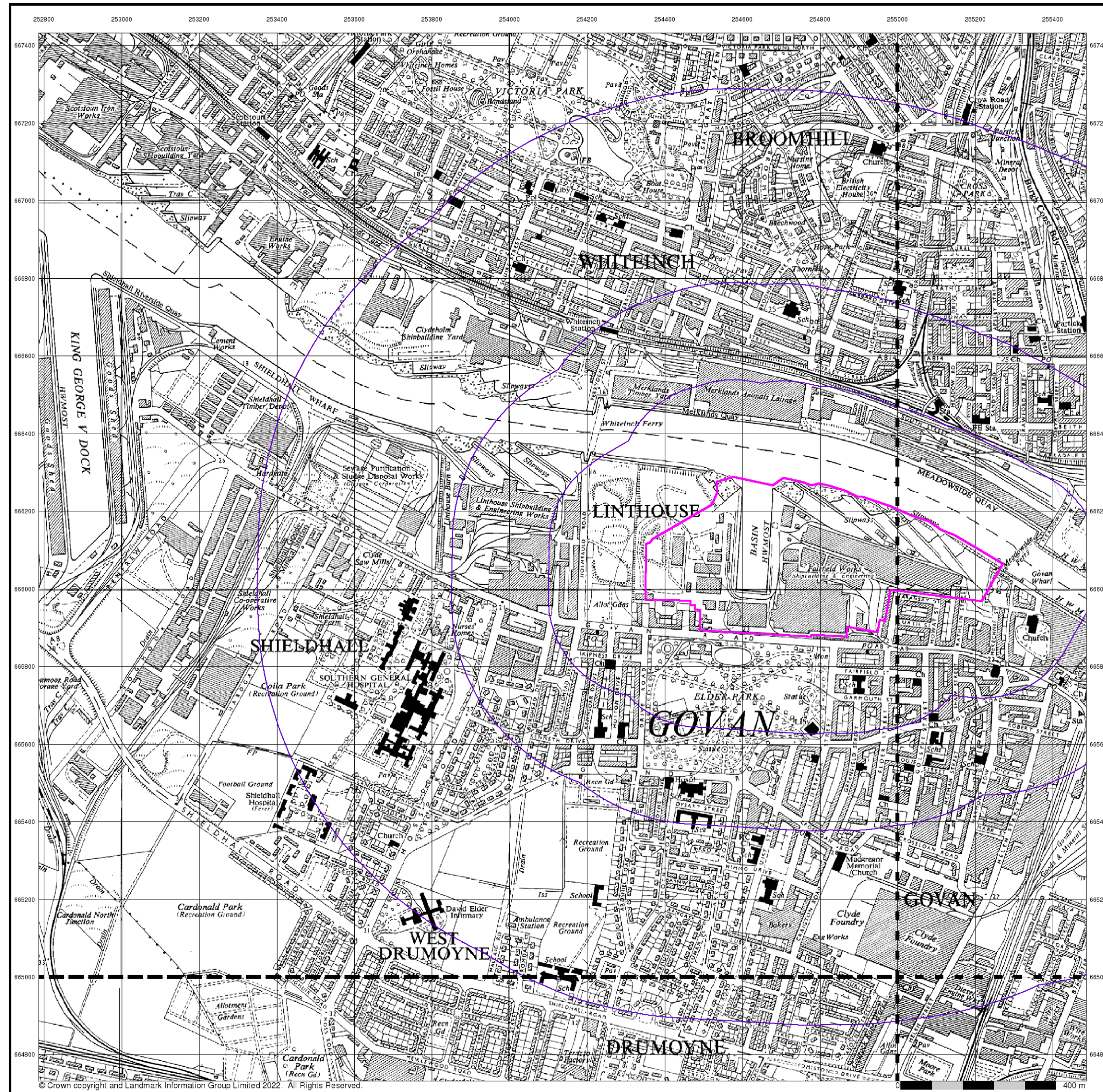
Historical Map - Slice A



Order Details
 Order Number: 293036501_1_1
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 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details
 Site at 254780, 666140





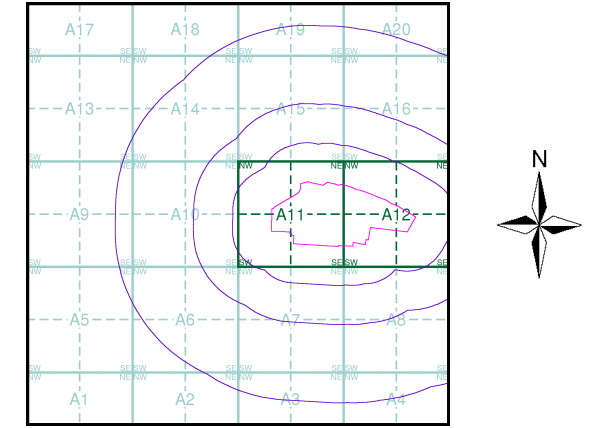
M M
MOTT MACDONALD
Ordnance Survey Plan
Published 1956
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

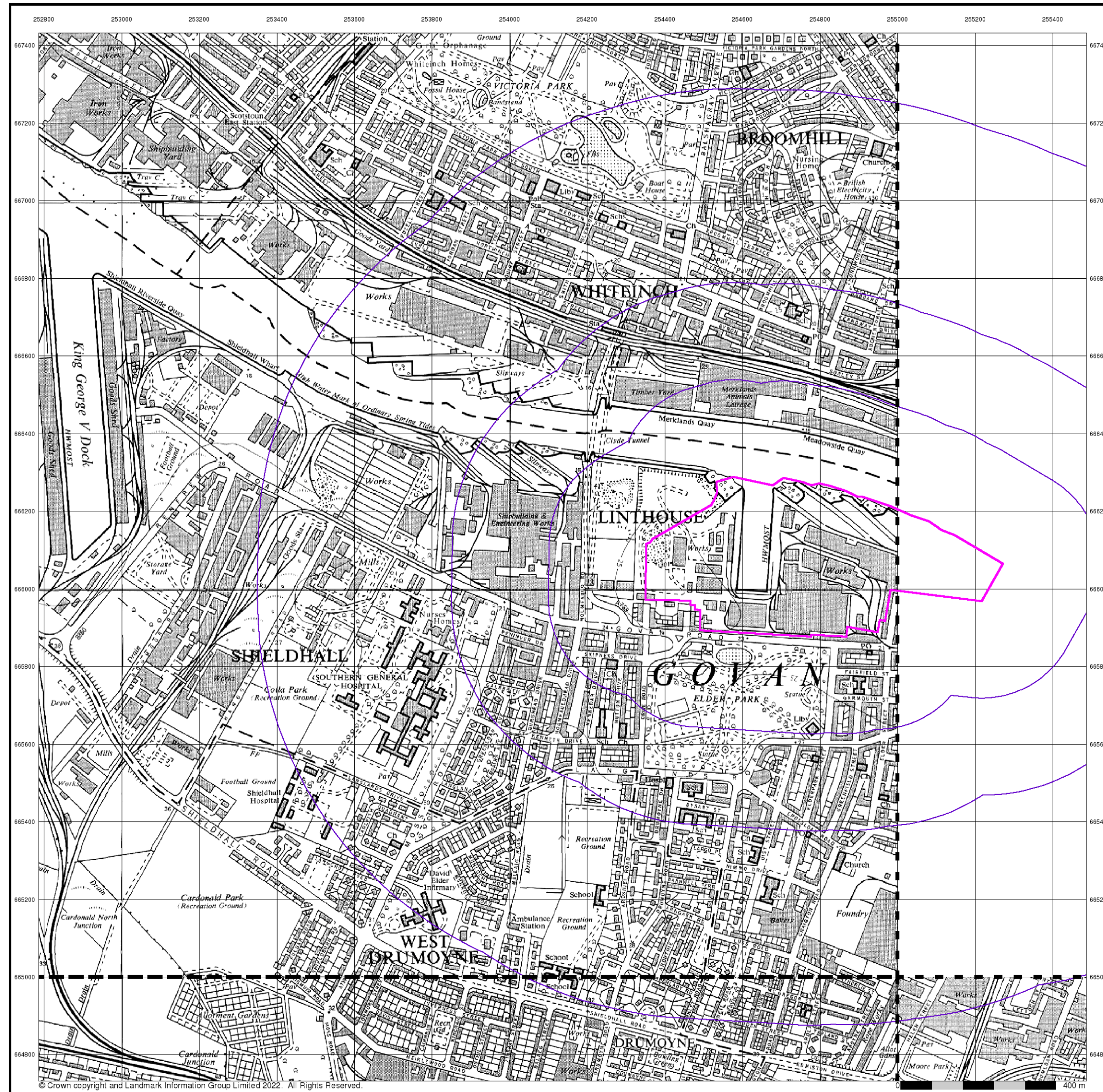
NS56NW	NS56NE
1956	1956
1:10,560	1:10,560
NS56SW	NS56SE
1956	1956
1:10,560	1:10,560

Historical Map - Slice A



Order Details
 Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details
 Site at 254780, 666140



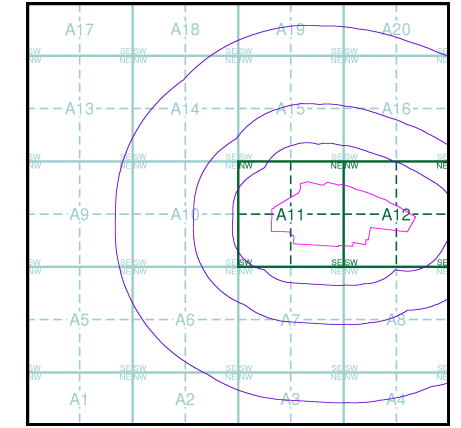
M M
MOTT MACDONALD
Ordnance Survey Plan
Published 1966 - 1969
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

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NS56SW	1969	1:10,560
NS56SE	1967	1:10,560

Historical Map - Slice A



Order Details

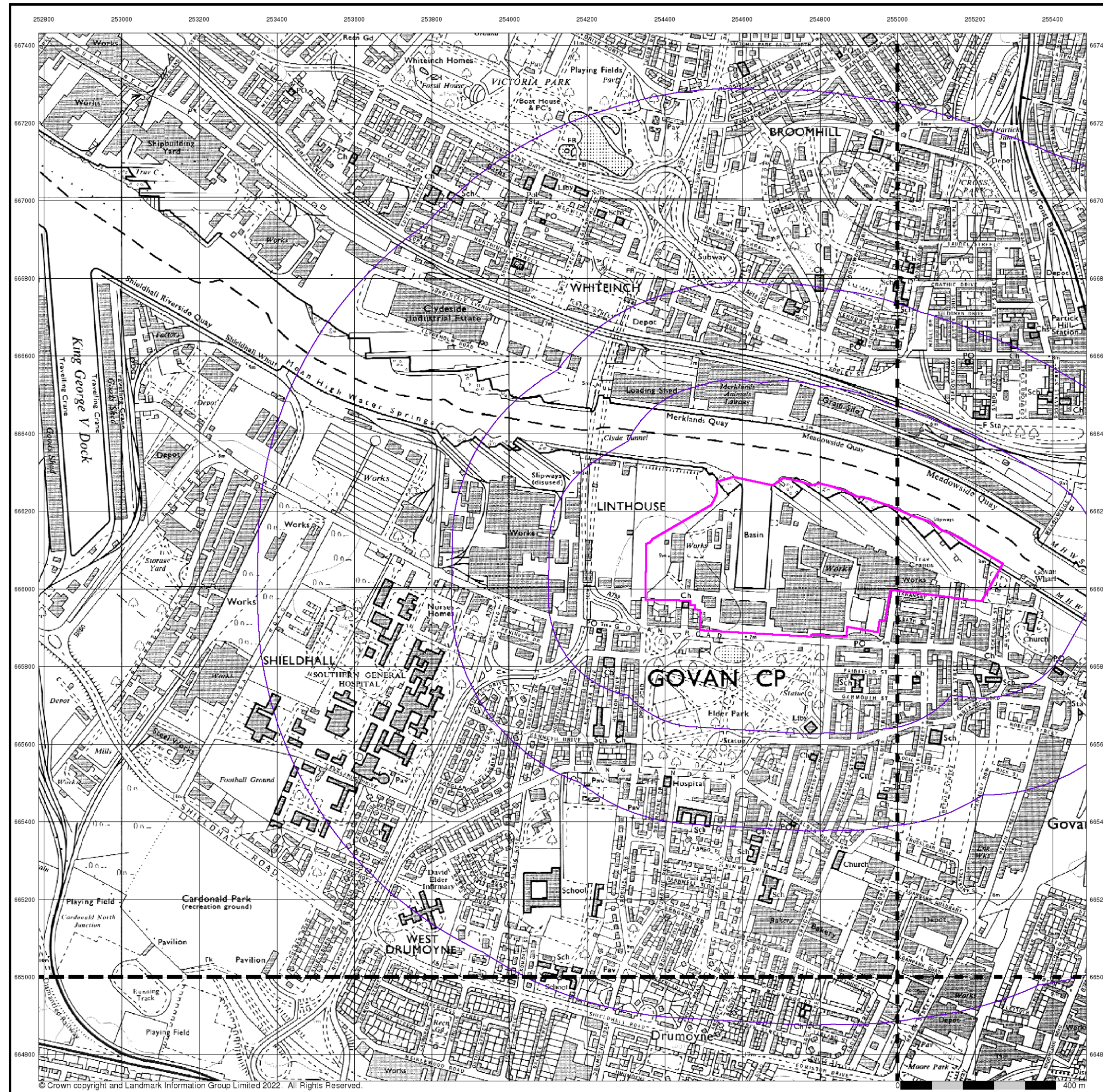
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 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

Site at 254780, 666140



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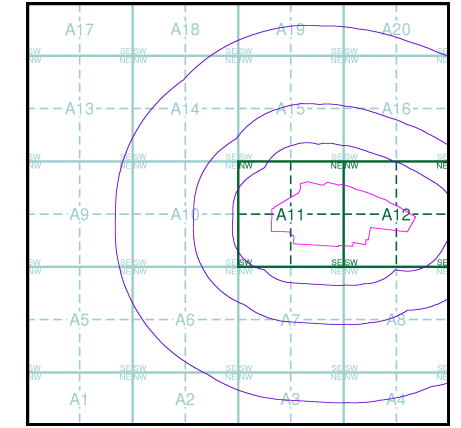
M M
MOTT MACDONALD
Ordnance Survey Plan
Published 1973 - 1979
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

NS56NW 1973 1:10,000	NS56NE 1975 1:10,000
NS56SW 1979 1:10,000	NS56SE 1979 1:10,000

Historical Map - Slice A



Order Details
 Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

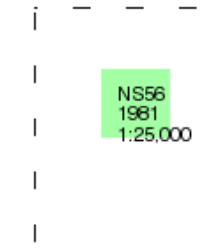
Site Details
 Site at 254780, 666140



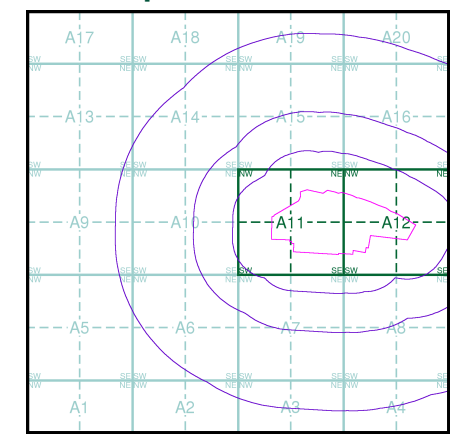
M M
MOTT MACDONALD
Glasgow
Published 1981
Source map scale - 1:25,000

These maps were produced by the Russian military during the Cold War between 1950 and 1997, and cover 103 towns and cities throughout the U.K. The maps are produced at 1:25,000, 1:10,000 and 1:5,000 scale, and show detailed land use, with colour-coded areas for development, green areas, and non-developed areas. Buildings are coloured black and important building uses (such as hospitals, post offices, factories etc.) are numbered, with a numbered key describing their use. They were produced by the Russians for the benefit of navigation, as well as strategic military sites and transport hubs, for use if they were to have invaded the U.K. The detailed information provided indicates that the areas were surveyed using land-based personnel, on the ground, in the cities that are mapped.

Map Name(s) and Date(s)



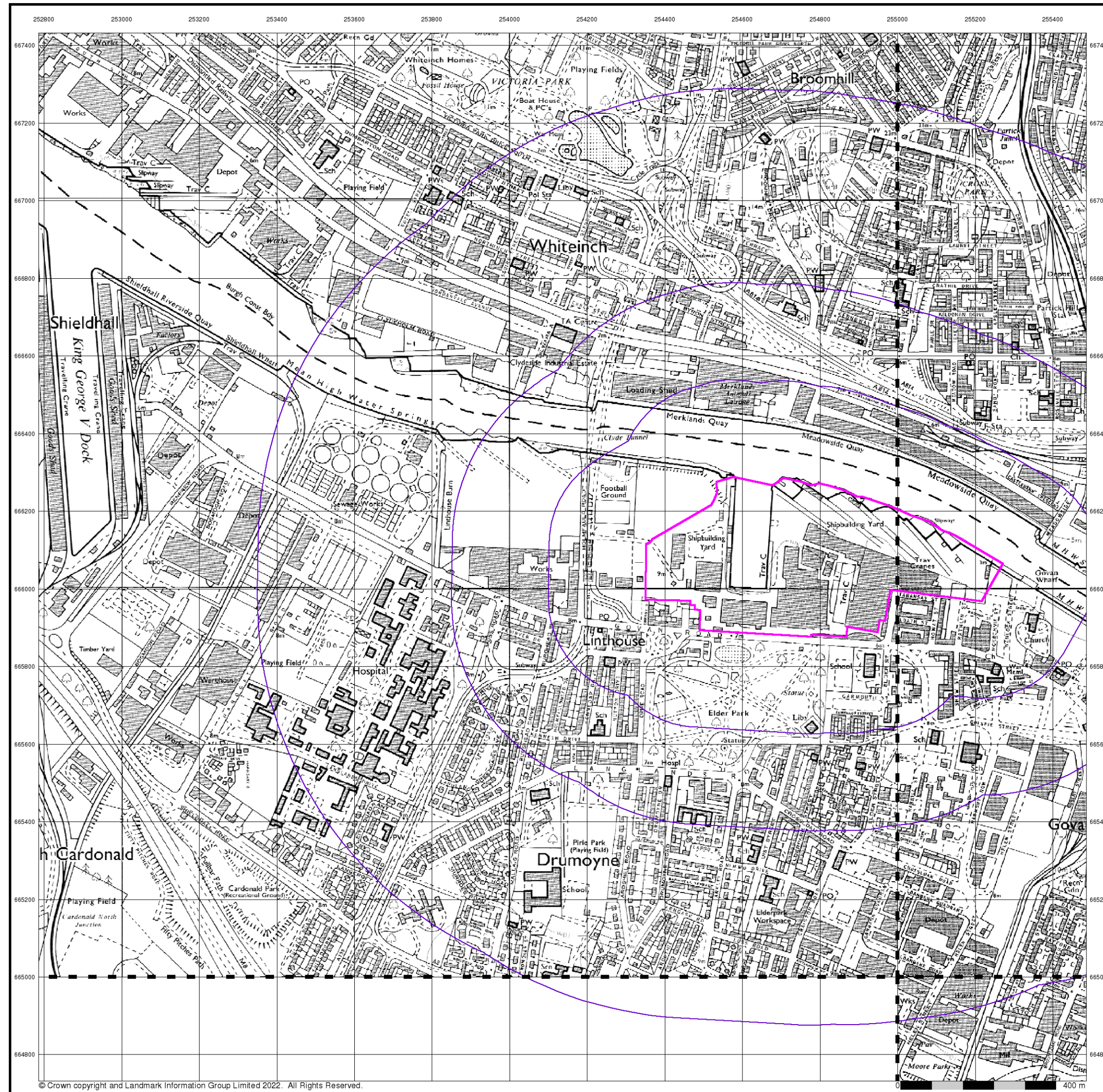
Russian Map - Slice A



Order Details
Order Number: 293036501_1_1
Customer Ref: 100107212-001
National Grid Reference: 254510, 666070
Slice: A
Site Area (Ha): 25.37
Search Buffer (m): 1000

Site Details
Site at 254780, 666140

Landmark
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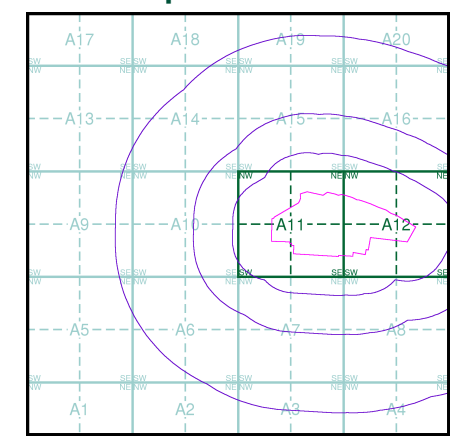
M M
MOTT MACDONALD
Ordnance Survey Plan
Published 1984 - 1989
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

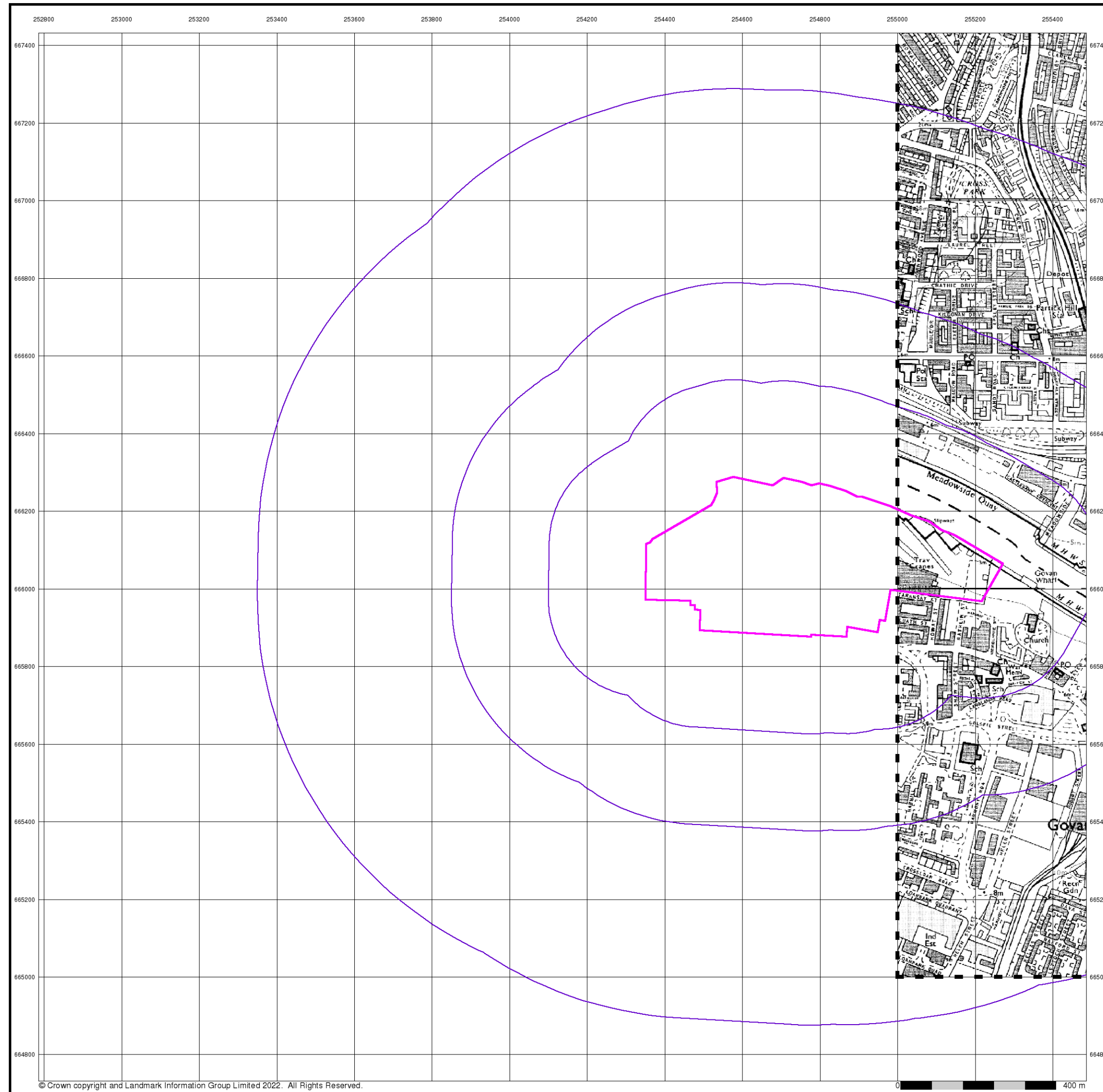
NS56NW	NS56NE
1989	1984
1:10,000	1:10,000
NS56SE	
1989	
1:10,000	

Historical Map - Slice A



Order Details
 Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

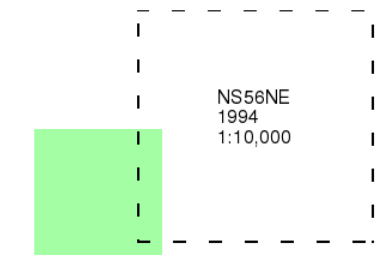
Site Details
 Site at 254780, 666140



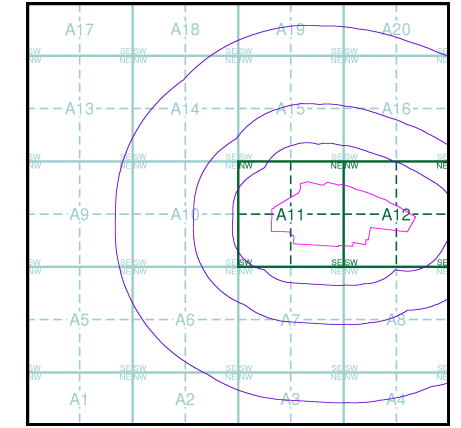
M M
MOTT MACDONALD
Ordnance Survey Plan
Published 1994
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

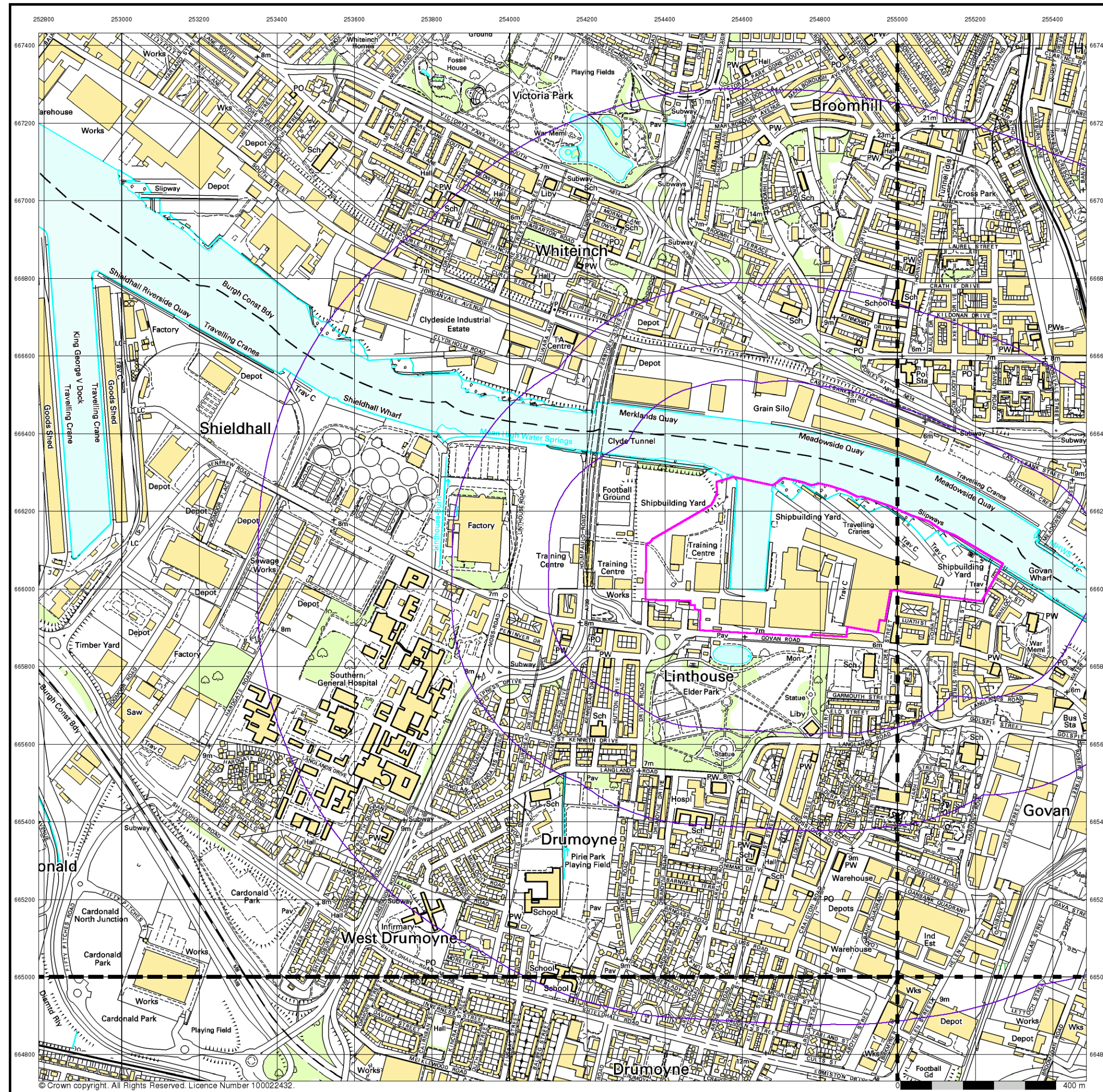


Historical Map - Slice A



Order Details
 Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details
 Site at 254780, 666140



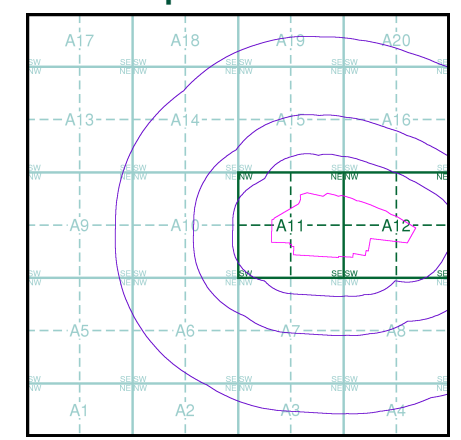
M M
MOTT MACDONALD
10k Raster Mapping
Published 1999
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

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NS56SW 1999 1:10,000	NS56SE 1999 1:10,000

Historical Map - Slice A



Order Details

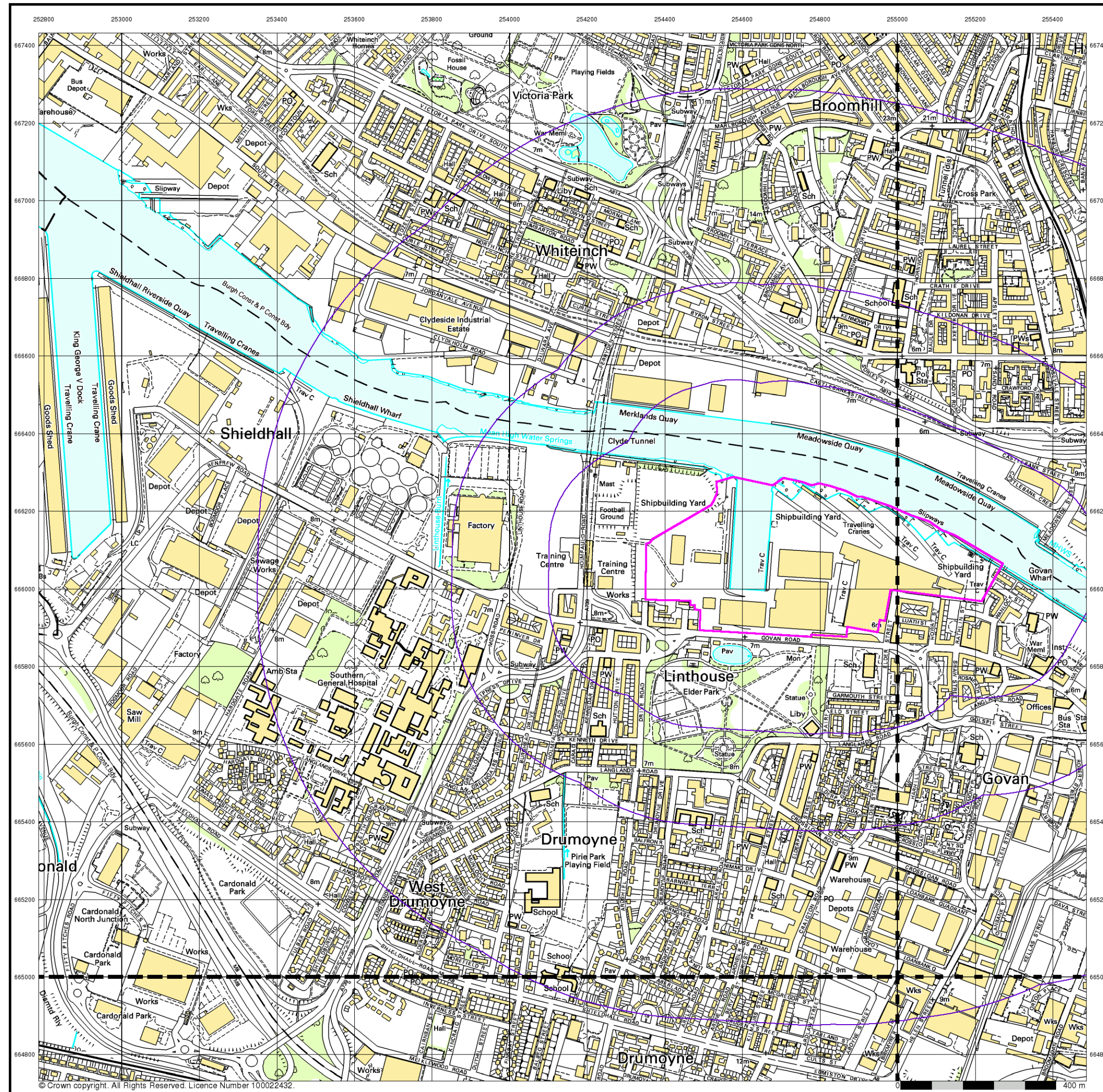
Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

Site at 254780, 666140

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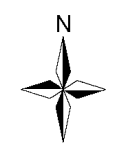
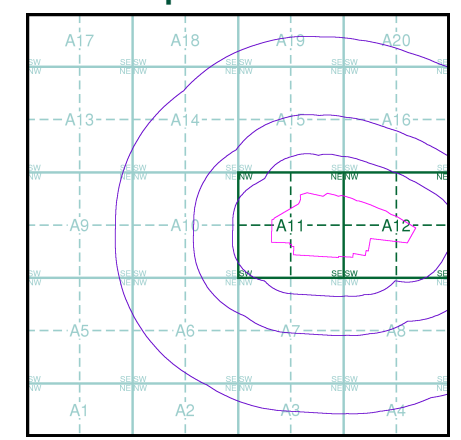
M M
MOTT MACDONALD
10k Raster Mapping
Published 2006
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

NS56NW 2006 1:10,000	NS56NE 2006 1:10,000
NS56SW 2006 1:10,000	NS56SE 2006 1:10,000

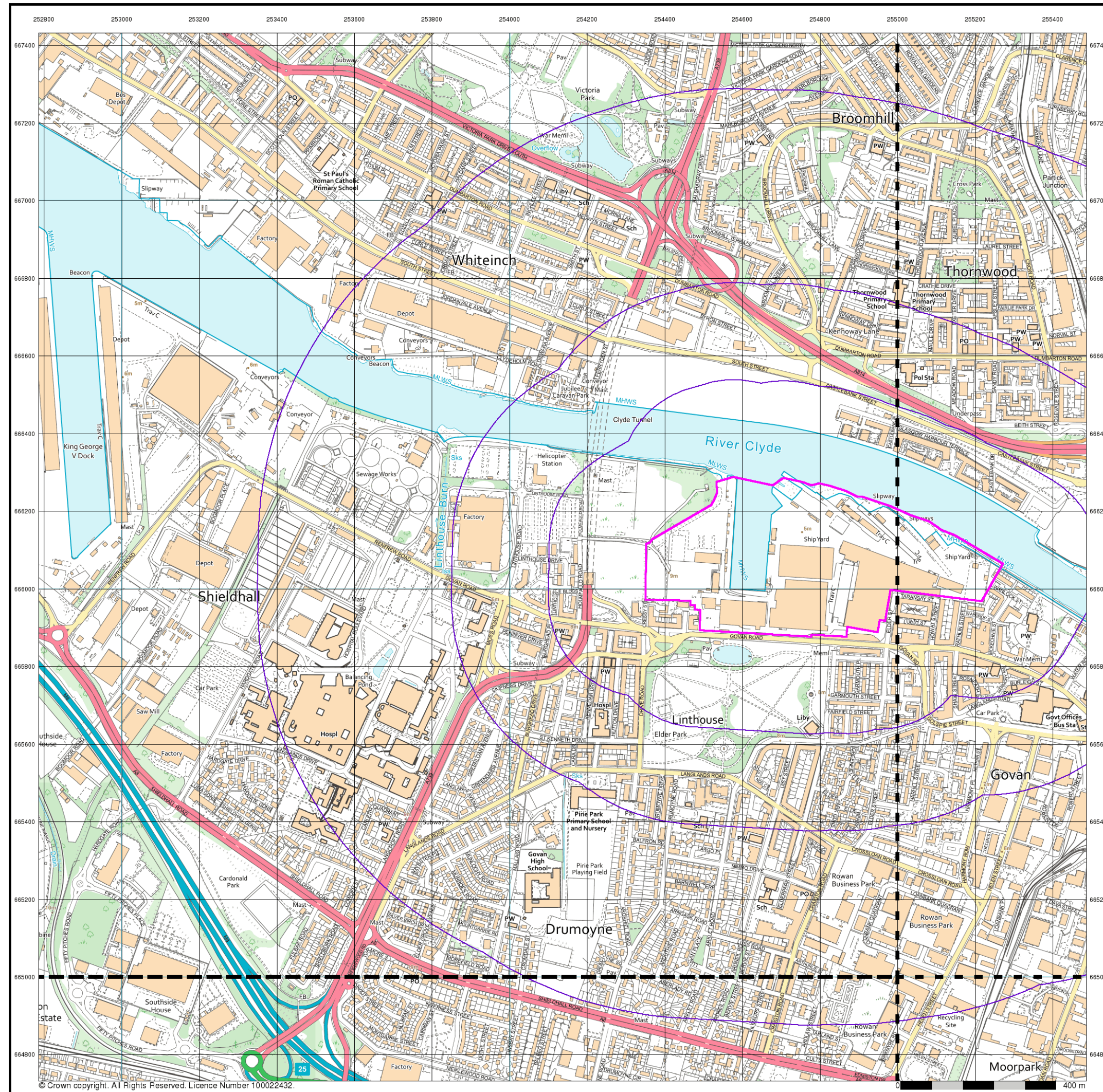
Historical Map - Slice A



Order Details
 Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details
 Site at 254780, 666140

Landmark
 INFORMATION GROUP
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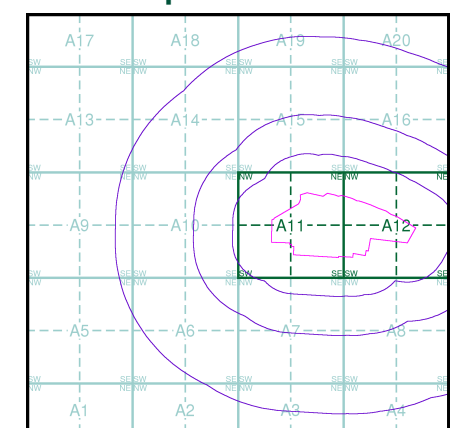
M M
MOTT MACDONALD
VectorMap Local
Published 2021
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities), 1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)

NS56NW 2021 Variable	NS56NE 2021 Variable
NS56SW 2021 Variable	NS56SE 2021 Variable

Historical Map - Slice A



Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

Site at 254780, 666140



M M

**MOTT
MACDONALD**

Lanarkshire

Published 1895

Source map scale - 1:500

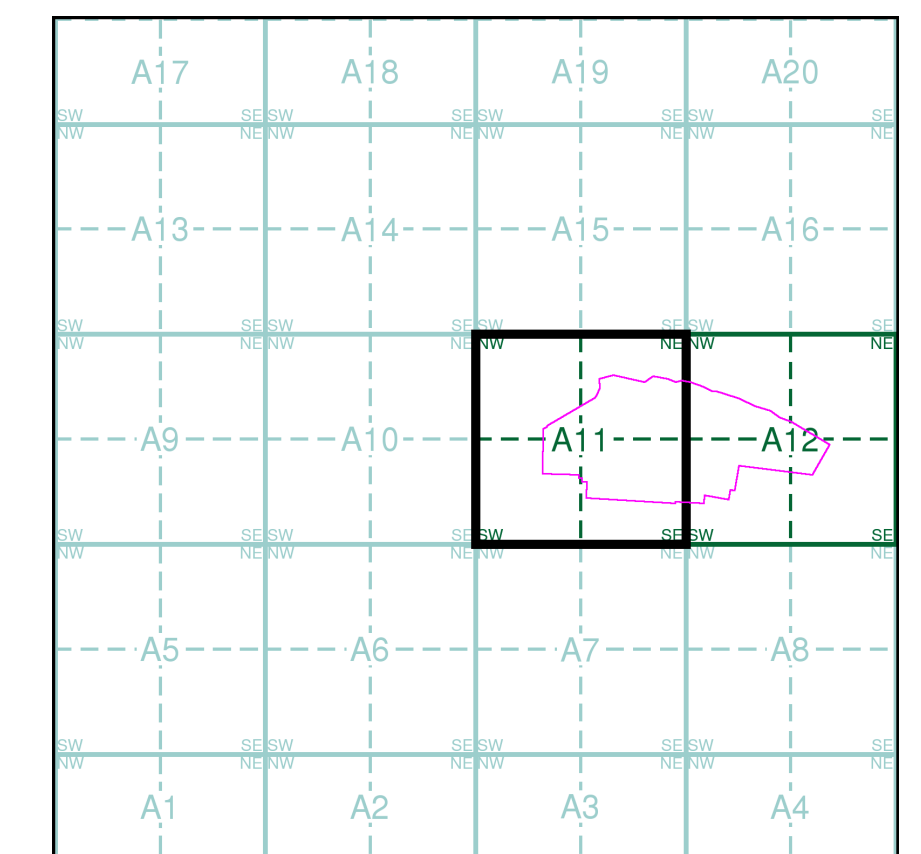
The 1:500 scale Ordnance Survey mapping was introduced in 1855 as a replacement for the 1:528 scale and to compliment the 1:2500 scale that had been implemented in 1853. By 1895, the 1:500 scale covered most towns over a population of about 4000 at the time of survey, although very few towns were mapped more than once at this scale, and none have been since 1910. The 1:500 scale gives particular emphasis to such features as lamp posts, man holes, arched passages and minor building projections. Also often featured are divisions between tenements, interior ground floor layouts of public buildings, and on earlier plans, the functions of the various parts of larger industrial premises are also indicated. Content of the plans does vary however, from one town to the next in terms of, for example, the completeness of railway tracks and the coverage of public buildings.

Please note: Due to the partial coverage of Historical Town Plans, it is possible that not all segments within an order will contain mapping. Only the segments that have Town Plan coverage will be generated.

Map Name(s) and Date(s)

005_08_025 1895 1:500	006_05_021 1895 1:500	006_05_022 1895 1:500
005_12_005 1895 1:500	006_09_001 1895 1:500	
005_12_010 1895 1:500	006_09_006 1895 1:500	006_09_007 1895 1:500

Historical Town Plan - Segment A11



Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 0

Site Details

Site at 254780, 666140

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M
M

MOTT
MACDONALD

Lanarkshire

Published 1861

Source map scale - 1:500

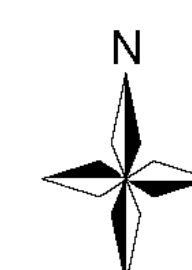
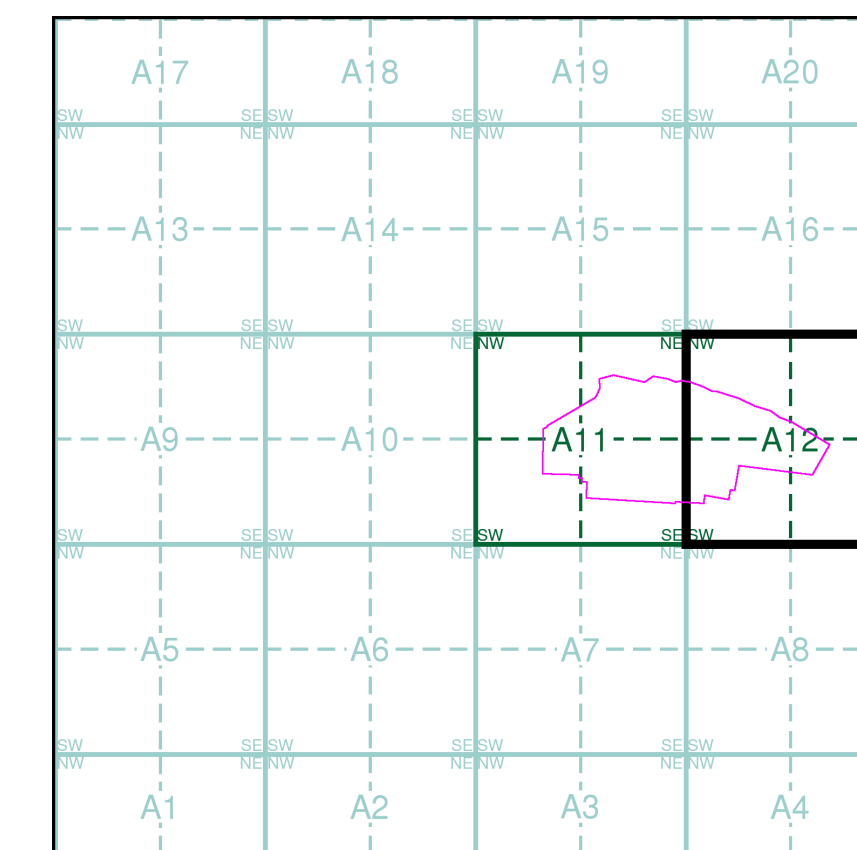
The 1:500 scale Ordnance Survey mapping was introduced in 1855 as a replacement for the 1:528 scale and to compliment the 1:2500 scale that had been implemented in 1853. By 1895, the 1:500 scale covered most towns over a population of about 4000 at the time of survey, although very few towns were mapped more than once at this scale, and none have been since 1910. The 1:500 scale gives particular emphasis to such features as lamp posts, man holes, arched passages and minor building projections. Also often featured are divisions between tenements, interior ground floor layouts of public buildings, and on earlier plans, the functions of the various parts of larger industrial premises are also indicated. Content of the plans does vary however, from one town to the next in terms of, for example, the completeness of railway tracks and the coverage of public buildings.

Please note: Due to the partial coverage of Historical Town Plans, it is possible that not all segments within an order will contain mapping. Only the segments that have Town Plan coverage will be generated.

Map Name(s) and Date(s)

006-05-82	1861	1:500
006-09-80	1861	1:500
006-09-80	1861	1:500
006-09-80	1861	1:500
006-09-80	1861	1:500
006-09-80	1861	1:500
006-09-80	1861	1:500
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006-09-80	1861	1:500
006-09-80	1861	1:500

Historical Town Plan - Segment A12

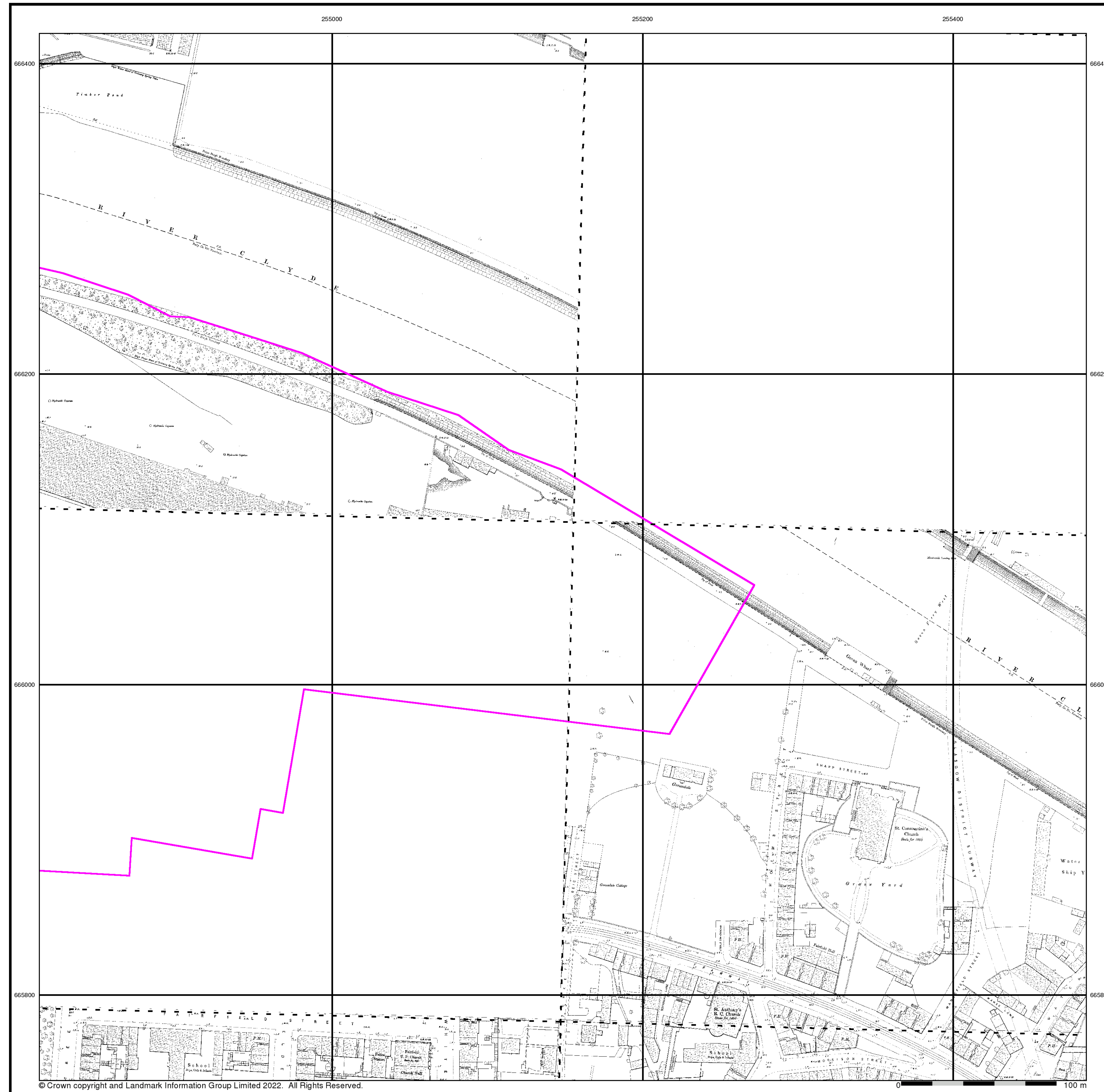


Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 0

Site Details

Site at 254780, 666140



M M

**MOTT
MACDONALD**

Lanarkshire

Published 1895

Source map scale - 1:500

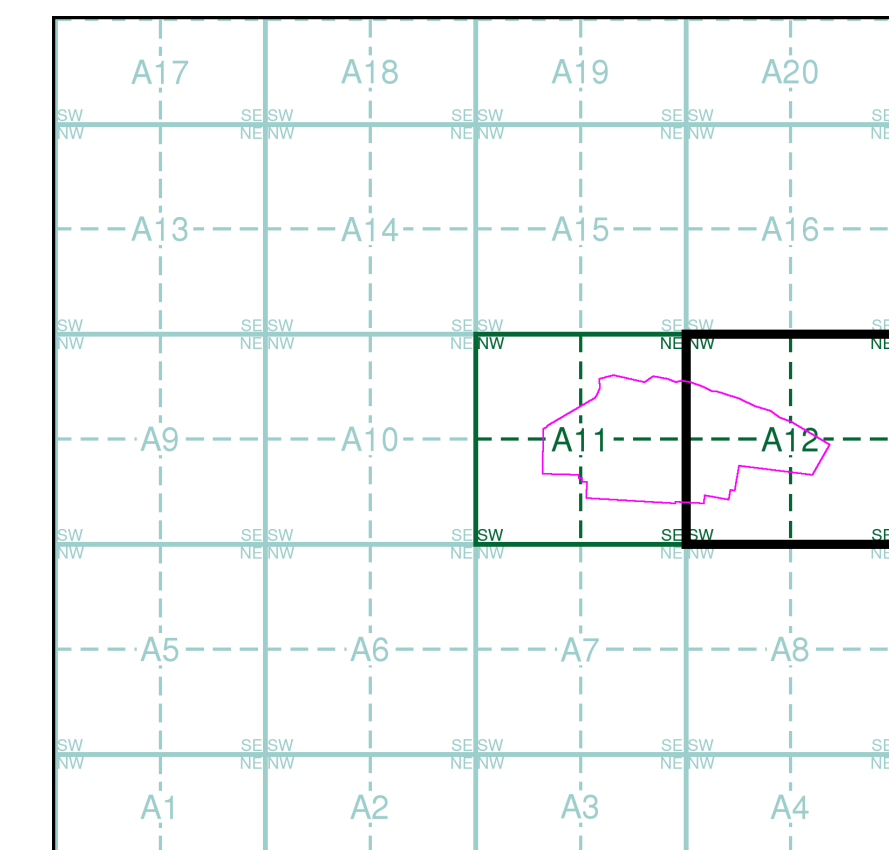
The 1:500 scale Ordnance Survey mapping was introduced in 1855 as a replacement for the 1:528 scale and to compliment the 1:2500 scale that had been implemented in 1853. By 1895, the 1:500 scale covered most towns over a population of about 4000 at the time of survey, although very few towns were mapped more than once at this scale, and none have been since 1910. The 1:500 scale gives particular emphasis to such features as lamp posts, man holes, arched passages and minor building projections. Also often featured are divisions between tenements, interior ground floor layouts of public buildings, and on earlier plans, the functions of the various parts of larger industrial premises are also indicated. Content of the plans does vary however, from one town to the next in terms of, for example, the completeness of railway tracks and the coverage of public buildings.

Please note: Due to the partial coverage of Historical Town Plans, it is possible that not all segments within an order will contain mapping. Only the segments that have Town Plan coverage will be generated.

Map Name(s) and Date(s)

1895	1:500
1895	1:500
1895	1:500
1895	1:500
1895	1:500
1895	1:500

Historical Town Plan - Segment A12



Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 0

Site Details

Site at 254780, 666140

Landmark
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Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500

Quarry **Gravel Pit** **Sand Pit**
Clay Pit **Shingle** **Refuse Heap**
Sloping Masonry **Flat Rock**
Marsh **Reeds** **Osiers**
Rough Pasture **Furze** **Wood**
Mixed Wood **Brushwood** **Orchard**
Fir **Ford** **Stepping Stones**
Ferry **Waterfall** **Lock**
Trig. Station **Altitude at Trig. Station**
B.M. 325.9 **Bench Mark** **Surface Level**
Arrow denotes flow of water **Antiquities (site of)**
Cutting **Embankment**
Railway crossing Road **Level Crossing** **Road crossing Railway**
Railway crossing River or Canal **Road over single stream** **Road over River or Canal**
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
County Borough Boundary (England)
County Burgh Boundary (Scotland)
Co. Boro. Bdy.
Co. Burgh Bdy.
BP BS Boundary Post or Stone **P.C.B** Police Call Box
B.R. Bridle Road **P** Pump
E.P Electricity Pylon **S.P** Signal Post
F.B. Foot Bridge **SL** Sluice
F.P. Foot Path **Sp.** Spring
G.P Guide Post or Board **T.C.B** Telephone Call Box
M.S Mile Stone **Tr.** Trough
M.P M.R Mooring Post or Ring **W** Well

Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250

Inactive Quarry, Chalk Pit or Clay Pit **Active Quarry, Chalk Pit or Clay Pit**
Rock **Boulders**
Cliff **Slopes** **Top**
Roofed Building **Glazed Roof Building**
Sloping Masonry **Archway**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Bench Mark** **Antiquity (site of)**
Cave Entrance **Triangulation Station** **Electricity Pylon**
Electricity Transmission Line
County Boundary (Geographical)
County & Civil Parish Boundary
Civil Parish Boundary
Admin. County or County Bor. Boundary
London Borough Boundary
Symbol marking point where boundary mereing changes
BH Beer House **P** Pillar, Pole or Post
BP, BS Boundary Post or Stone **PO** Post Office
Cn, C Capstan, Crane **PC** Public Convenience
Chy Chimney **PH** Public House
D Fn Drinking Fountain **Pp** Pump
EI P Electricity Pillar or Post **SB, S Br** Signal Box or Bridge
FAP Fire Alarm Pillar **SP, SL** Signal Post or Light
FB Foot Bridge **Spr** Spring
GP Guide Post **Tk** Tank or Track
H Hydrant or Hydraulic **TCB** Telephone Call Box
LC Level Crossing **TCP** Telephone Call Post
MH Manhole **Tr** Trough
MP Mile Post or Mooring Post **Wr Pt, Wr T** Water Point, Water Tap
MS Mile Stone **W** Well
NTL Normal Tidal Limit **Wd Pp** Wind Pump

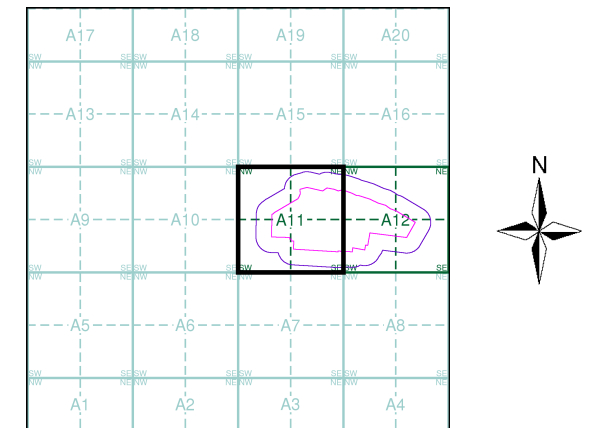
Large-Scale National Grid Data 1:2,500 and 1:1,250

Cliff **Slopes** **Top**
Rock **Rock (scattered)**
Boulders **Boulders (scattered)**
Positioned Boulder **Scree**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Triangulation Station** **Antiquity (site of)**
Electricity Transmission Line **Electricity Pylon**
B.M. 231.60m Bench Mark **Buildings with Building Seed**
Roofed Building **Glazed Roof Building**
Civil parish/community boundary
District boundary
County boundary
Boundary post/stone
Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)
Bks Barracks **P** Pillar, Pole or Post
Bty Battery **PO** Post Office
Cemy Cemetery **PC** Public Convenience
Chy Chimney **Pp** Pump
Cis Cistern **Ppg Sta** Pumping Station
Dismtd Rly Dismantled Railway **PW** Place of Worship
EI Gen Sta Electricity Generating Station **Sewage Ppg Sta** Sewage Pumping Station
EI P Electricity Pole, Pillar **SB, S Br** Signal Box or Bridge
EI Sub Sta Electricity Sub Station **SP, SL** Signal Post or Light
FB Filter Bed **Spr** Spring
Fn / D Fn Fountain / Drinking Ftn. **Tk** Tank or Track
Gas Gov Gas Valve Compound **Tr** Trough
GVC Gas Governor **Wd Pp** Wind Pump
GP Guide Post **Wr Pt, Wr T** Water Point, Water Tap
MH Manhole **Wks** Works (building or area)
MP, MS Mile Post or Mile Stone **W** Well

M M MOTT MACDONALD Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lanarkshire	1:2,500	1858 - 1861	2
Lanarkshire	1:2,500	1860	3
Renfrewshire	1:2,500	1893	4
Lanarkshire	1:2,500	1895 - 1896	5
Lanarkshire	1:2,500	1913	6
Lanarkshire	1:2,500	1932 - 1934	7
Ordnance Survey Plan	1:1,250	1948 - 1949	8
Ordnance Survey Plan	1:2,500	1950 - 1951	9
Ordnance Survey Plan	1:1,250	1951 - 1966	10
Ordnance Survey Plan	1:1,250	1961 - 1971	11
Ordnance Survey Plan	1:2,500	1967	12
Additional SIMs	1:1,250	1979 - 1992	13
Additional SIMs	1:1,250	1989	14
Large-Scale National Grid Data	1:1,250	1992	15
Large-Scale National Grid Data	1:1,250	1993 - 1995	16
Large-Scale National Grid Data	1:1,250	1996	17
Historical Aerial Photography	1:2,500	2005	18

Historical Map - Segment A11

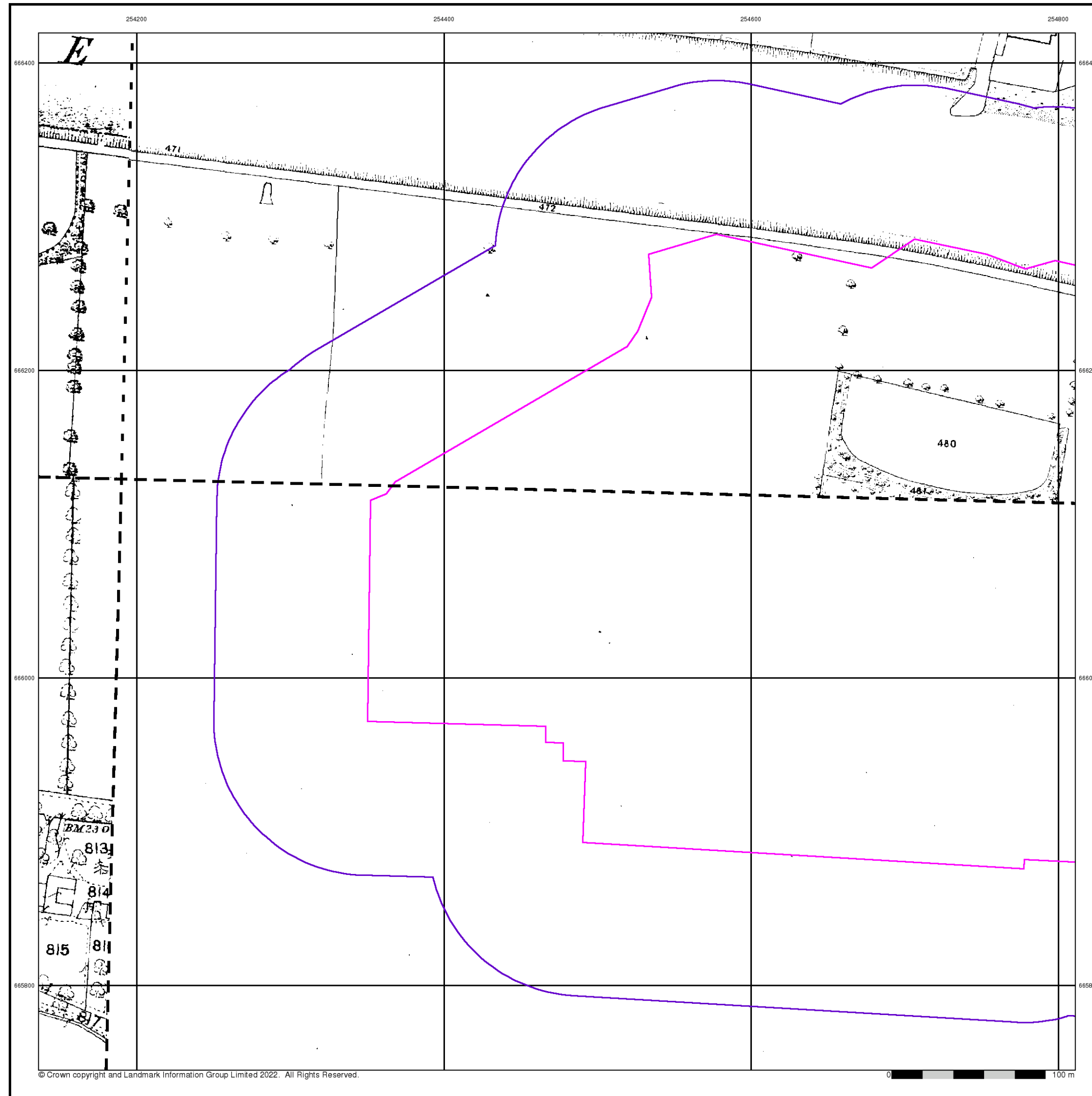


Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 100

Site Details

Site at 254780, 666140



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Lanarkshire

Published 1858 - 1861

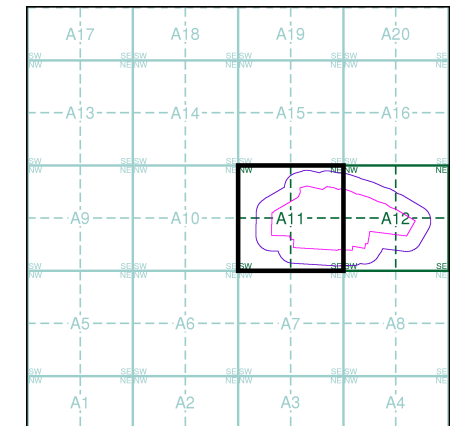
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

005_08 1860 1:2,500	006_05 1860 1:2,500
005_12 1858 1:2,500	006_09 1861 1:2,500

Historical Map - Segment A11



Order Details

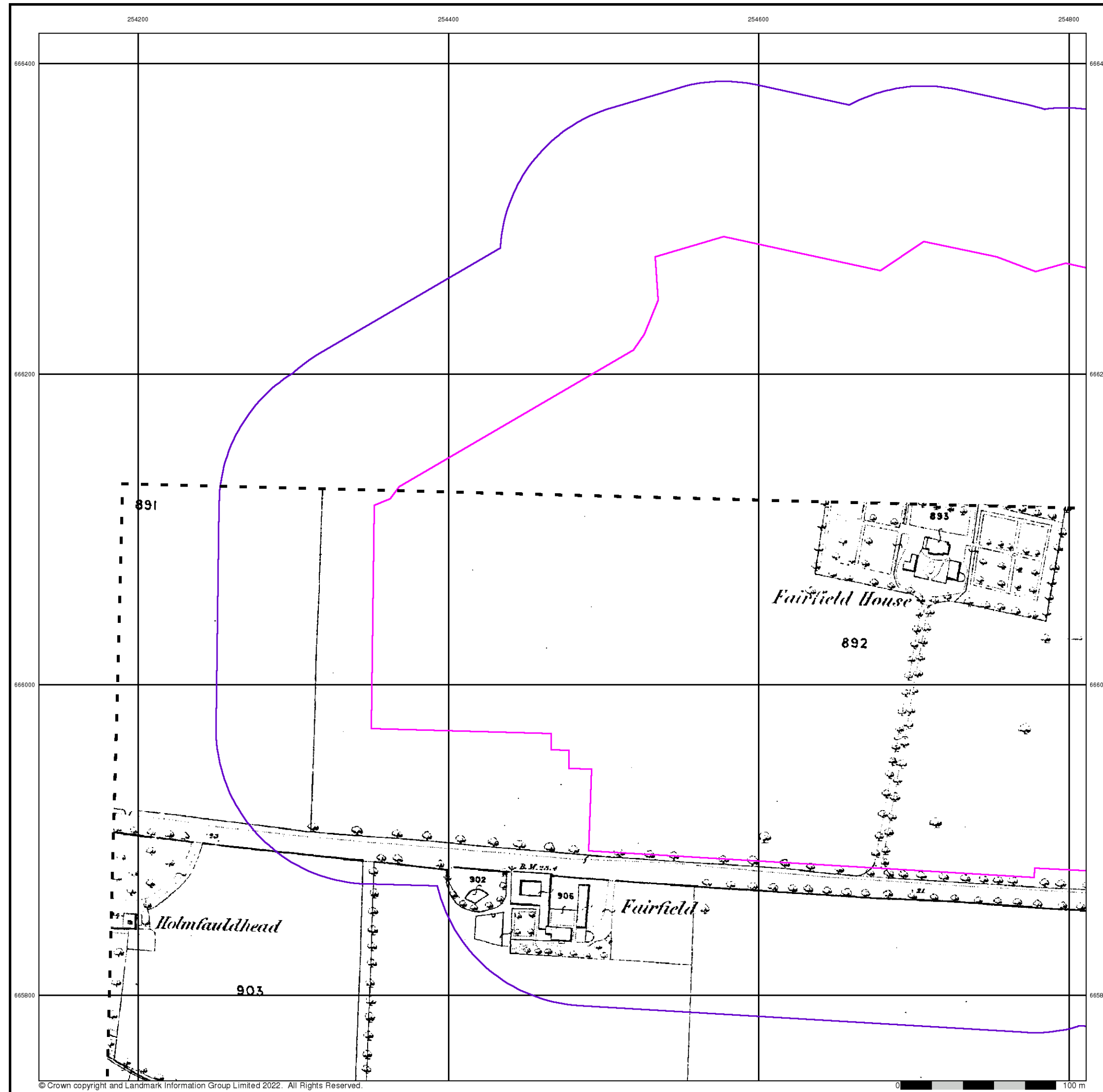
Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 100

Site Details

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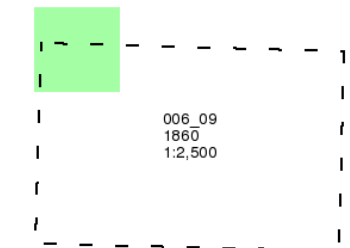
Lanarkshire

Published 1860

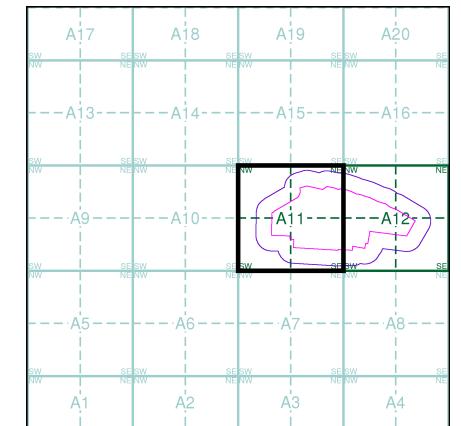
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A11



Order Details

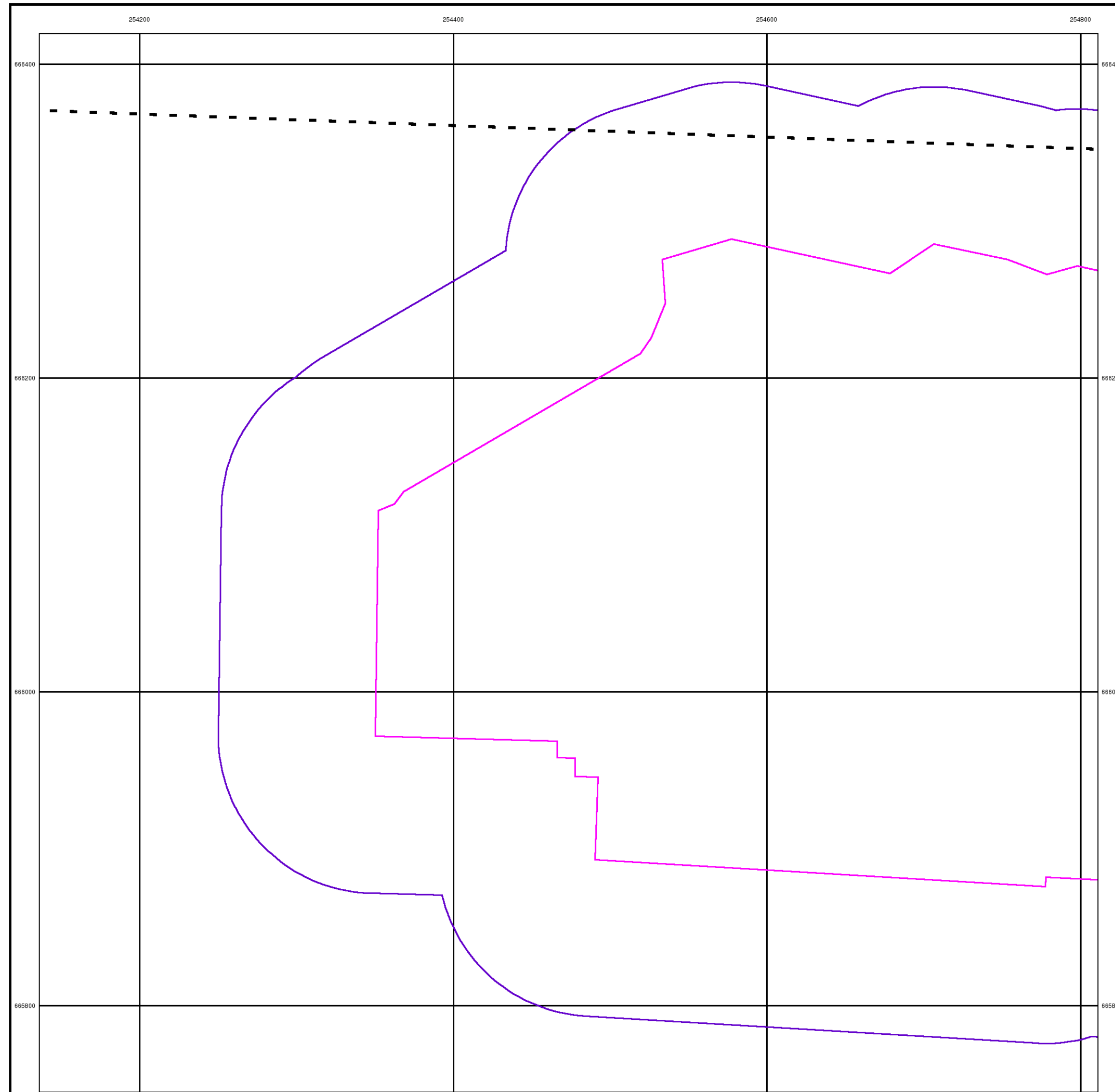
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 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 100

Site Details

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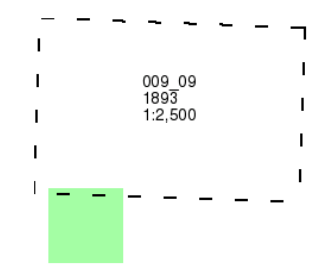
Renfrewshire

Published 1893

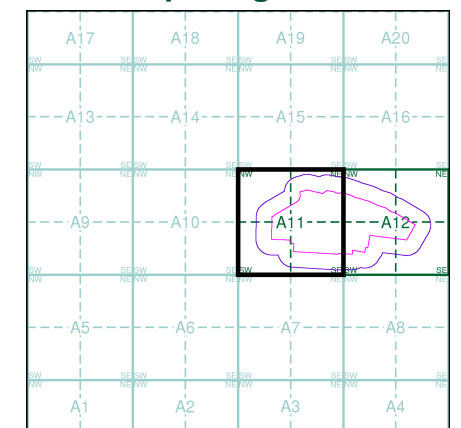
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A11



Order Details

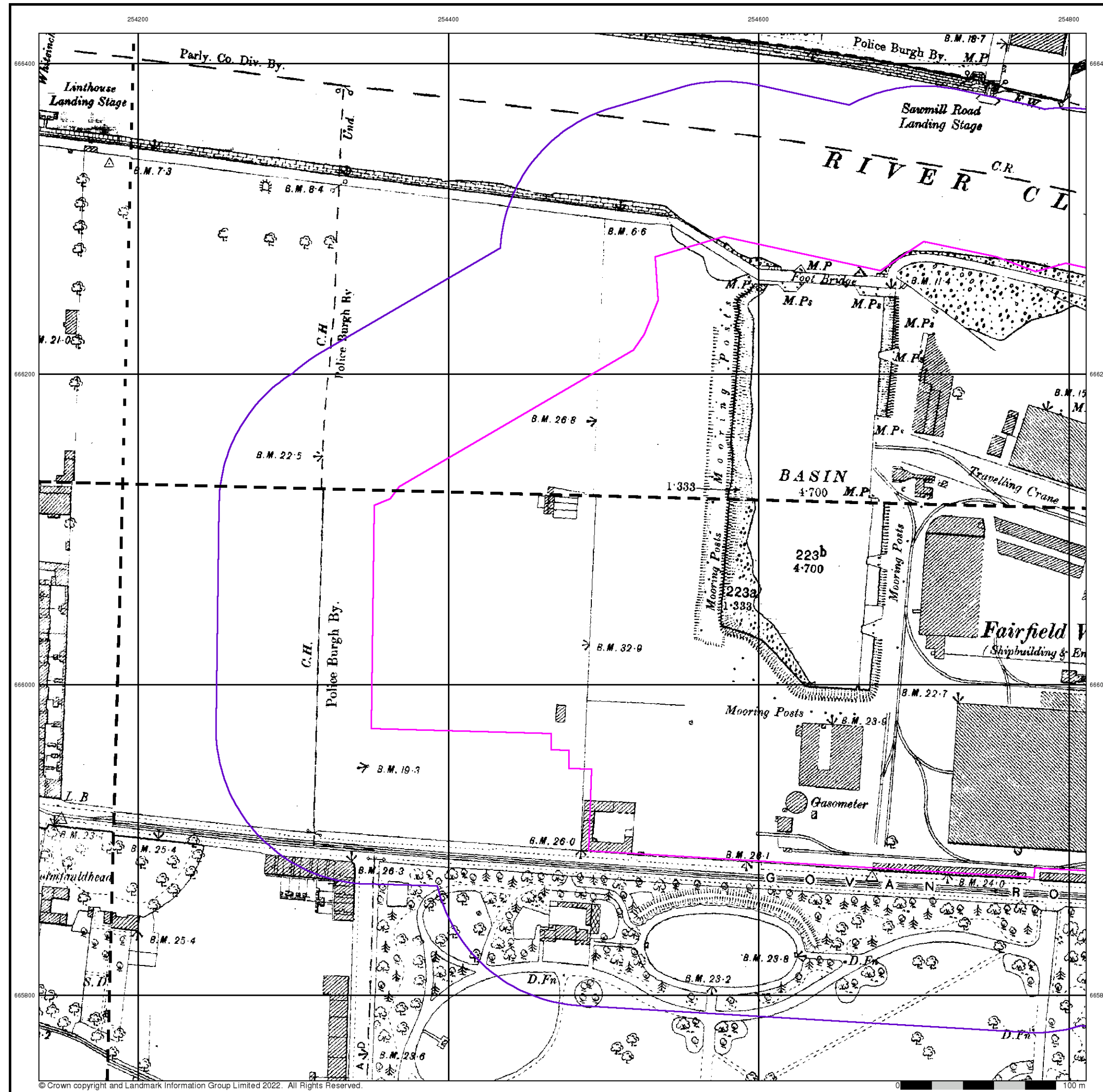
Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
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Site Details

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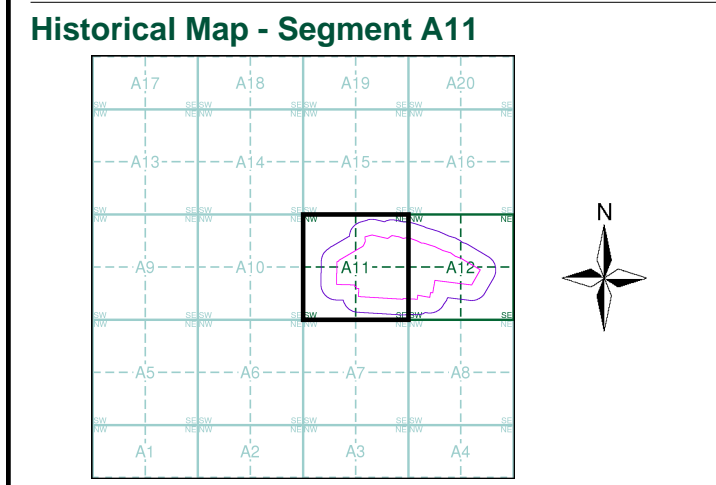


M M
MOTT
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Lanarkshire
Published 1895 - 1896
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

005_08 1895 1:2,500	006_05 1896 1:2,500
005_12 1895 1:2,500	006_09 1896 1:2,500

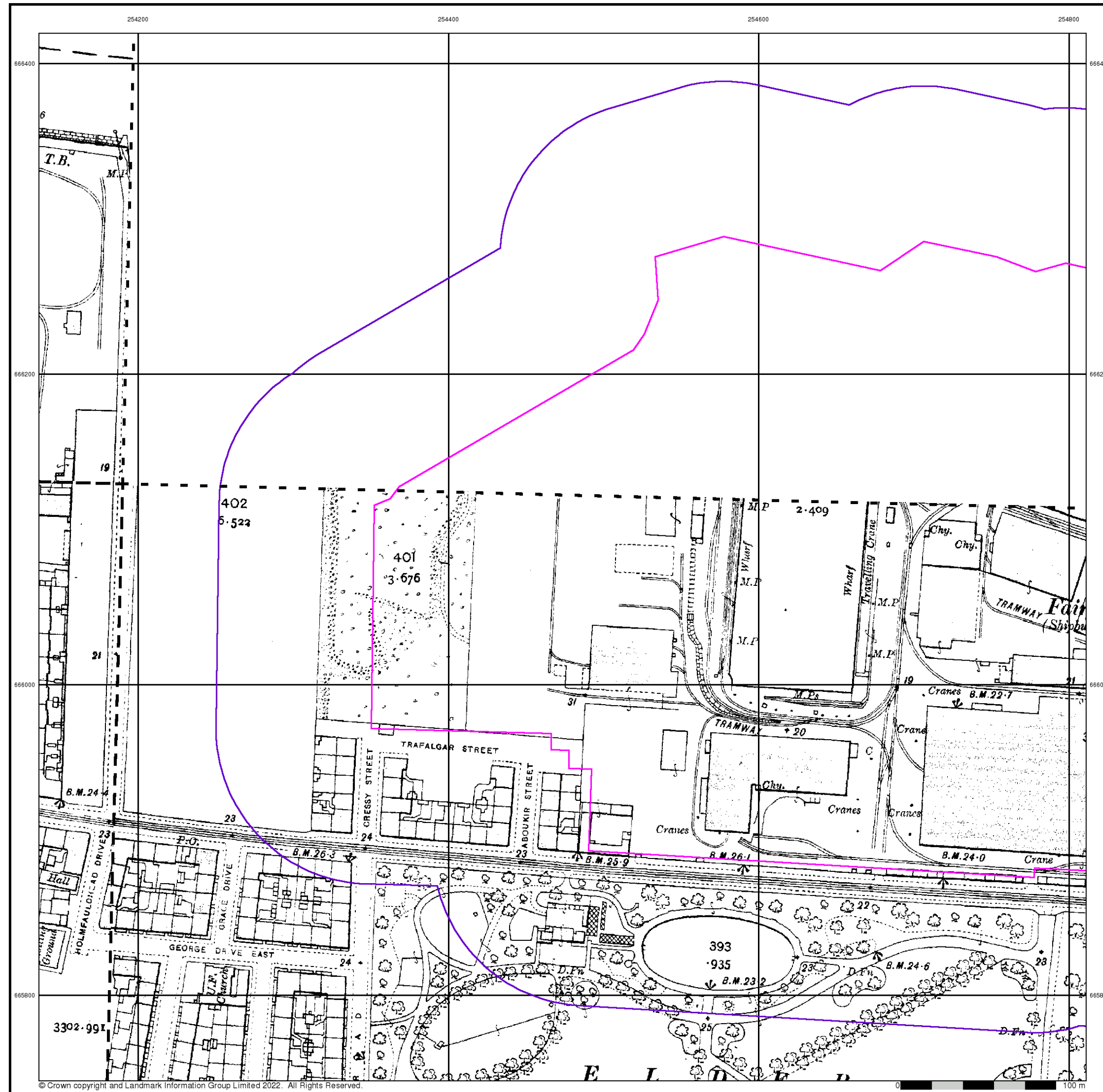


Order Details
Order Number: 293036501_1_1
Customer Ref: 100107212-001
National Grid Reference: 254510, 666070
Slice: A
Site Area (Ha): 25.37
Search Buffer (m): 100

Site Details
Site at 254780, 666140

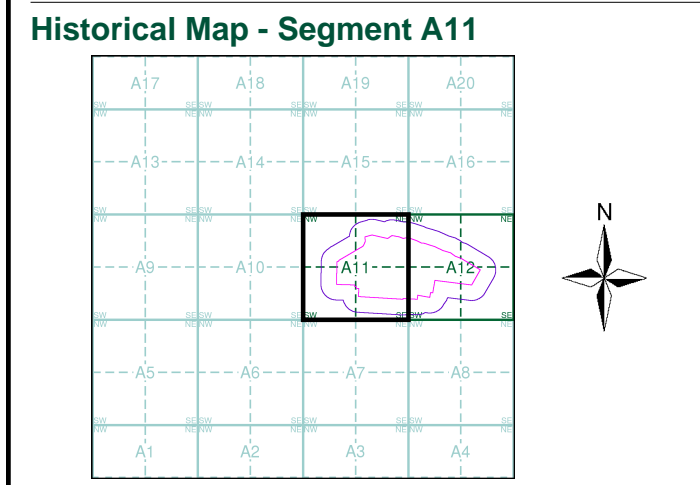
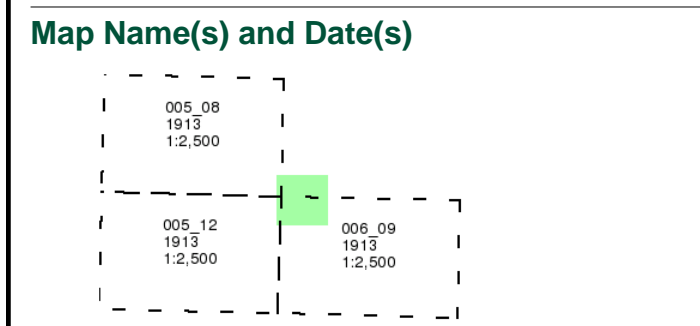
Landmark
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Web: www.envirocheck.co.uk



M M
MOTT MACDONALD
Lanarkshire
Published 1913
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.



Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 100

Site Details

Site at 254780, 666140

Landmark
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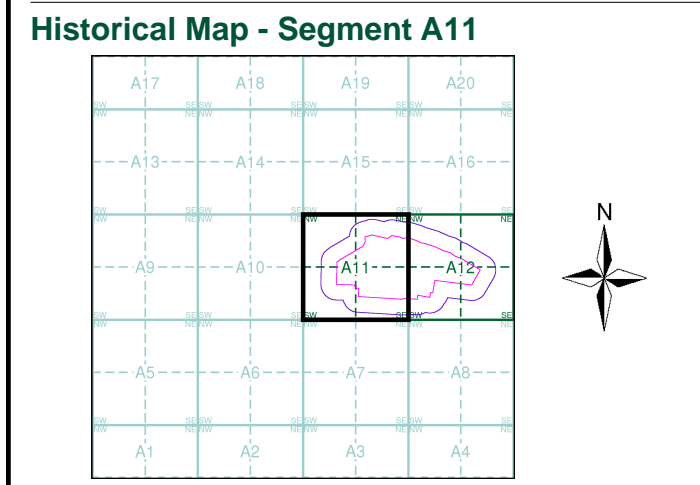


M M
MOTT
MACDONALD
Lanarkshire
Published 1932 - 1934
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

005_08 1934 1:2,500	006_05 1932 1:2,500
005_12 1934 1:2,500	006_09 1933 1:2,500



Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 100

Site Details

Site at 254780, 666140

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M M

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Ordnance Survey Plan

Published 1948 - 1949

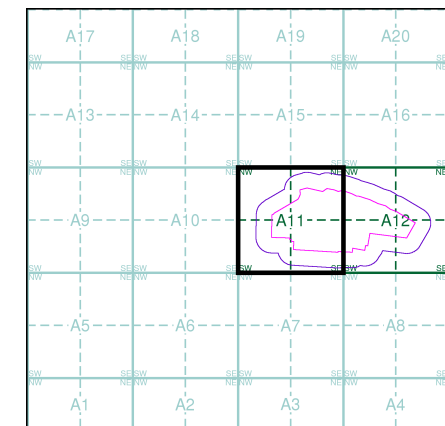
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NS5466SW 1949 1:1,250	NS5466SE 1949 1:1,250
NS5465NW 1948 1:1,250	NS5465NE 1948 1:1,250

Historical Map - Segment A11



Order Details

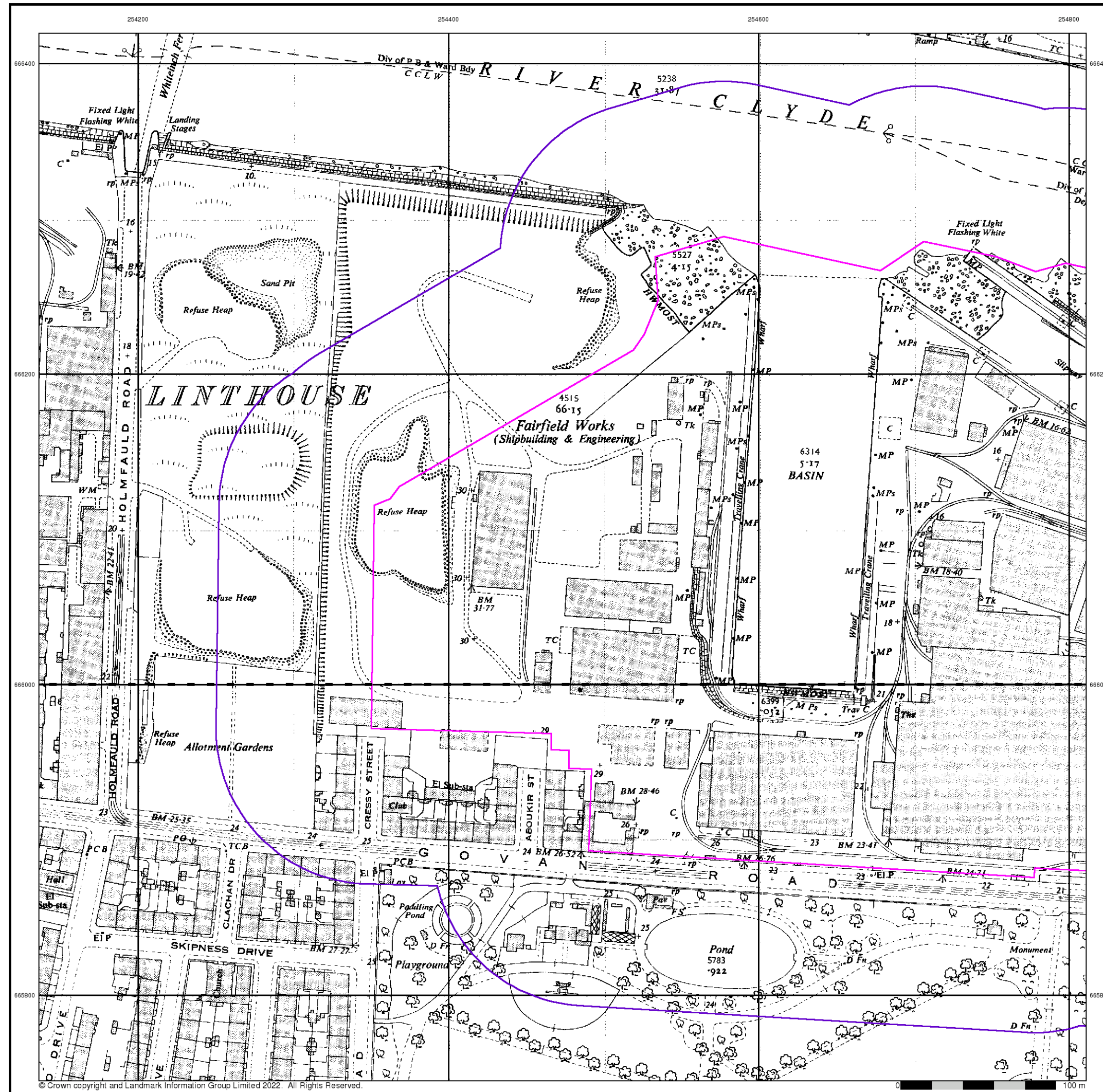
Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 100

Site Details

Site at 254780, 666140

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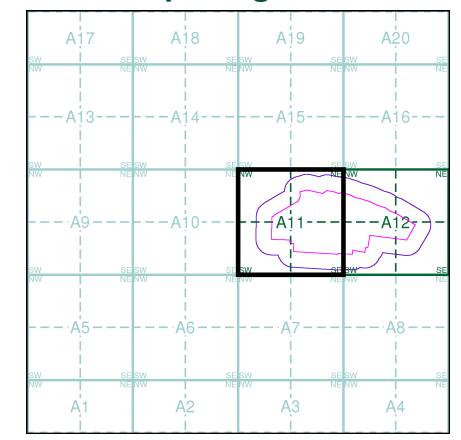
M M
MOTT MACDONALD
Ordnance Survey Plan
Published 1950 - 1951
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NS5466	1951	1:2,500
NS5465	1950	1:2,500

Historical Map - Segment A11

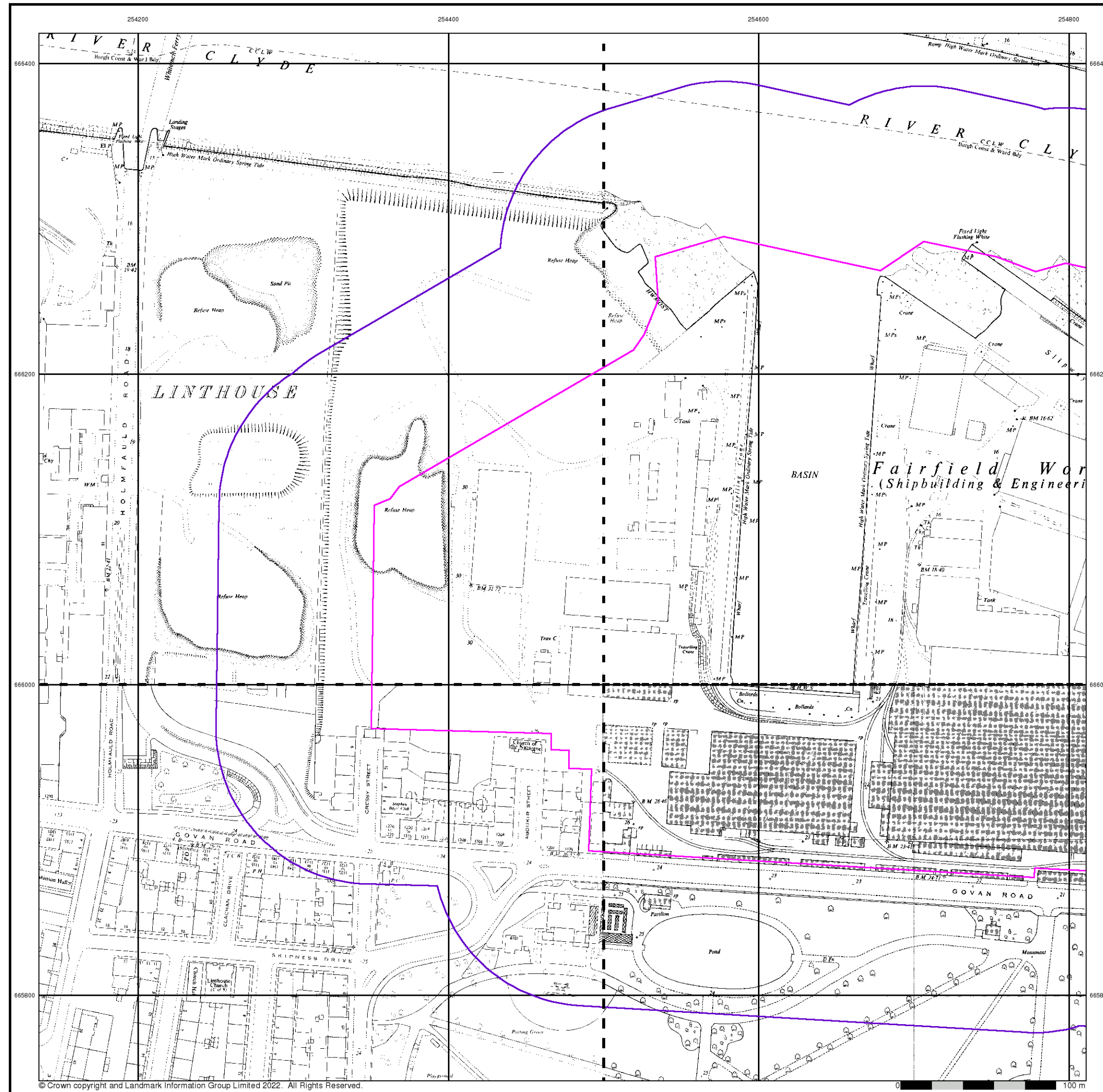


Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 100

Site Details

Site at 254780, 666140



M M

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Ordnance Survey Plan

Published 1951 - 1966

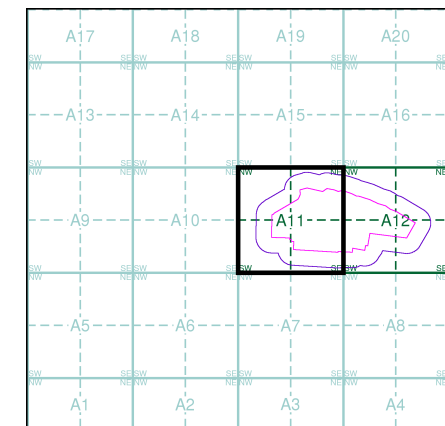
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NS5466SW 1951 1:1,250	NS5466SE 1951 1:1,250
NS5465NW 1965 1:1,250	NS5465NE 1966 1:1,250

Historical Map - Segment A11



Order Details

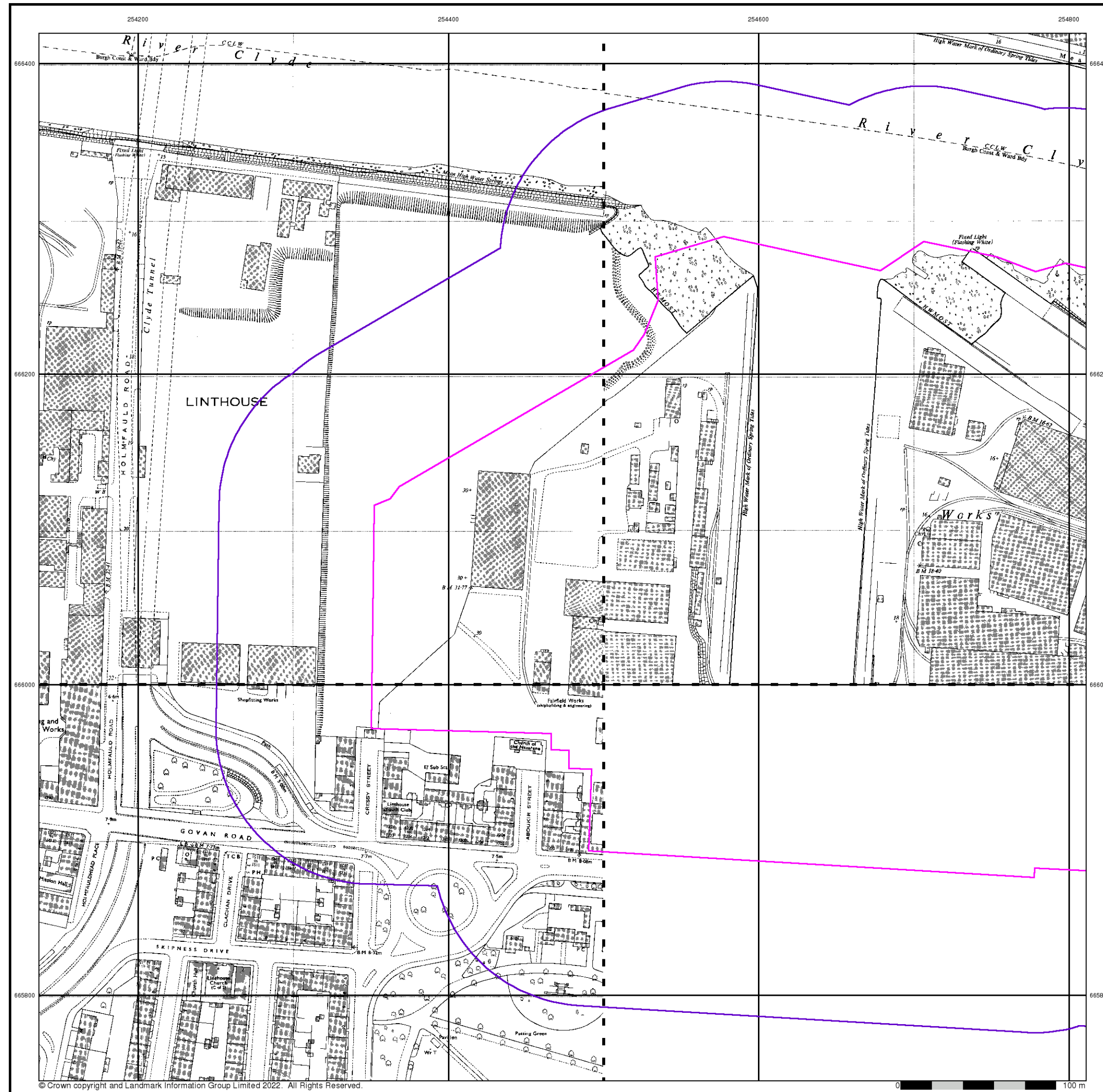
Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 100

Site Details

Site at 254780, 666140

Landmark
 INFORMATION GROUP

Tel: 0844 844 9952
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 Web: www.envirocheck.co.uk

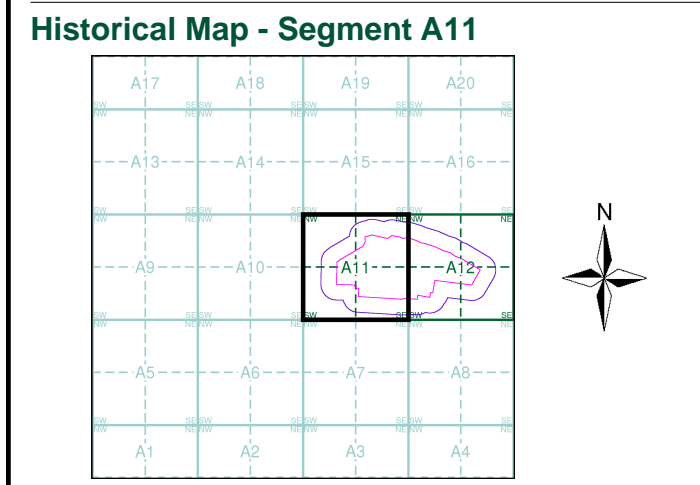


M M
MOTT MACDONALD
Ordnance Survey Plan
Published 1961 - 1971
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NS5466SW	NS5466SE
1965	1961
1:1,250	1:1,250
NS5465NW	
1971	
1:1,250	



Order Details

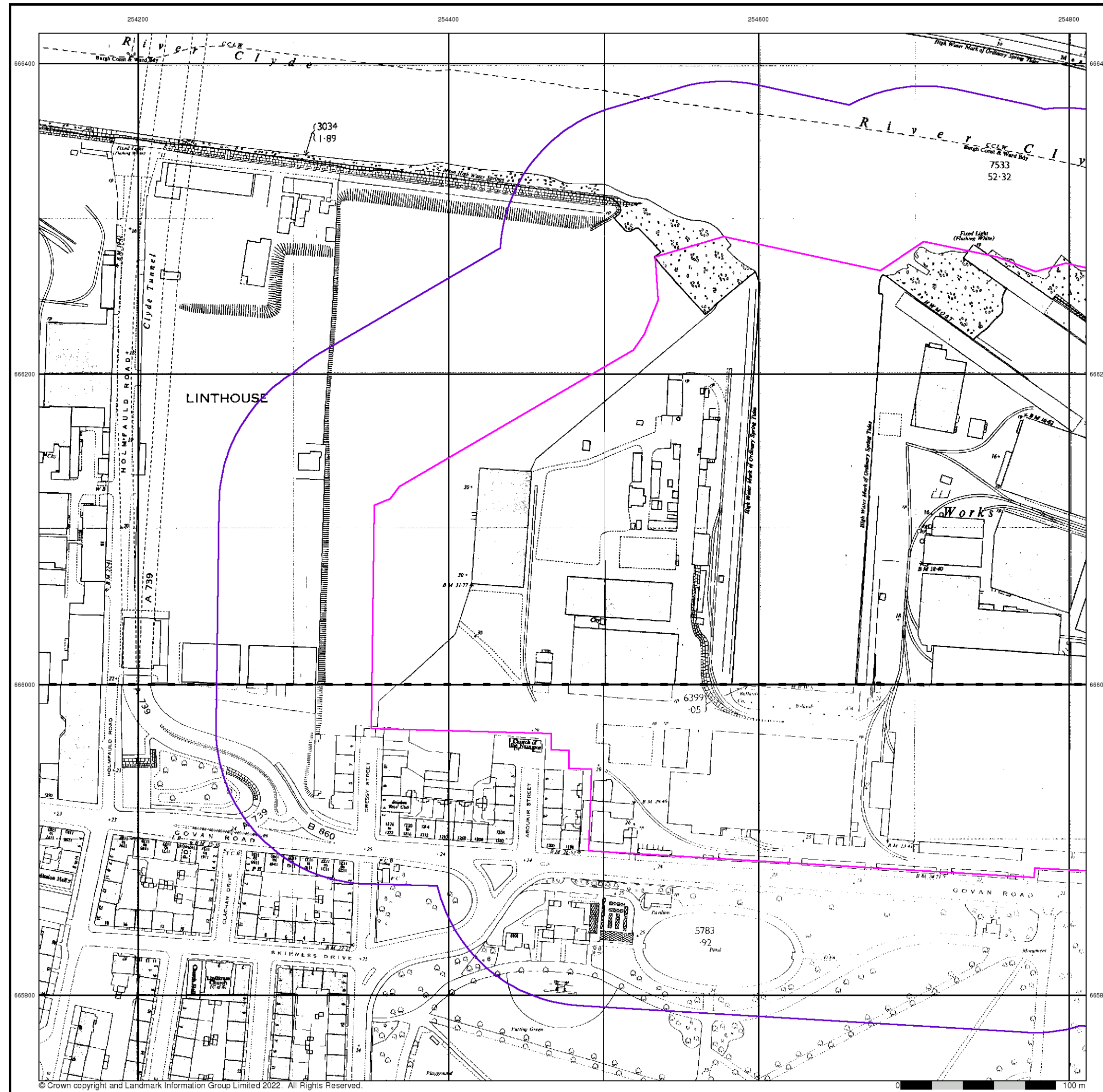
Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 100

Site Details

Site at 254780, 666140

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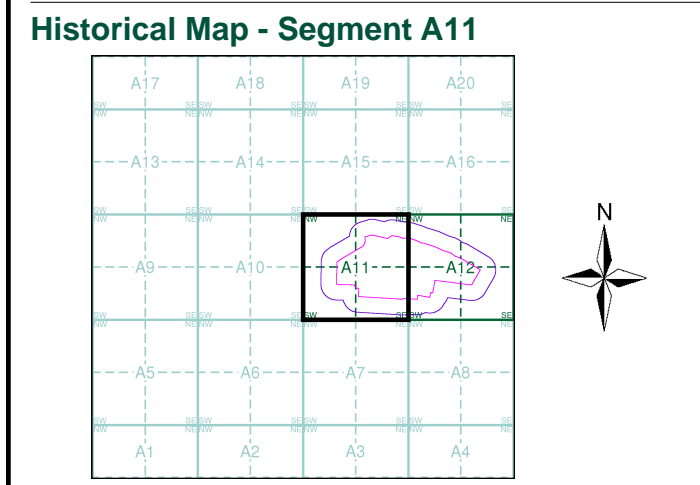


M M
MOTT MACDONALD
Ordnance Survey Plan
Published 1967
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NS5466	1967	1:2,500
NS5465	1967	1:2,500



Order Details

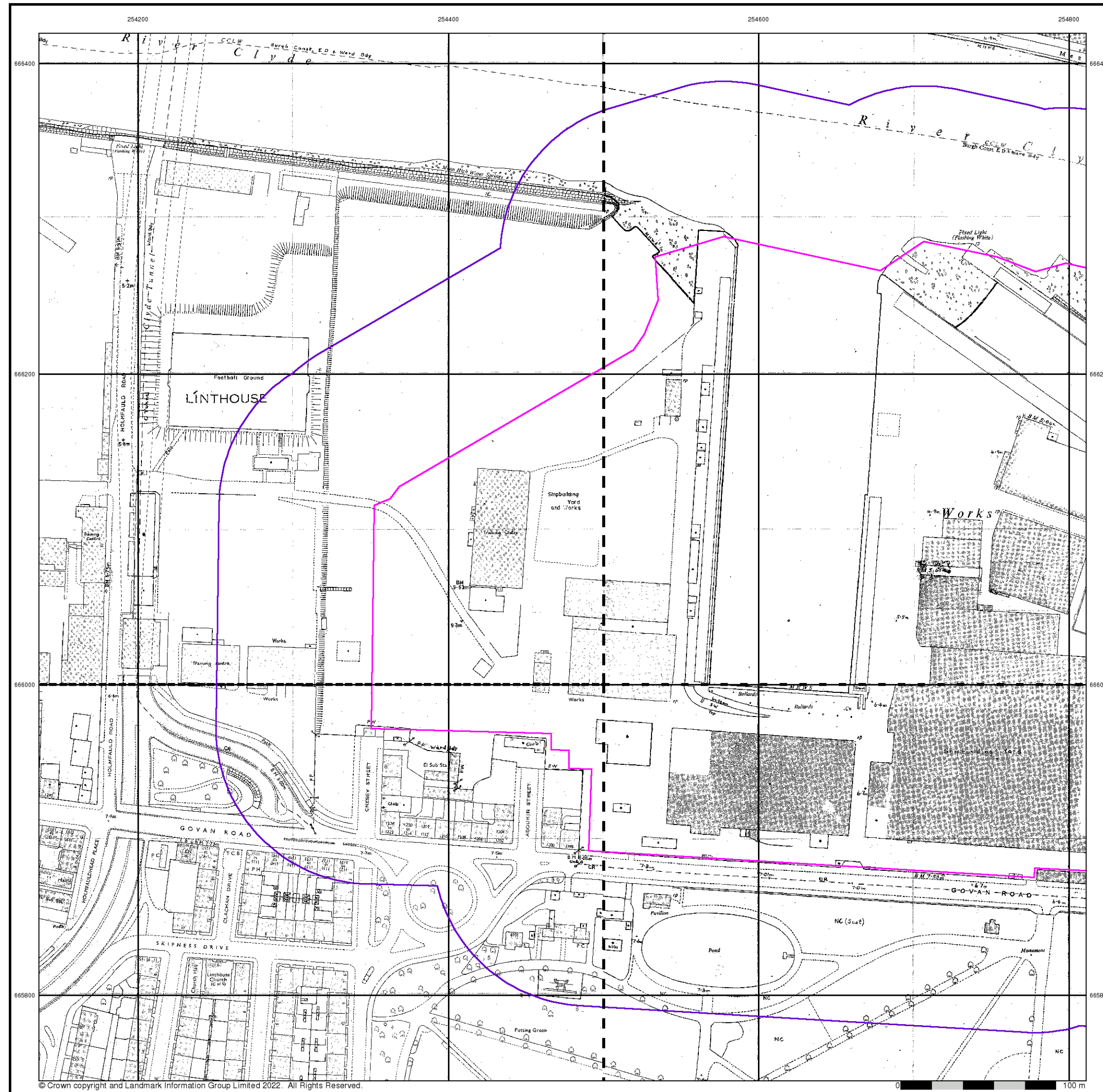
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 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 100

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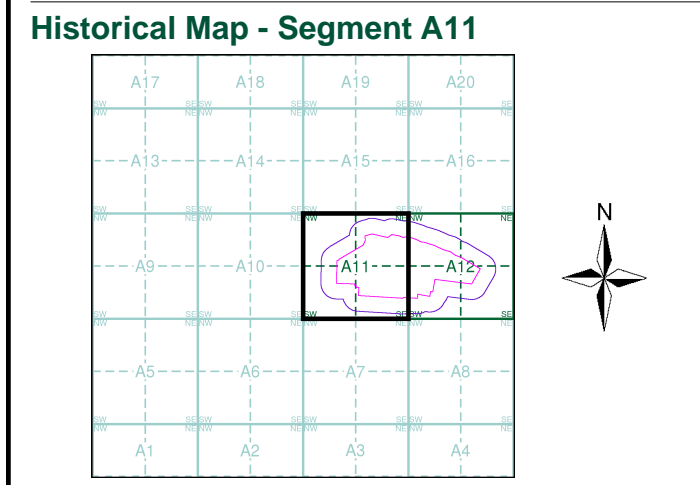


M M
MOTT MACDONALD
Additional SIMs
Published 1979 - 1992
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NS5466SW 1985 1:1,250	NS5466SE 1979 1:1,250
NS5465NW 1992 1:1,250	NS5465NE 1985 1:1,250

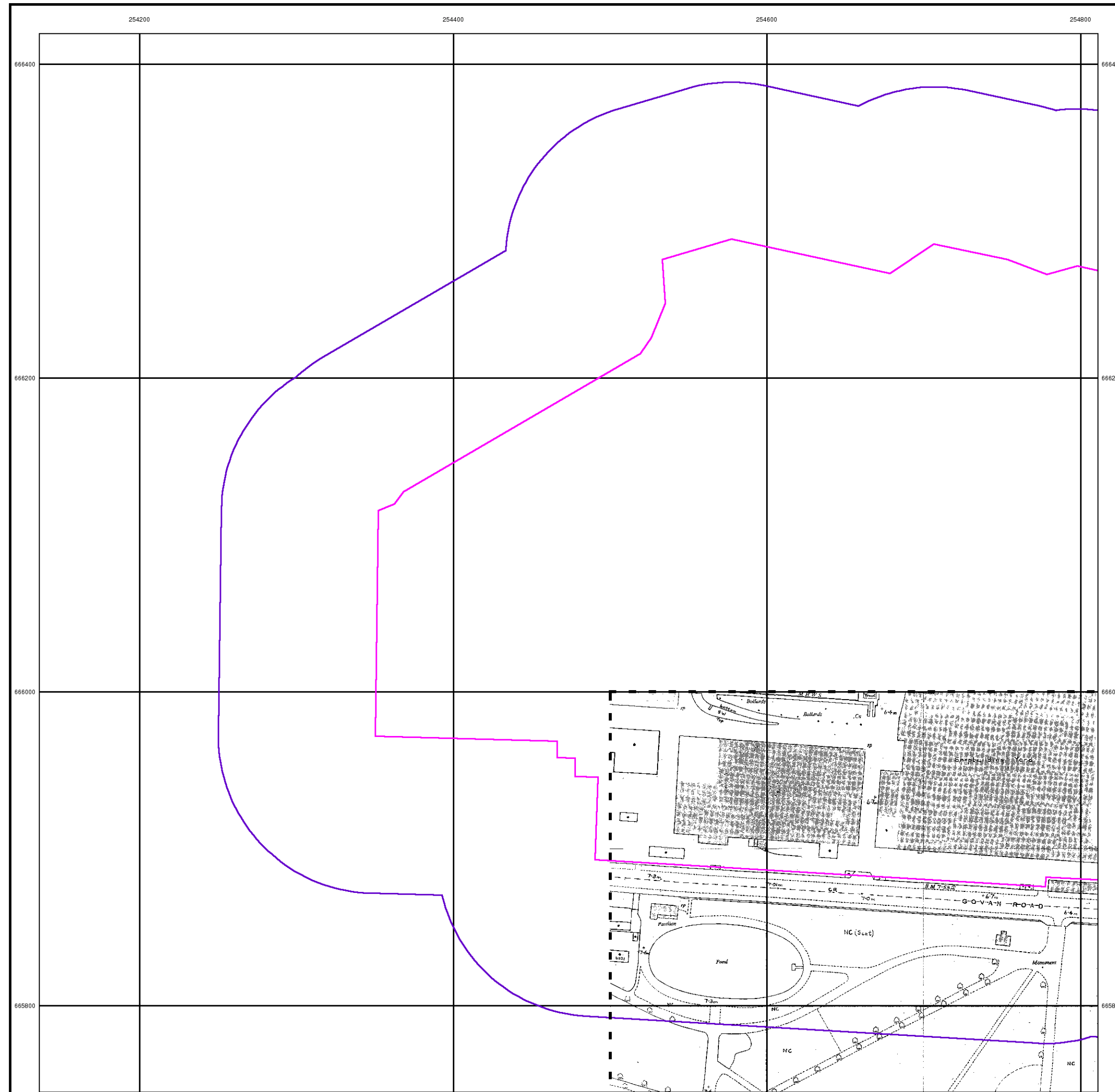


Order Details
Order Number: 293036501_1_1
Customer Ref: 100107212-001
National Grid Reference: 254510, 666070
Slice: A
Site Area (Ha): 25.37
Search Buffer (m): 100

Site Details
Site at 254780, 666140

Landmark
INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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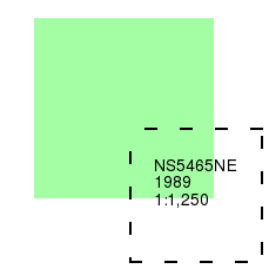
Additional SIMs

Published 1989

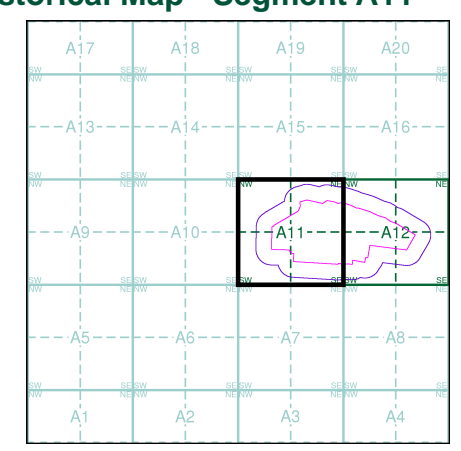
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A11



Order Details

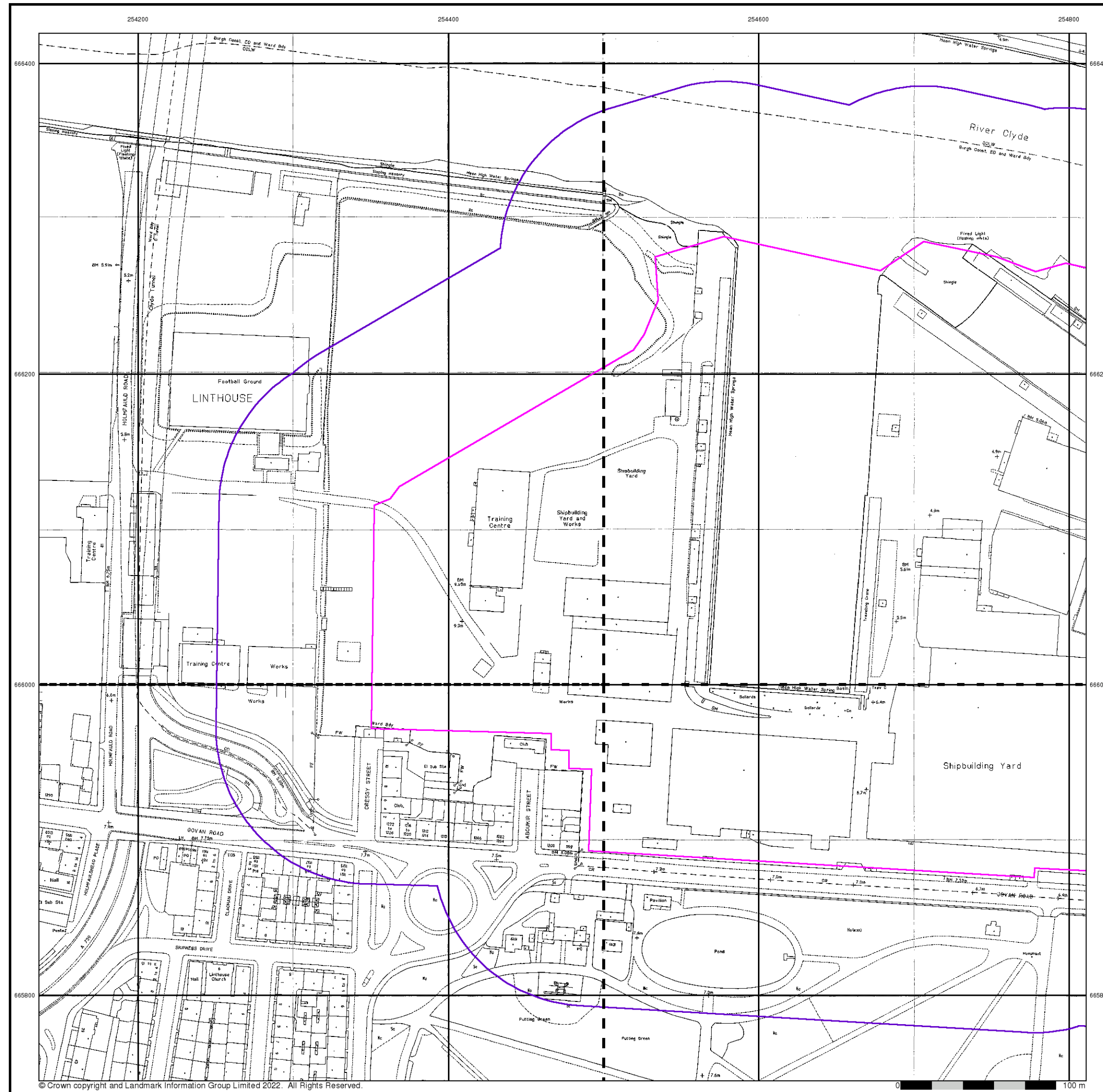
Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 100

Site Details

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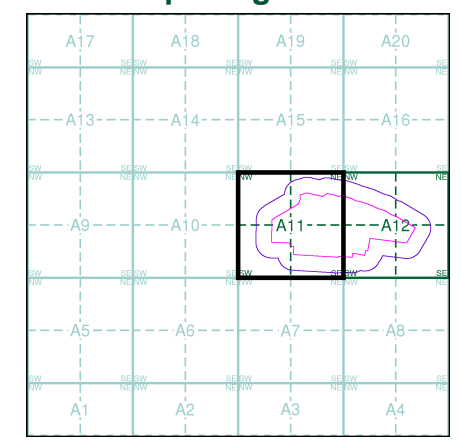
M M
MOTT MACDONALD
Large-Scale National Grid Data
Published 1992
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NS5466SW 1992 1:1,250	NS5466SE 1992 1:1,250
NS5465NW 1992 1:1,250	NS5465NE 1992 1:1,250

Historical Map - Segment A11

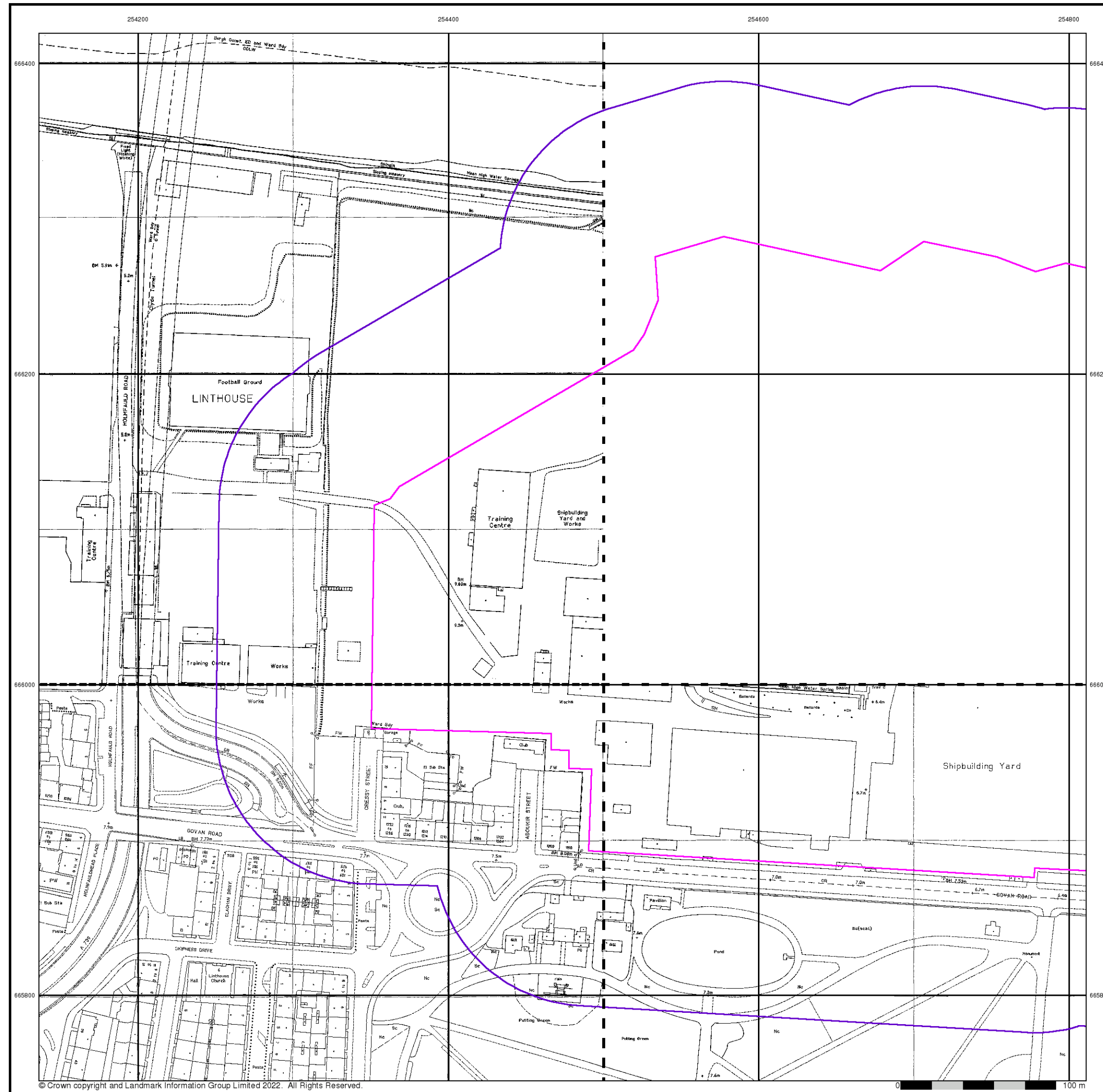


Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 100

Site Details

Site at 254780, 666140



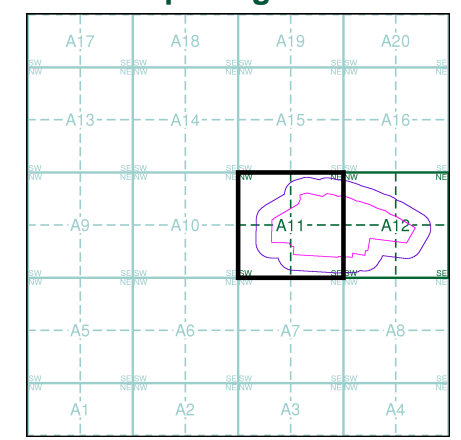
M M
MOTT MACDONALD
Large-Scale National Grid Data
Published 1993 - 1995
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NS5466SW	1993	1:1,250
NS5465NW	1995	1:1,250
NS5465NE	1995	1:1,250

Historical Map - Segment A11



Order Details
 Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 100

Site Details
 Site at 254780, 666140

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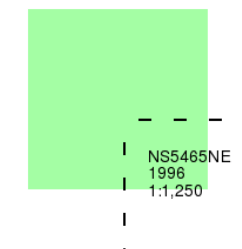
Large-Scale National Grid Data

Published 1996

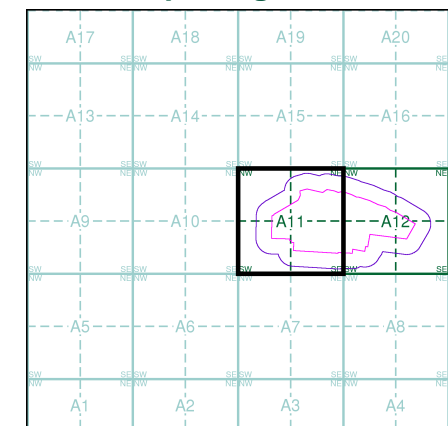
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A11



Order Details

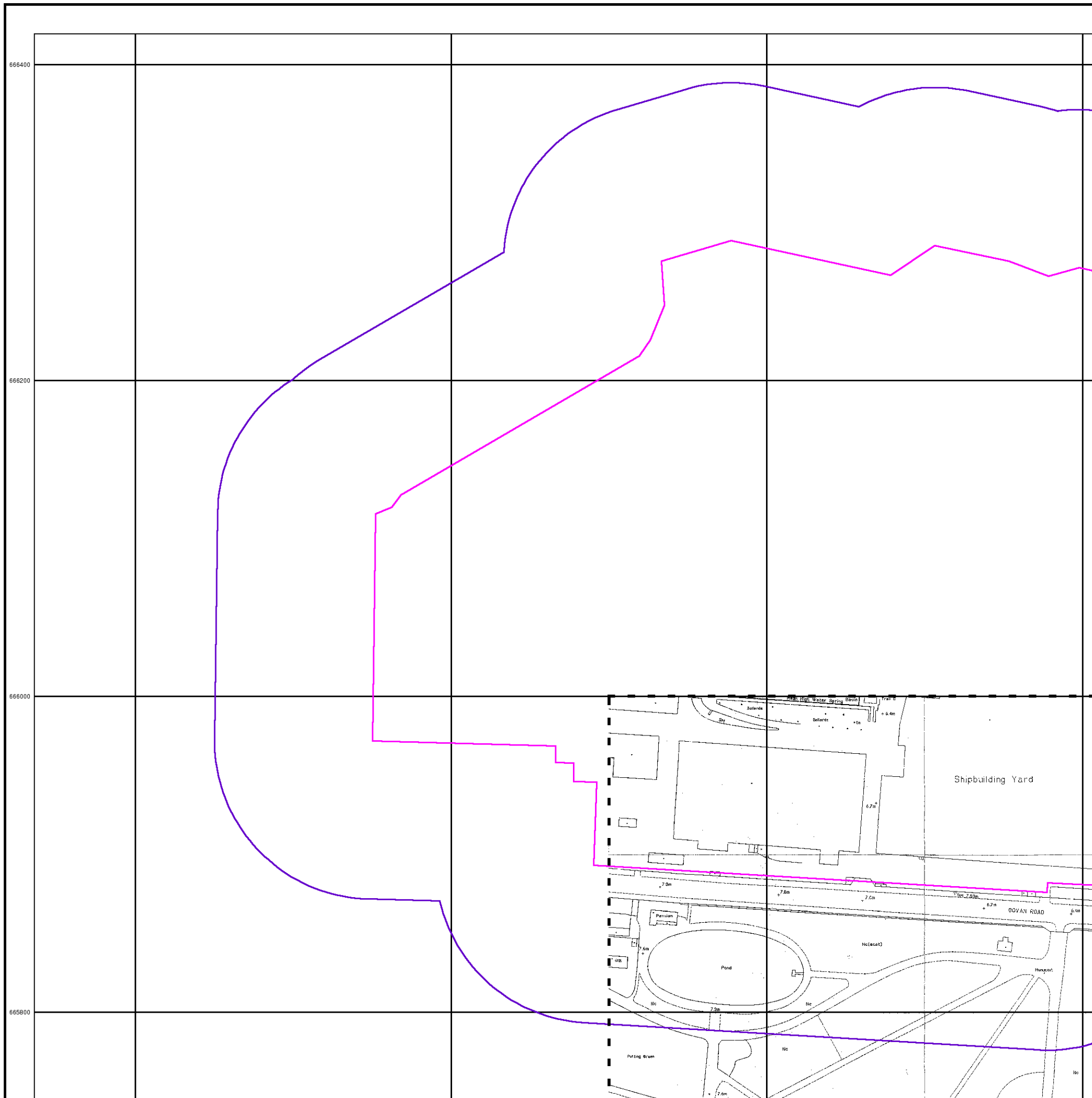
Order Number: 293036501_1_1
Customer Ref: 100107212-001
National Grid Reference: 254510, 666070
Slice: A
Site Area (Ha): 25.37
Search Buffer (m): 100

Site Details

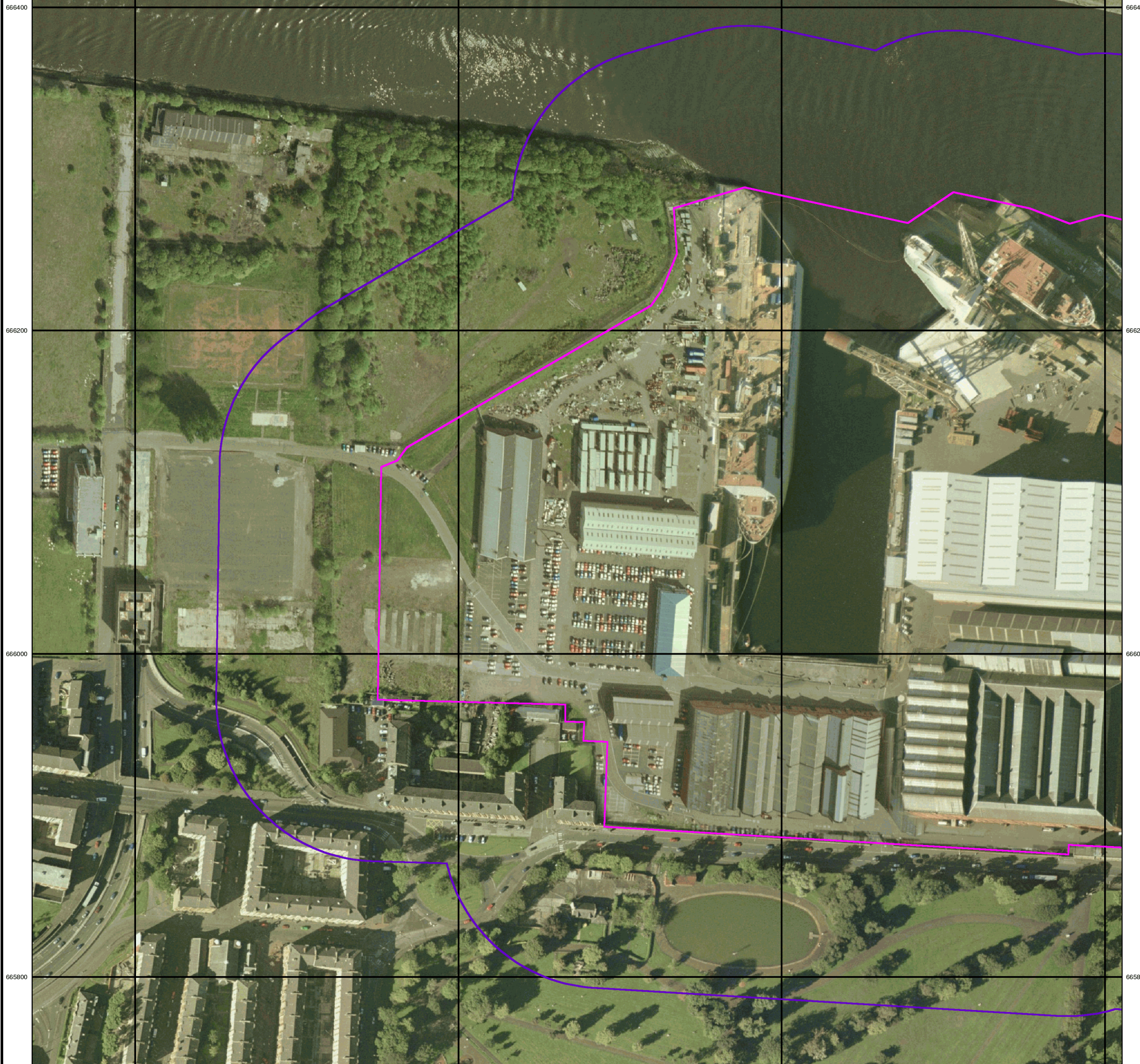
Site at 254780, 666140

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INFORMATION GROUP

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254200 254400 254600 254800

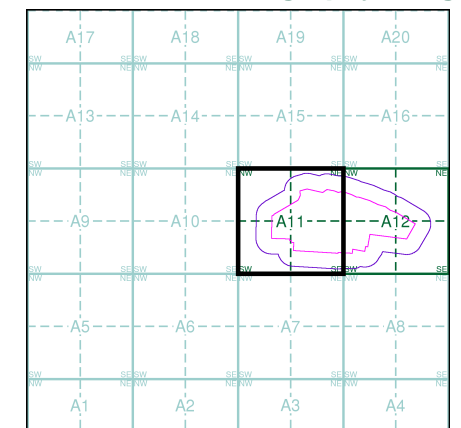


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Historical Aerial Photography
Published 2005

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A11



Order Details

Order Number: 293036501_1_1
Customer Ref: 100107212-001
National Grid Reference: 254510, 666070
Slice: A
Site Area (Ha): 25.37
Search Buffer (m): 100

Site Details

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Landmark
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Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500

Quarry **Gravel Pit** **Sand Pit**
Clay Pit **Shingle** **Refuse Heap**
Sloping Masonry **Flat Rock**
Marsh **Reeds** **Osiers**
Rough Pasture **Furze** **Wood**
Mixed Wood **Brushwood** **Orchard**
Fir **Ford** **Stepping Stones**
Ferry **Waterfall** **Lock**
Trig. Station **Altitude at Trig. Station**
B.M. 325.9 **Bench Mark** **Surface Level**
Arrow denotes flow of water **Antiquities (site of)**
Cutting **Embankment**
Railway crossing Road **Level Crossing** **Road crossing Railway**
Railway crossing River or Canal **Road over single stream** **Road over River or Canal**
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
County Borough Boundary (England)
County Burgh Boundary (Scotland)
Boundary Post or Stone **Police Call Box**
B.R. Bridle Road **Pump**
E.P. Electricity Pylon **S.P. Signal Post**
F.B. Foot Bridge **Sl. Sluice**
F.P. Foot Path **Sp. Spring**
G.P. Guide Post or Board **T.C.B. Telephone Call Box**
M.S. Mile Stone **Tr. Trough**
M.P. M.R. Mooring Post or Ring **W. Well**

Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250

Inactive Quarry, Chalk Pit or Clay Pit **Active Quarry, Chalk Pit or Clay Pit**
Rock **Boulders**
Cliff **Slopes** **Top**
Roofed Building **Glazed Roof Building**
Sloping Masonry **Archway**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Bench Mark** **Antiquity (site of)**
Cave Entrance **Triangulation Station** **Electricity Pylon**
Electricity Transmission Line
County Boundary (Geographical)
County & Civil Parish Boundary
Civil Parish Boundary
Admin. County or County Bor. Boundary
London Borough Boundary
Symbol marking point where boundary mereing changes
Beer House **Pillar, Pole or Post**
Boundary Post or Stone **Post Office**
Capstan, Crane **Public Convenience**
Chimney **Public House**
Drinking Fountain **Pump**
Electricity Pillar or Post **Signal Box or Bridge**
Fire Alarm Pillar **Signal Post or Light**
Foot Bridge **Spring**
Guide Post **Tank or Track**
Hydrant or Hydraulic **Telephone Call Box**
Level Crossing **Telephone Call Post**
Manhole **Trough**
Mile Post or Mooring Post **Water Point, Water Tap**
Mile Stone **Well**
Normal Tidal Limit **Wind Pump**

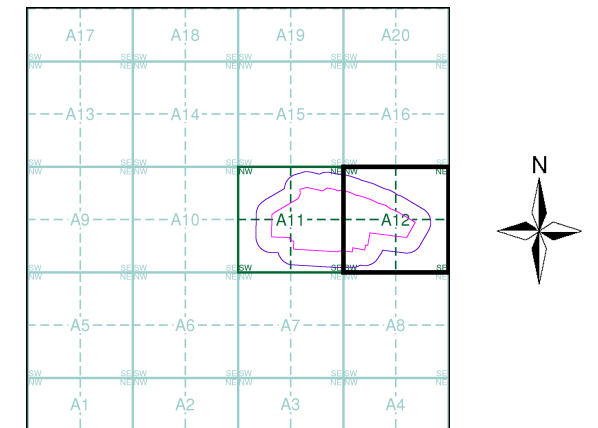
Large-Scale National Grid Data 1:2,500 and 1:1,250

Cliff **Slopes** **Top**
Rock **Rock (scattered)**
Boulders **Boulders (scattered)**
Positioned Boulder **Scree**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Triangulation Station** **Antiquity (site of)**
Electricity Transmission Line **Electricity Pylon**
Bench Mark **Buildings with Building Seed**
Roofed Building **Glazed Roof Building**
Civil parish/community boundary
District boundary
County boundary
Boundary post/stone
Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)
Barracks **Pillar, Pole or Post**
Battery **Post Office**
Cemetery **Public Convenience**
Chimney **Pump**
Cistern **Pumping Station**
Dismtd Rly **Place of Worship**
Electricity Generating Station **Sewage Ppg Sta** **Sewage Pumping Station**
Electricity Pole, Pillar **Signal Box or Bridge**
Electricity Sub Station **Signal Post or Light**
Filter Bed **Spring**
Fountain / Drinking Ftn. **Tank or Track**
Gas Valve Compound **Trough**
Gas Governor **Wind Pump**
Guide Post **Water Point, Water Tap**
Manhole **Works (building or area)**
Mile Post or Mile Stone **Well**

MOTT MACDONALD Historical Mapping & Photography included:

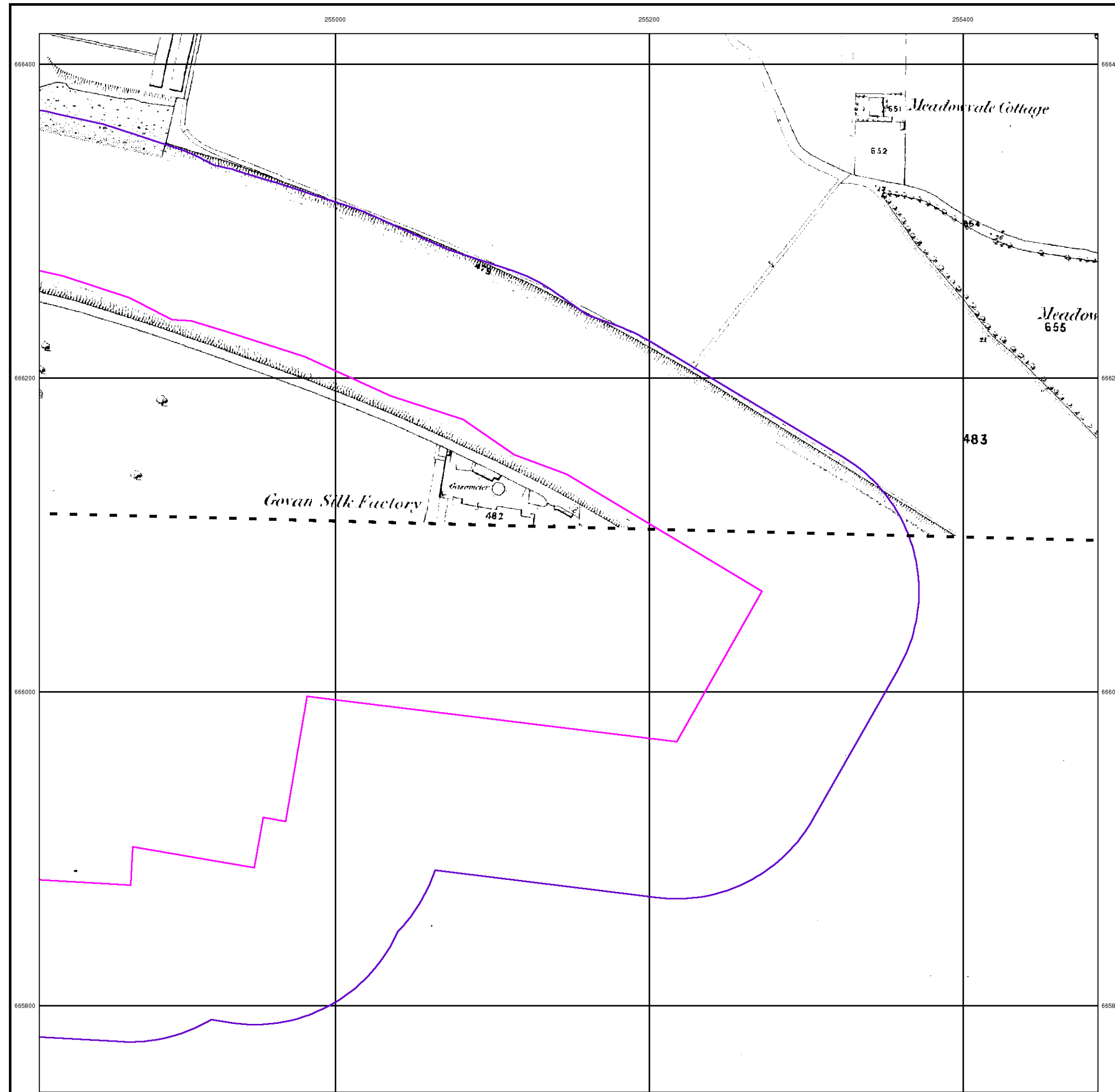
Mapping Type	Scale	Date	Pg
Lanarkshire	1:2,500	1860 - 1861	2
Lanarkshire	1:2,500	1860	3
Renfrewshire	1:2,500	1893	4
Lanarkshire	1:2,500	1896	5
Lanarkshire	1:2,500	1913	6
Lanarkshire	1:2,500	1932 - 1933	7
Ordnance Survey Plan	1:1,250	1948 - 1950	8
Ordnance Survey Plan	1:2,500	1950 - 1951	9
Ordnance Survey Plan	1:1,250	1951 - 1971	10
Ordnance Survey Plan	1:1,250	1961 - 1985	11
Ordnance Survey Plan	1:2,500	1967	12
Additional SIMs	1:1,250	1979 - 1985	13
Additional SIMs	1:1,250	1989 - 1991	14
Large-Scale National Grid Data	1:1,250	1992	15
Large-Scale National Grid Data	1:1,250	1993 - 1995	16
Large-Scale National Grid Data	1:1,250	1994	17
Large-Scale National Grid Data	1:1,250	1996	18
Large-Scale National Grid Data	1:1,250	1996	19
Historical Aerial Photography	1:2,500	2005	20

Historical Map - Segment A12



Order Details
Order Number: 293036501_1_1
Customer Ref: 100107212-001
National Grid Reference: 254510, 666070
Slice: A
Site Area (Ha): 25.37
Search Buffer (m): 100

Site Details
Site at 254780, 666140



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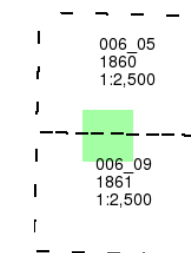
Lanarkshire

Published 1860 - 1861

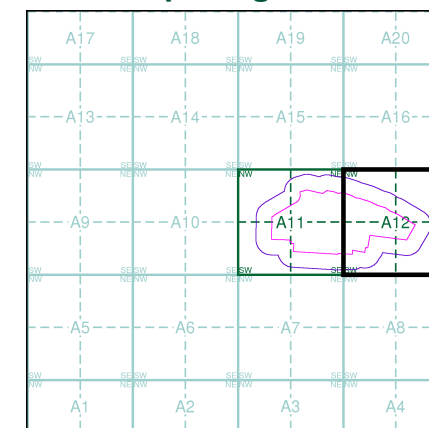
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A12



Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
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Site Details

Site at 254780, 666140

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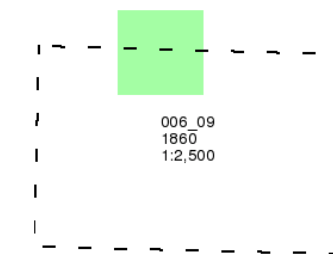
Lanarkshire

Published 1860

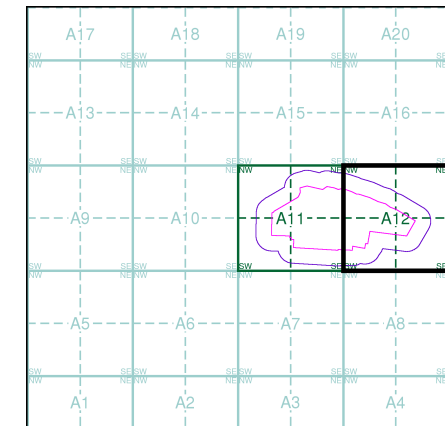
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A12



Order Details

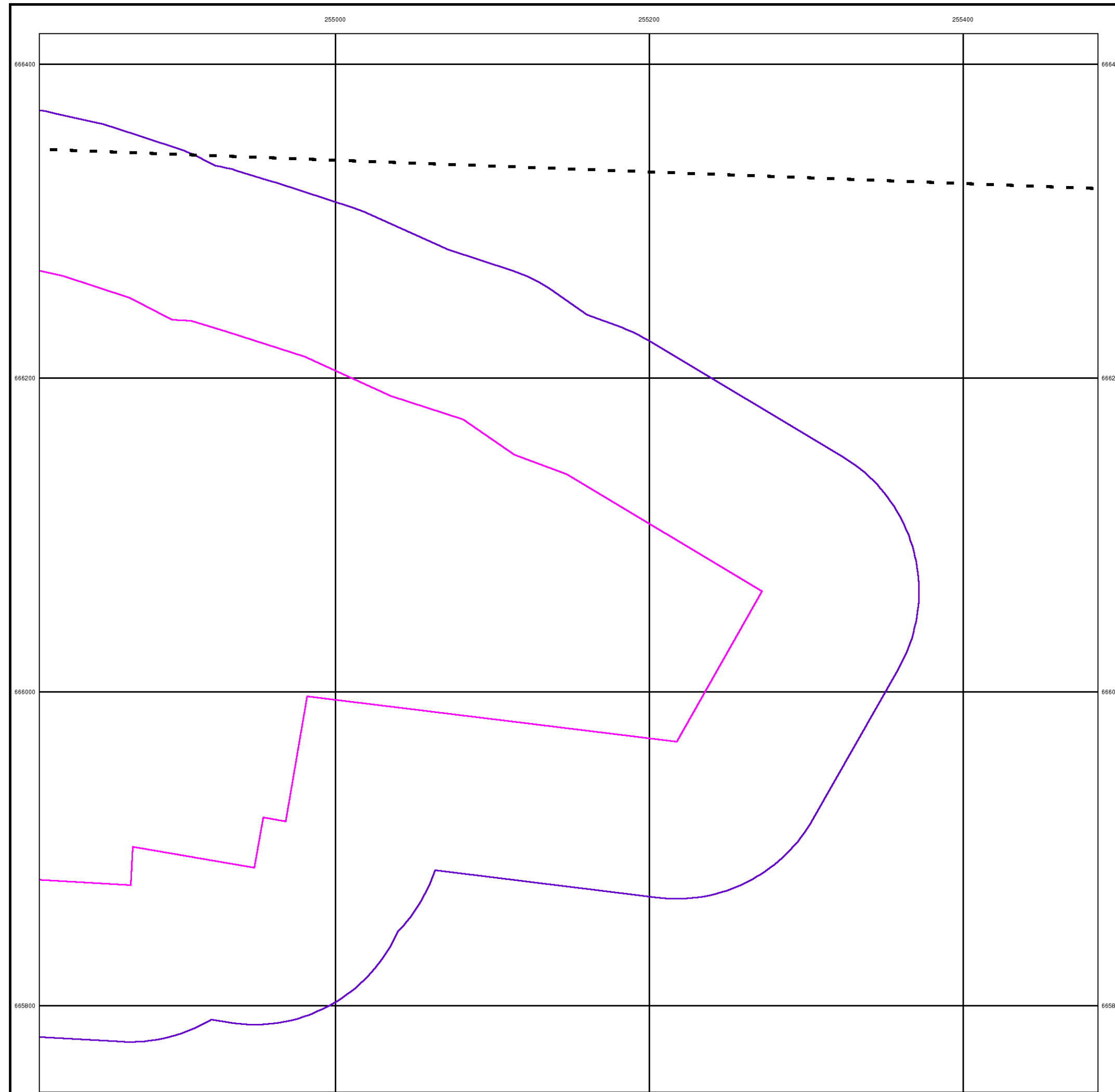
Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
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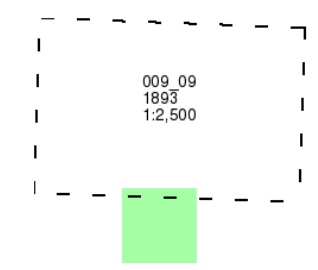
Renfrewshire

Published 1893

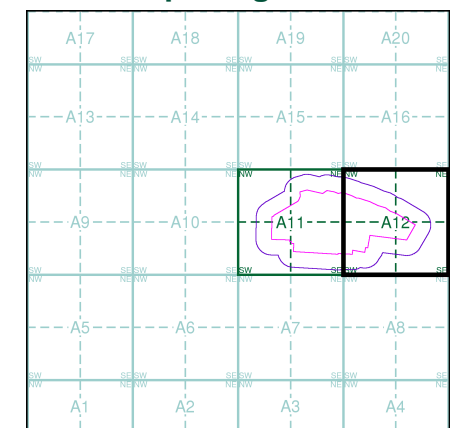
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A12



Order Details

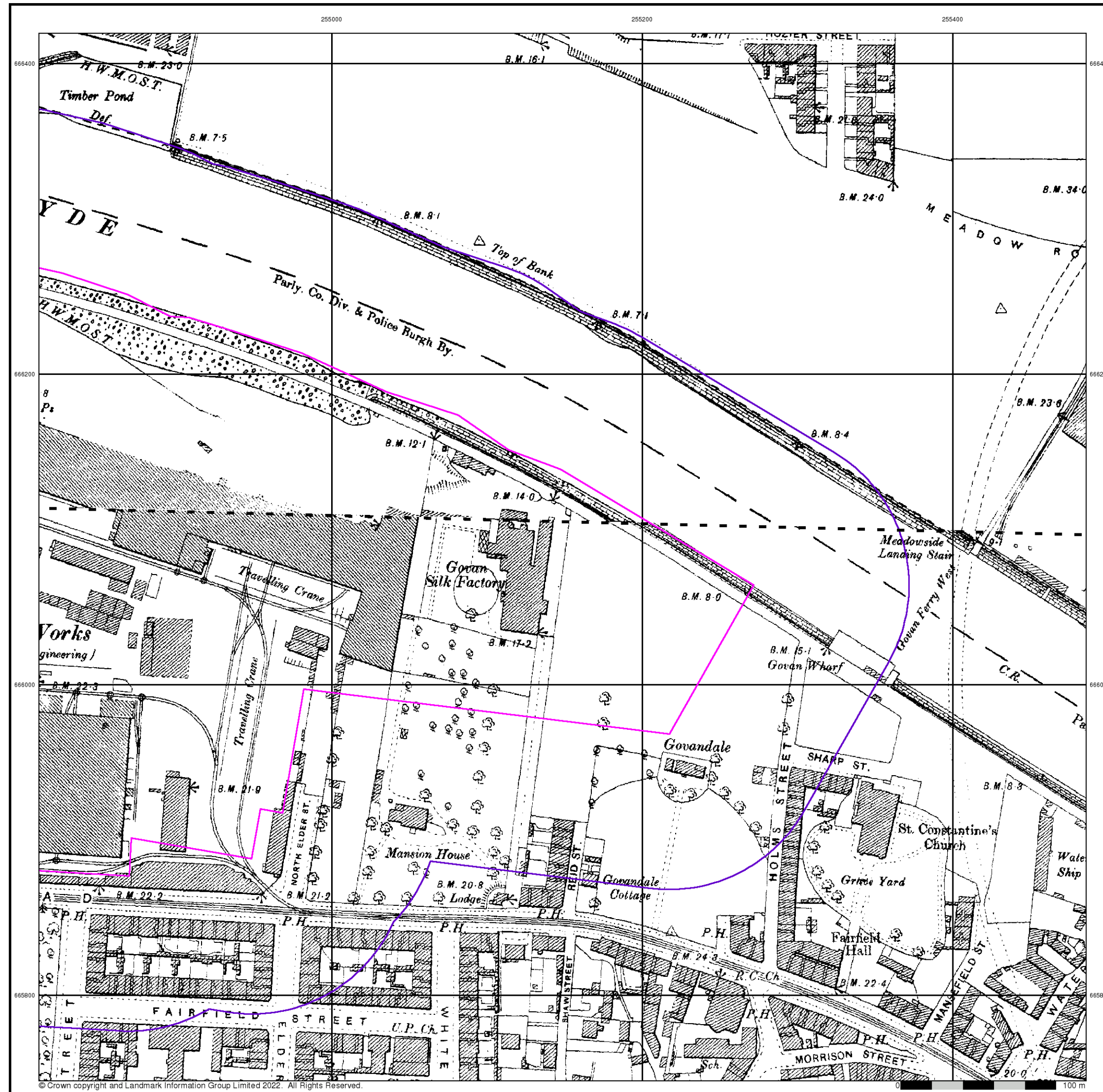
Order Number: 293036501_1_1
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 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
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Lanarkshire
Published 1896
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

006_05	1896	1:2,500
006_09	1896	1:2,500

Historical Map - Segment A12

Order Details

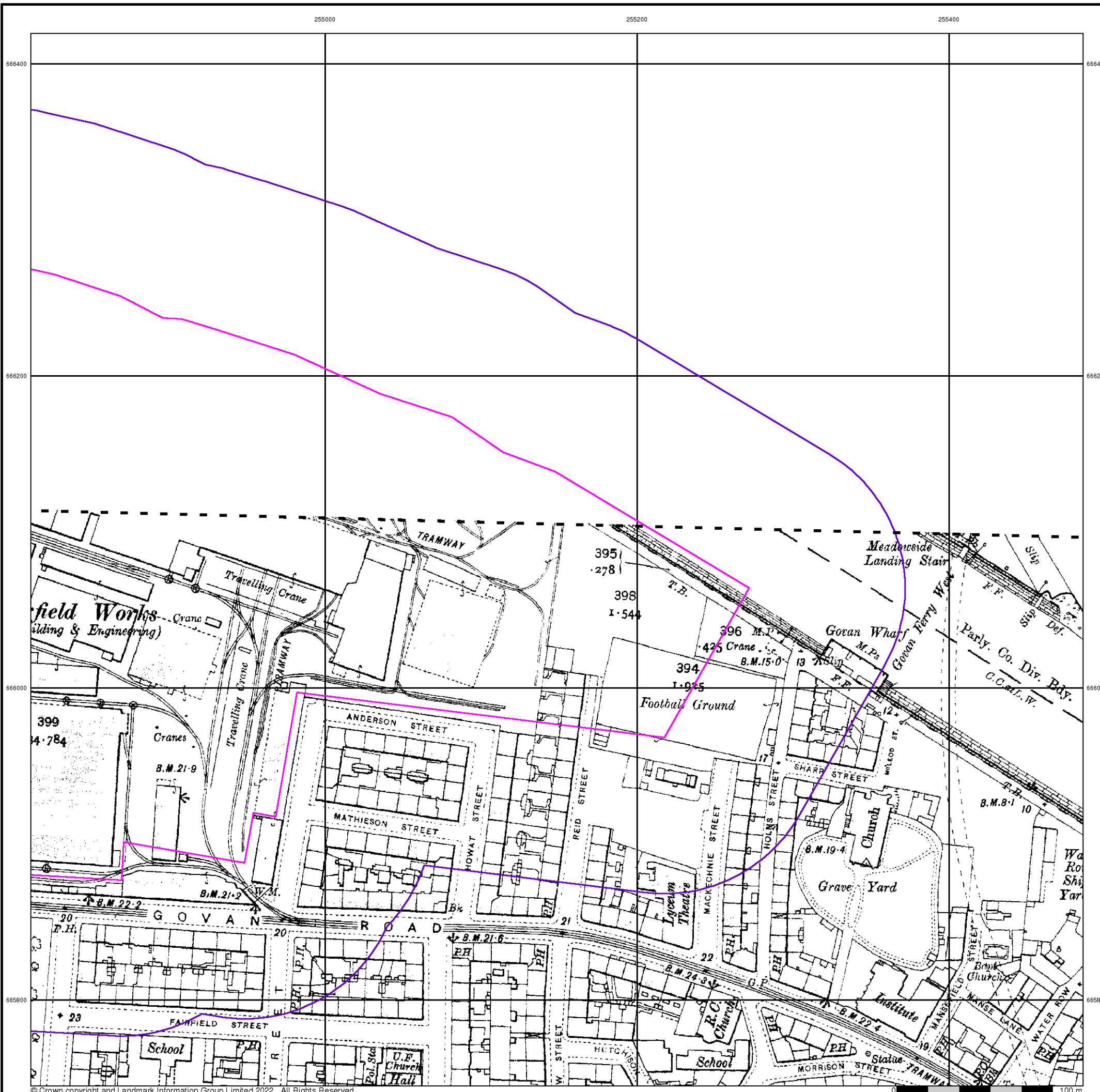
Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 100

Site Details

Site at 254780, 666140

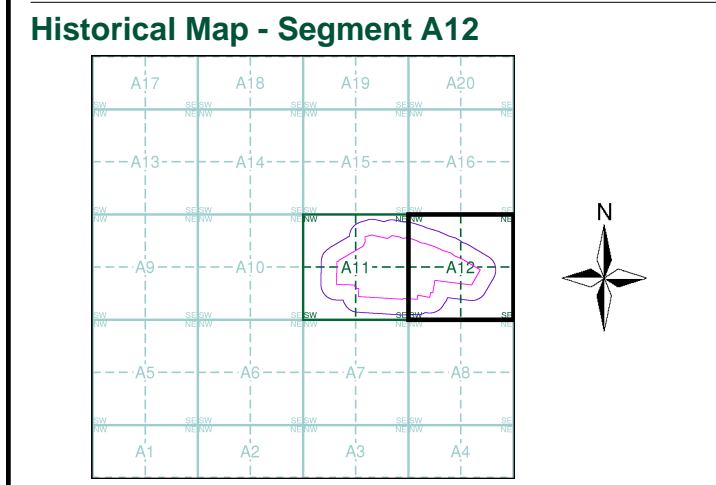
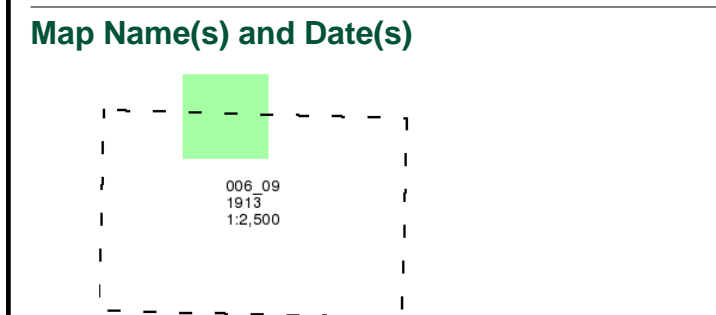
Landmark
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M M
MOTT MACDONALD
Lanarkshire
Published 1913
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.



Order Details

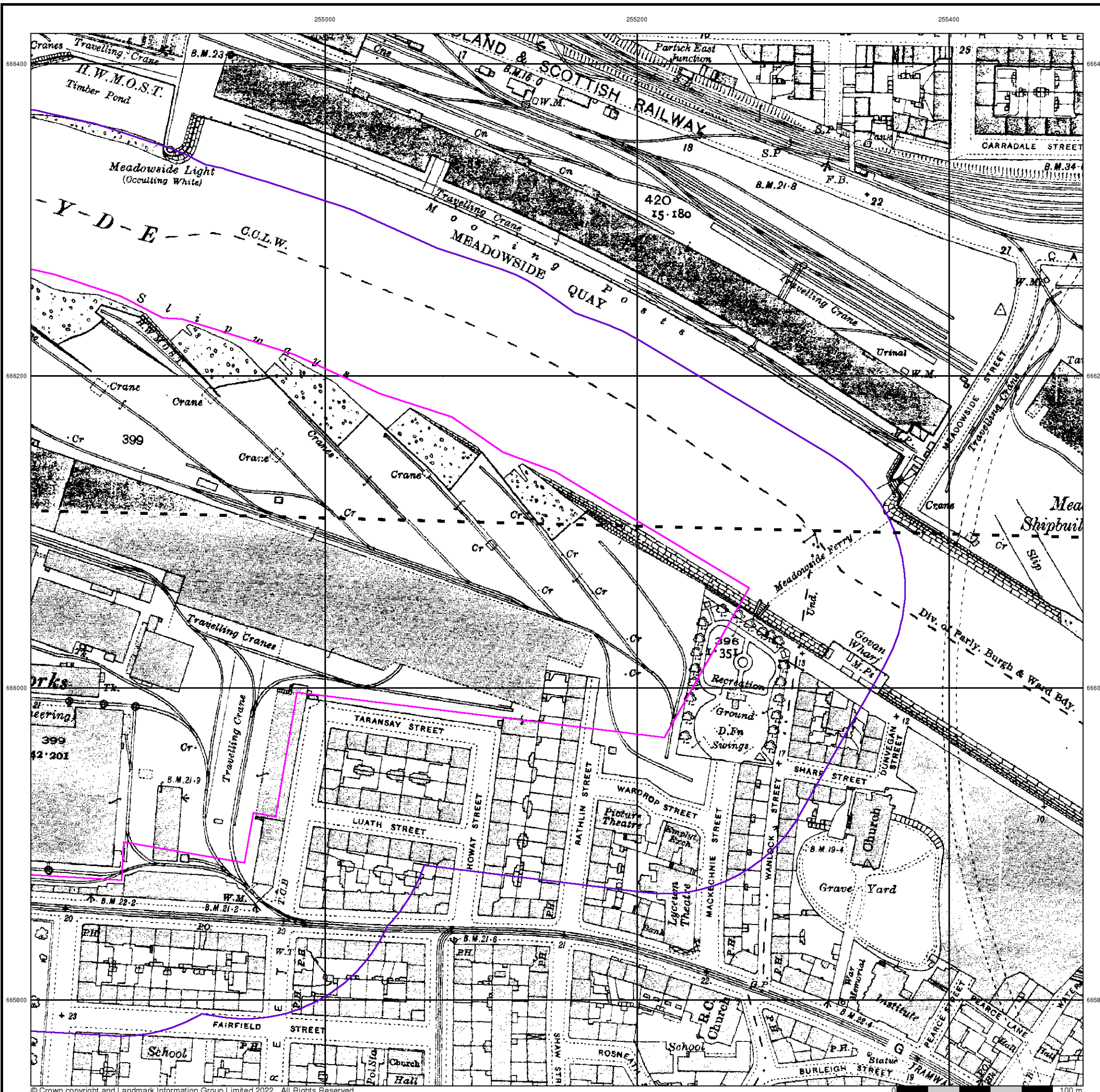
Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 100

Site Details

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M M
MOTT MACDONALD
Lanarkshire
Published 1932 - 1933
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

006_05	1932	1:2,500
006_09	1933	1:2,500

Historical Map - Segment A12

A grid map showing segments A1 through A20. Segment A12 is highlighted with a pink outline. A north arrow is located to the right of the grid.

Order Details

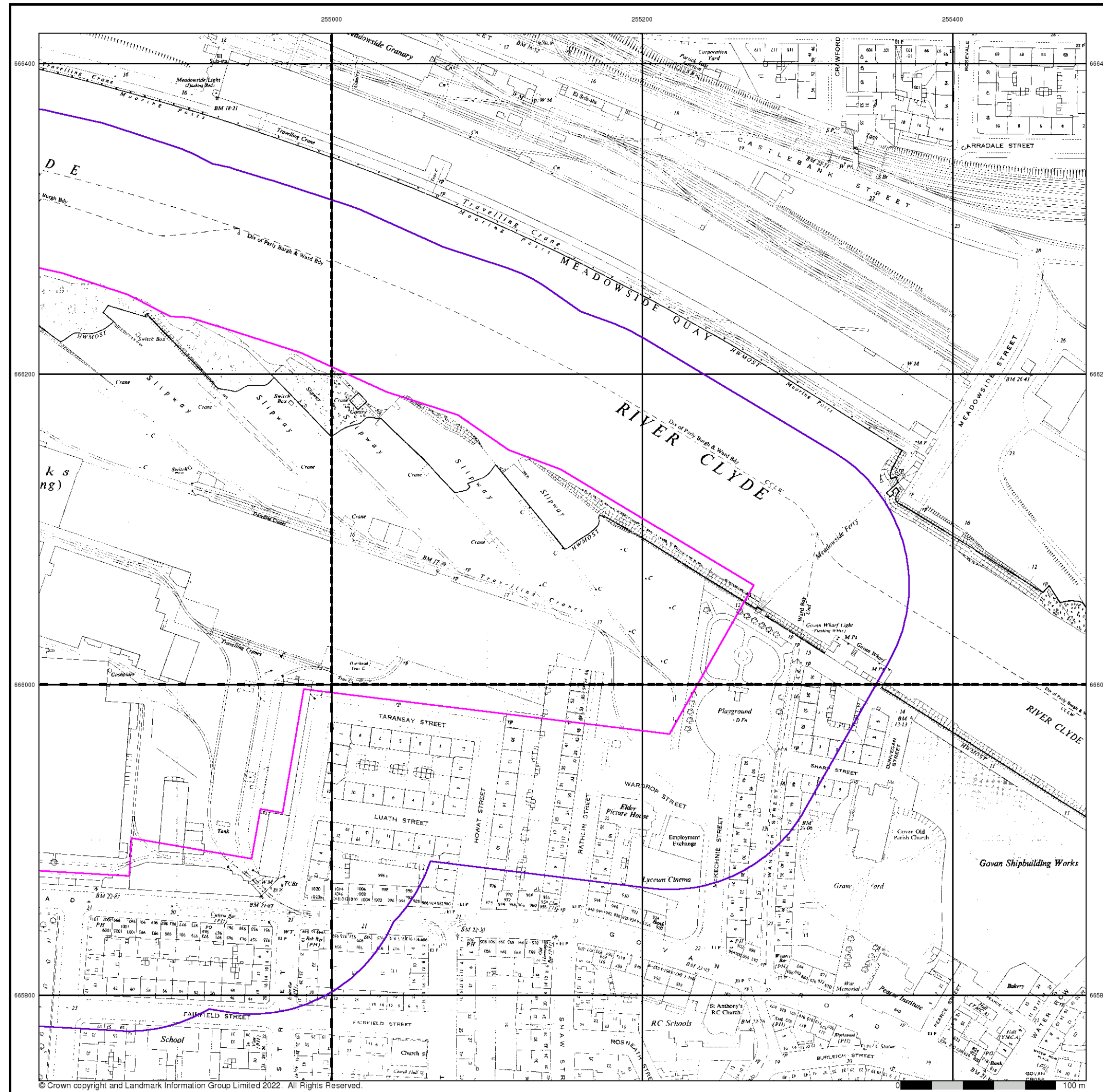
Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 100

Site Details

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Ordnance Survey Plan

Published 1948 - 1950

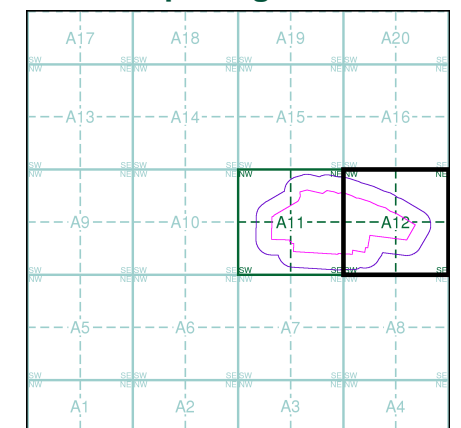
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NS5466SE 1949 1:1,250	NS5566SW 1950 1:1,250
NS5465NE 1948 1:1,250	NS5565NW 1950 1:1,250

Historical Map - Segment A12



Order Details

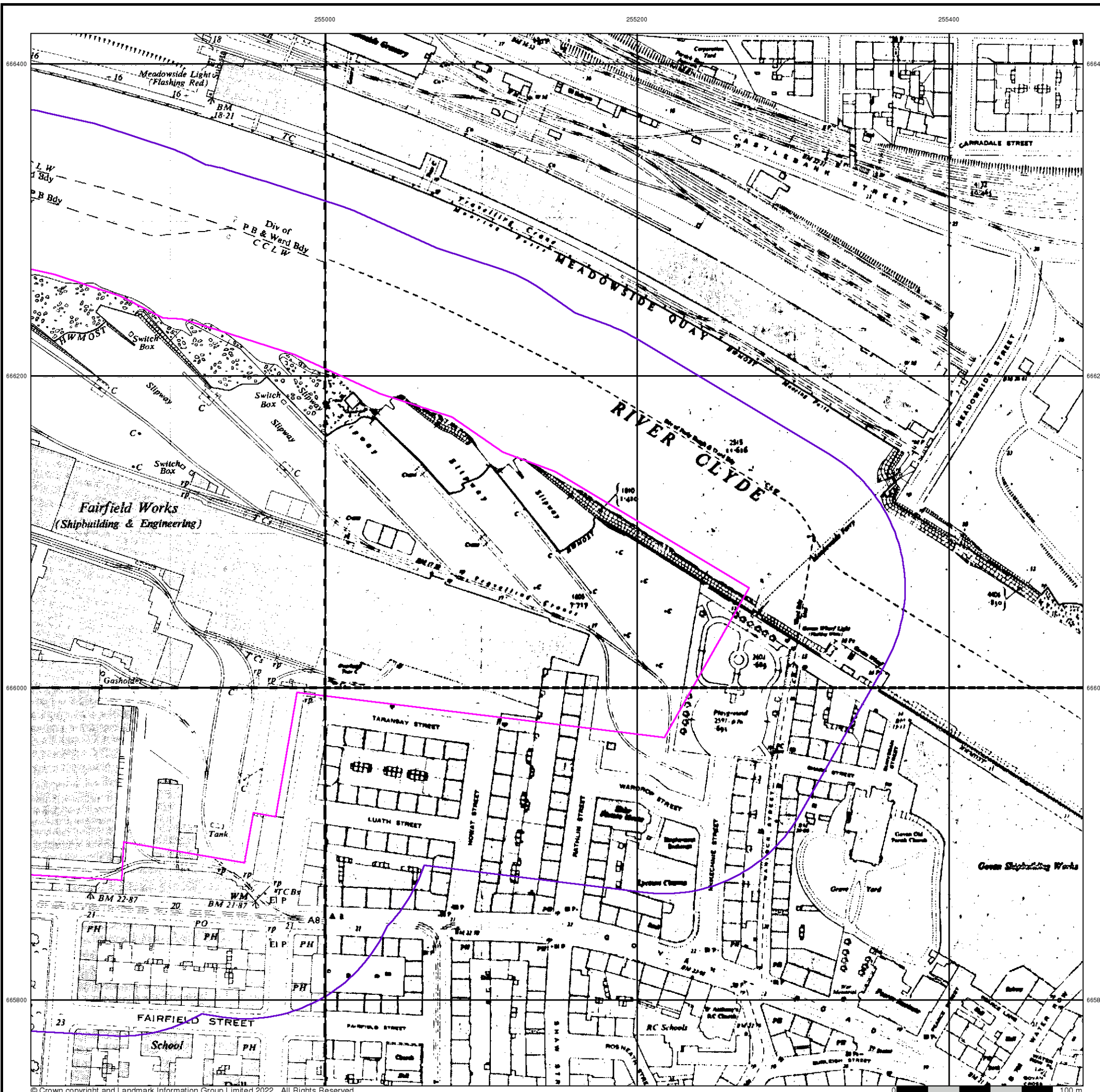
Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
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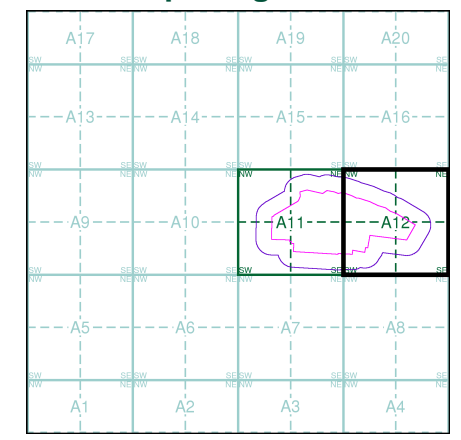
M M
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Ordnance Survey Plan
Published 1950 - 1951
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NS5486	NS5566
1951	1951
12,500	12,500
NS5485	NS5565
1950	1951
12,500	12,500

Historical Map - Segment A12



Order Details

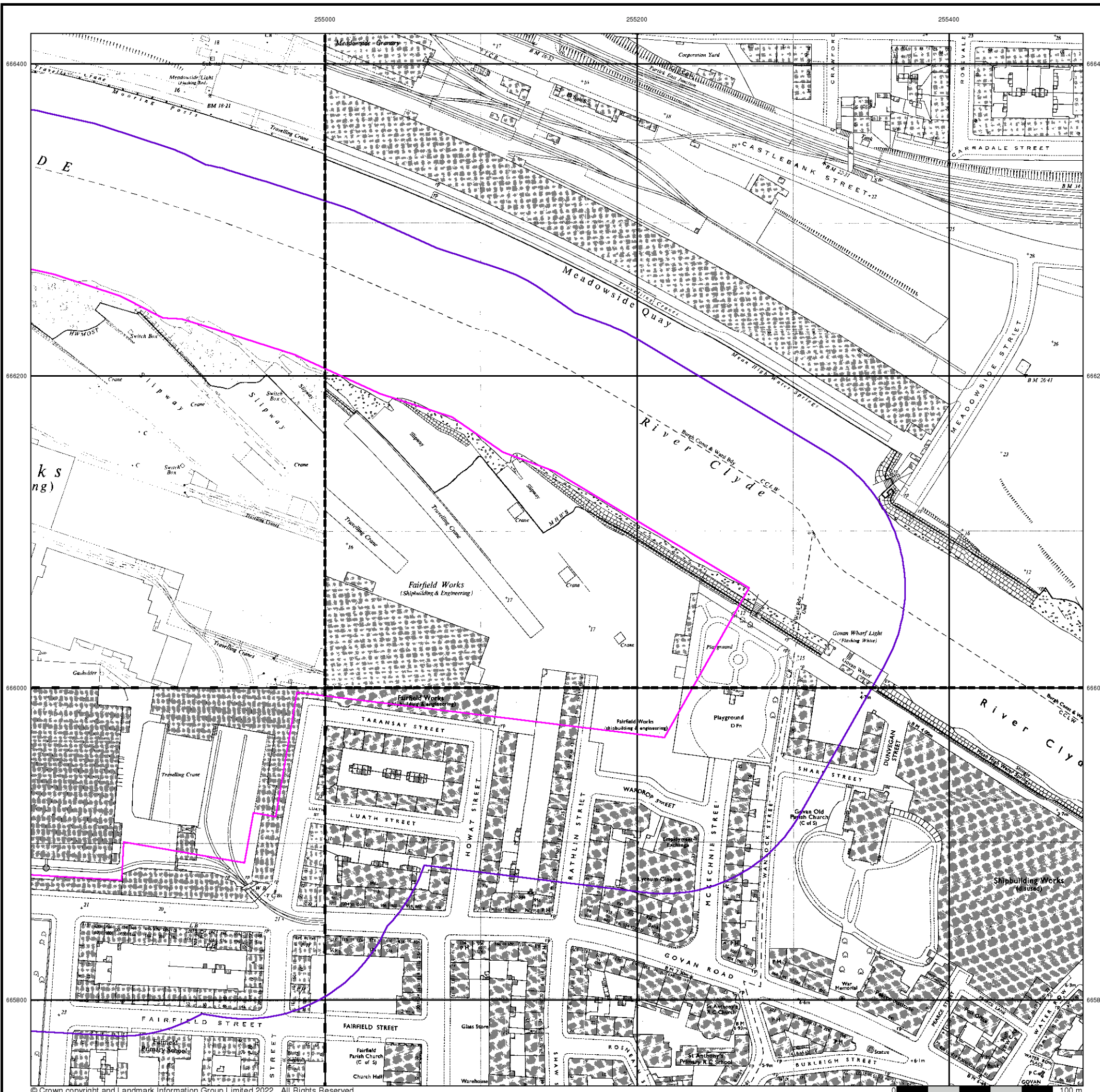
Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 100

Site Details

Site at 254780, 666140



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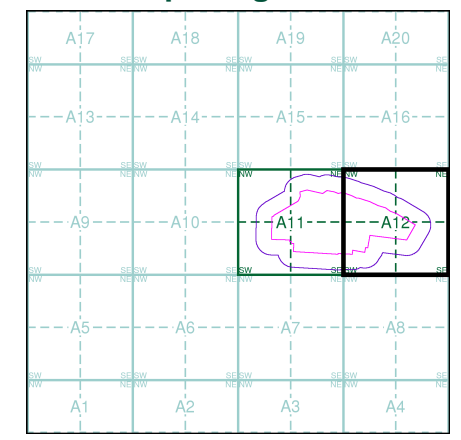
M M
MOTT MACDONALD
Ordnance Survey Plan
Published 1951 - 1971
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NS5466SE 1951 1:1,250	NS5566SW 1969 1:1,250
NS5465NE 1966 1:1,250	NS5565NW 1971 1:1,250

Historical Map - Segment A12



Order Details

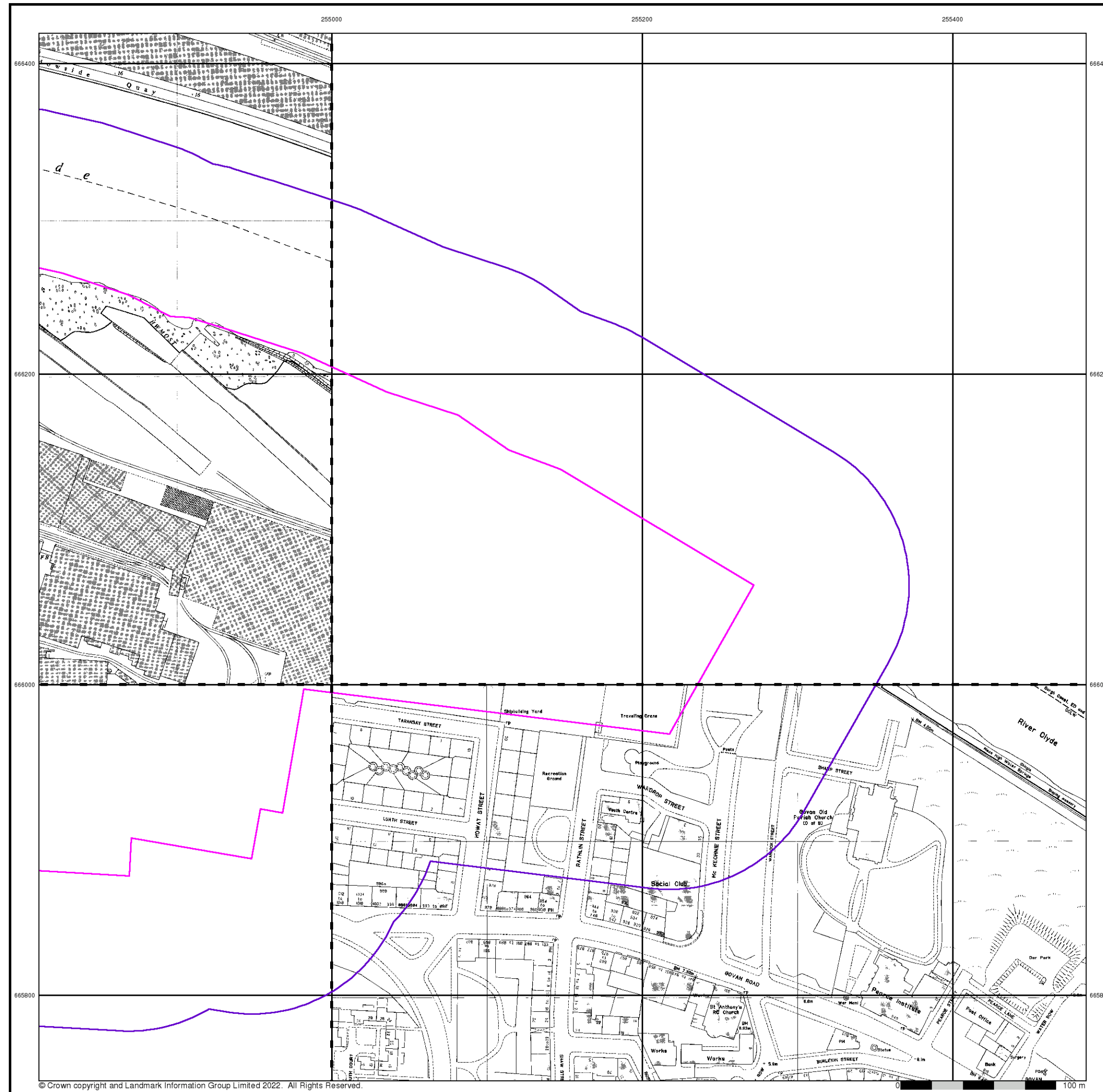
Order Number: 293036501_1_1
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 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
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Site Details

Site at 254780, 666140

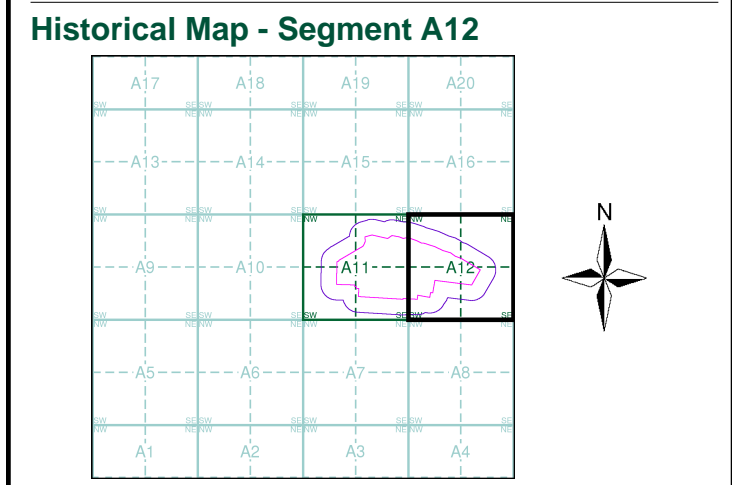
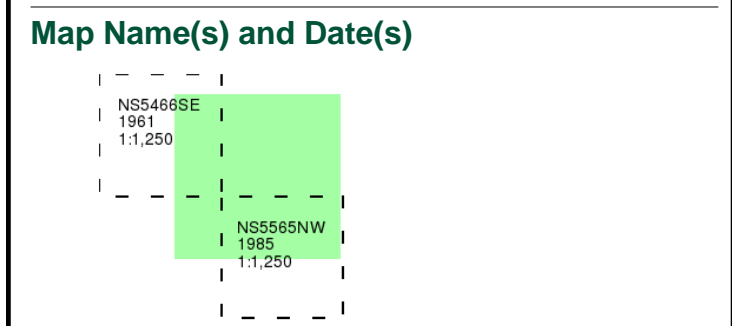


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M M
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Ordnance Survey Plan
Published 1961 - 1985
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.



Order Details

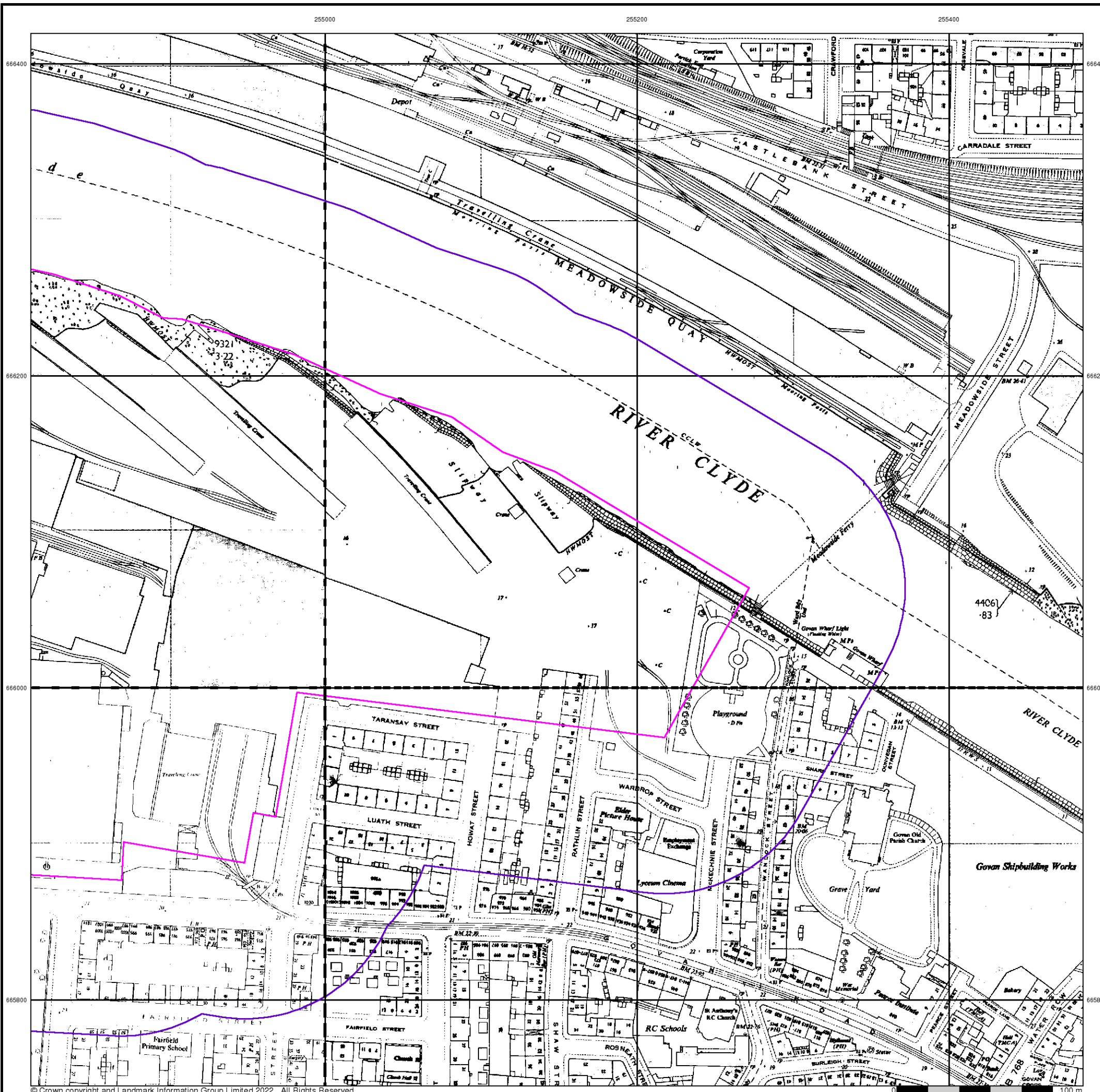
Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 100

Site Details

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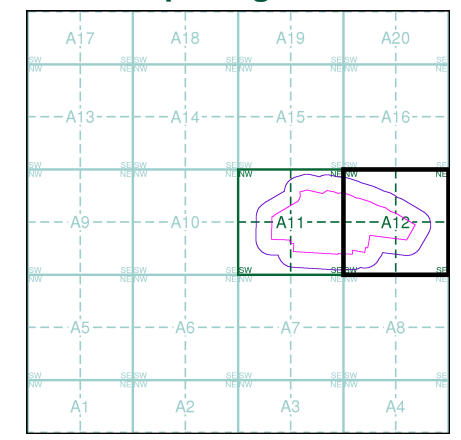
M M
MOTT
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Ordnance Survey Plan
Published 1967
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NS5486	NS5586
1967	1967
12,500	12,500
NS5485	NS5585
1967	1967
12,500	12,500

Historical Map - Segment A12



Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 100

Site Details

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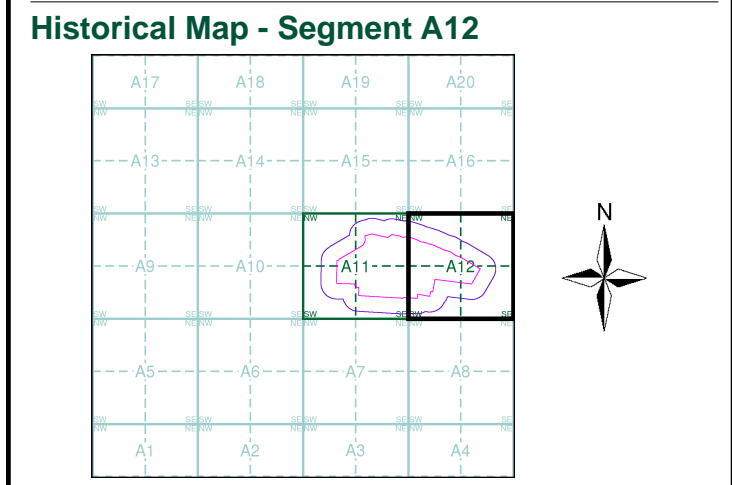


M M
MOTT MACDONALD
Additional SIMs
Published 1979 - 1985
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NS5466SE 1979 1:1,250	NS5566SW 1979 1:1,250
NS5465NE 1985 1:1,250	

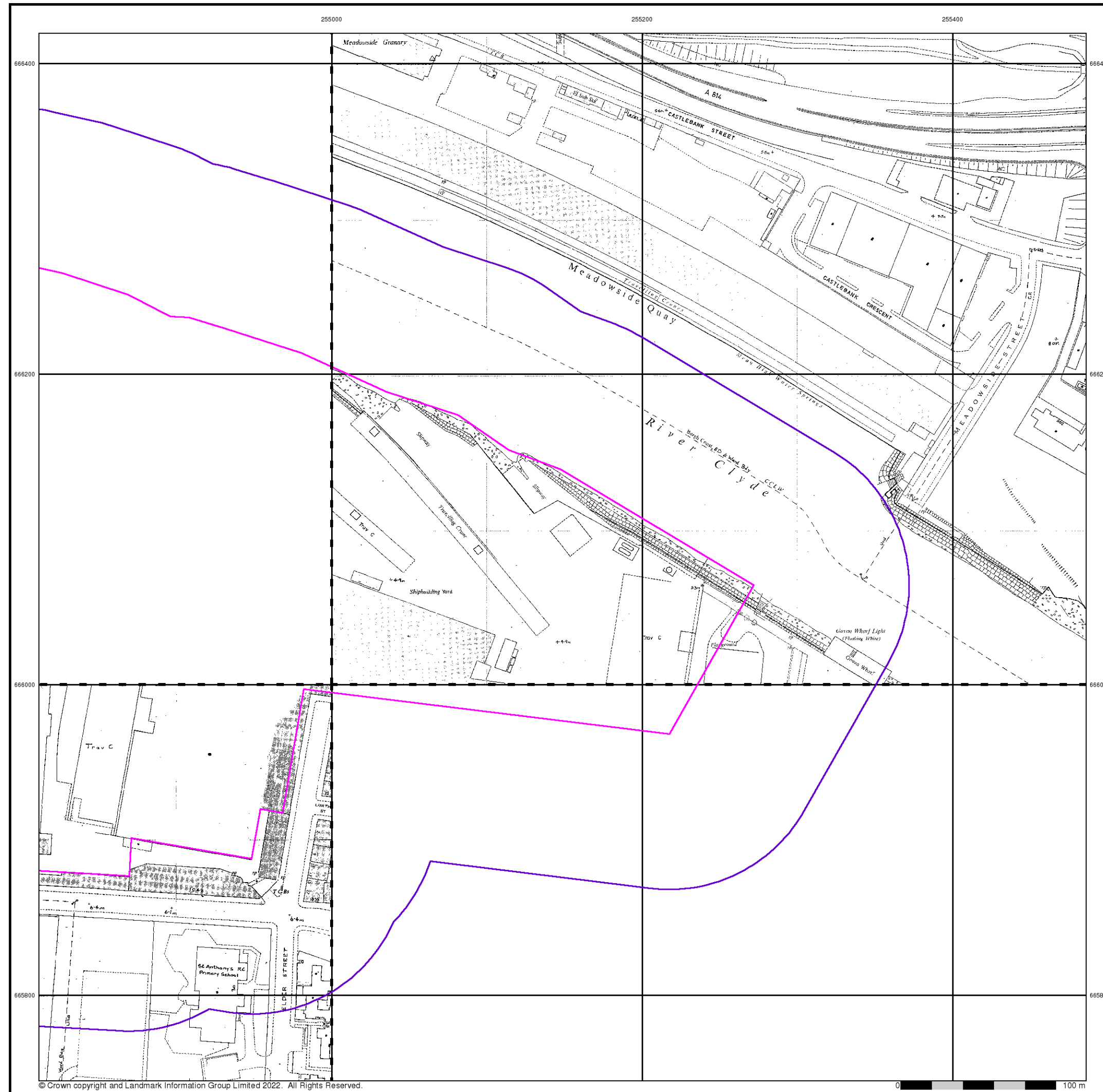


Order Details
Order Number: 293036501_1_1
Customer Ref: 100107212-001
National Grid Reference: 254510, 666070
Slice: A
Site Area (Ha): 25.37
Search Buffer (m): 100

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M M
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Additional SIMs
Published 1989 - 1991
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NS5566SW	1991	1:1,250
NS5465NE	1989	1:1,250

Historical Map - Segment A12

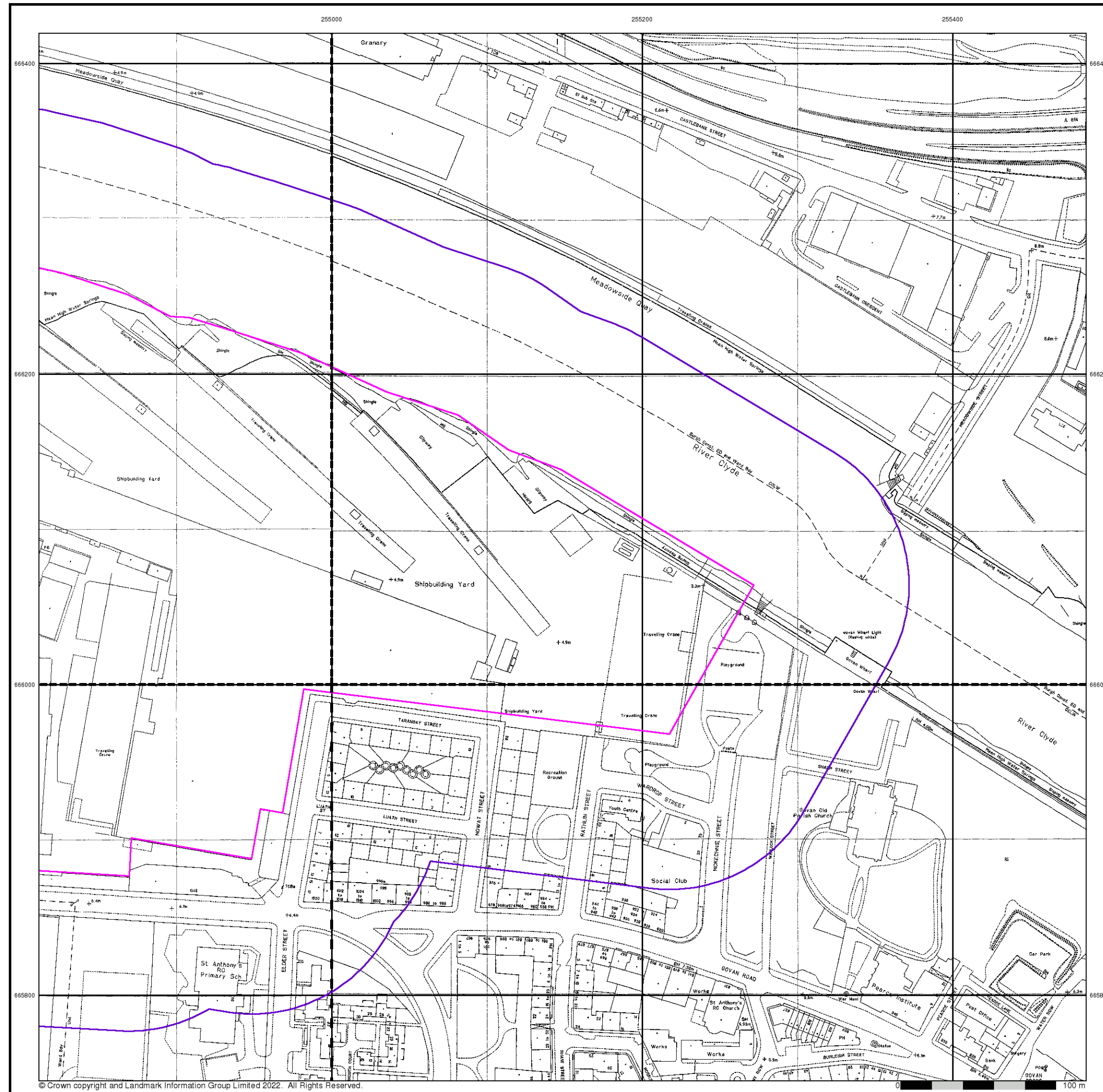
N

Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 100

Site Details

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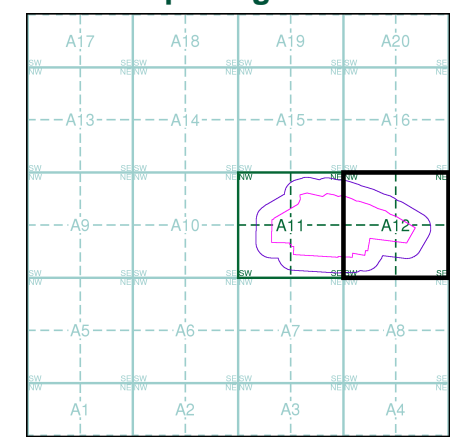
M M
MOTT MACDONALD
Large-Scale National Grid Data
Published 1992
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NS5468SE 1992 1:1,250	NS5568SW 1992 1:1,250
NS5468NE 1992 1:1,250	NS5568NW 1992 1:1,250

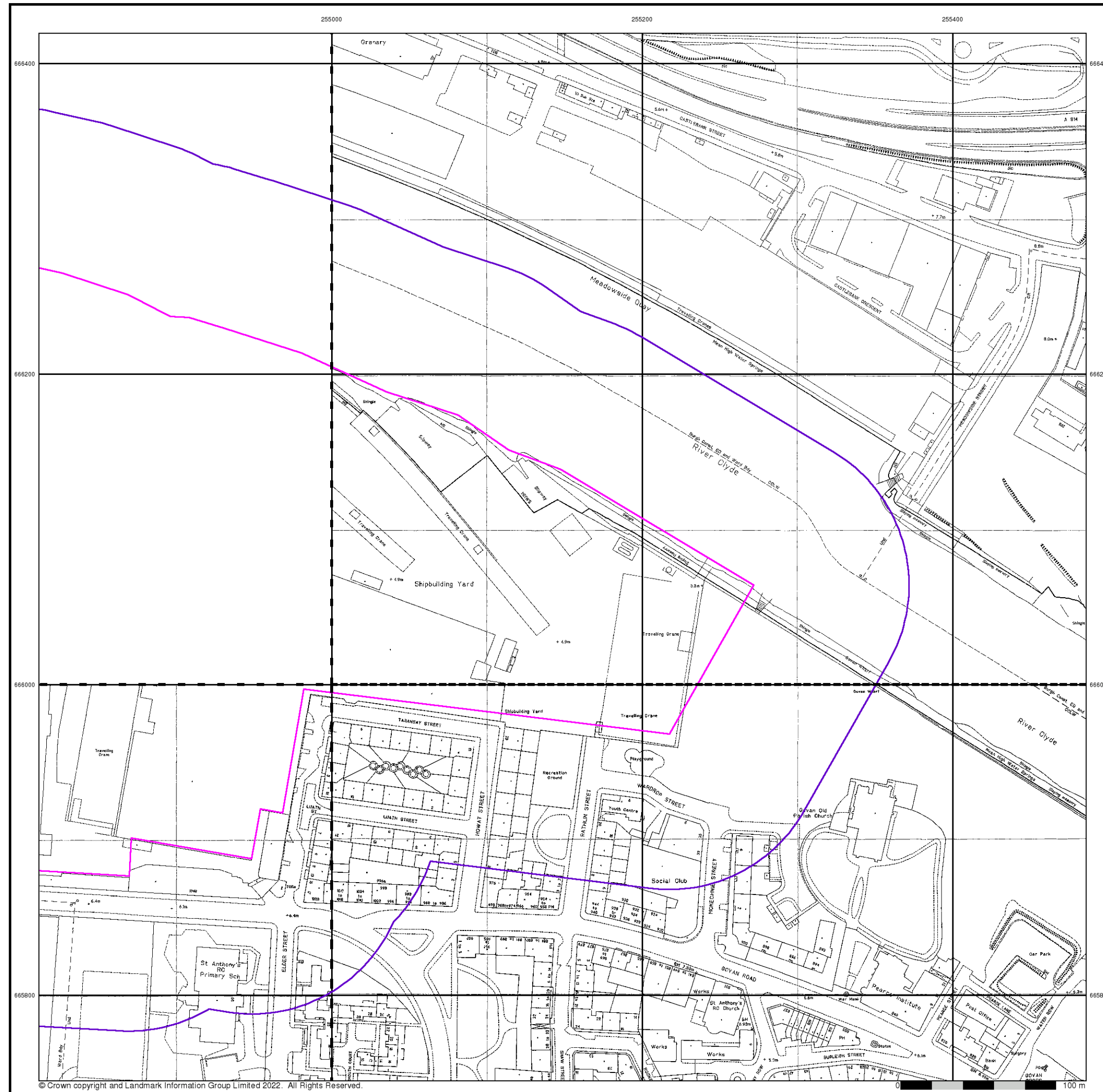
Historical Map - Segment A12



Order Details
Order Number: 293036501_1_1
Customer Ref: 100107212-001
National Grid Reference: 254510, 666070
Slice: A
Site Area (Ha): 25.37
Search Buffer (m): 100

Site Details
Site at 254780, 666140

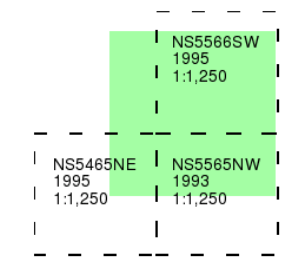
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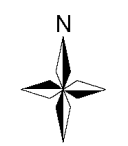
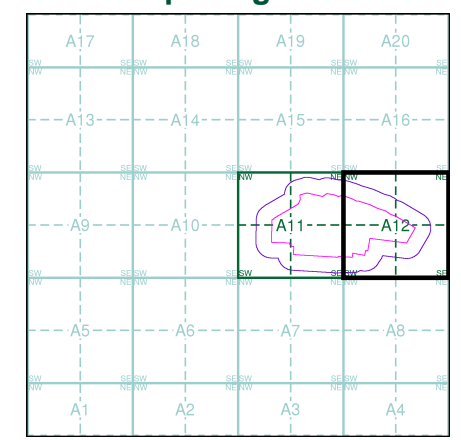
M M
MOTT MACDONALD
Large-Scale National Grid Data
Published 1993 - 1995
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A12



Order Details
 Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 100

Site Details
 Site at 254780, 666140

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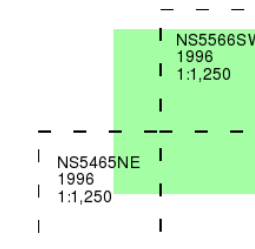
Large-Scale National Grid Data

Published 1996

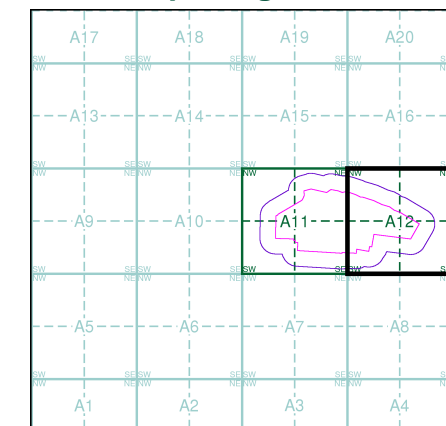
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A12



Order Details

Order Number: 293036501_1_1
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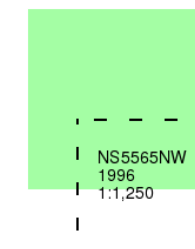
Large-Scale National Grid Data

Published 1996

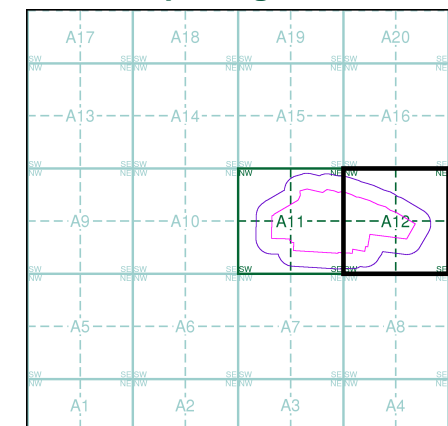
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A12



Order Details

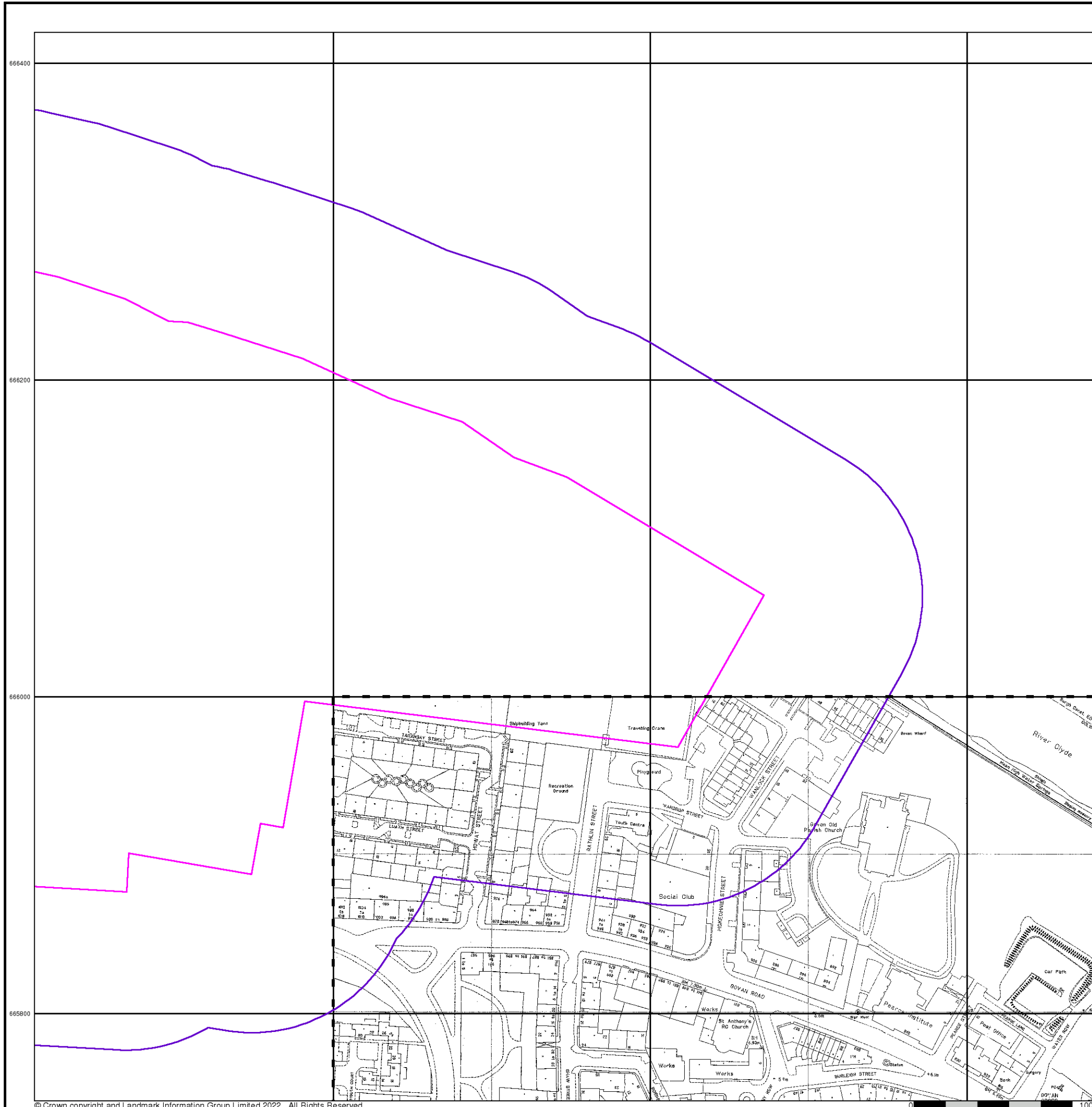
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 Site Area (Ha): 25.37
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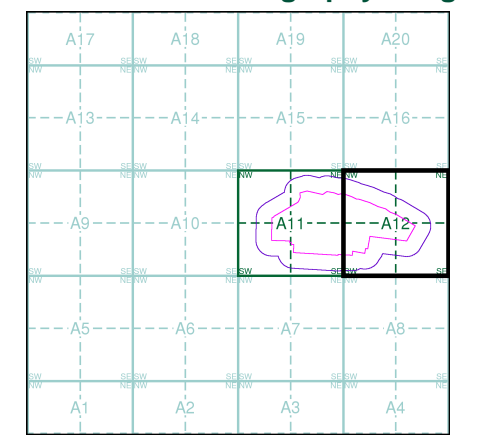




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Historical Aerial Photography
Published 2005

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A12



Order Details
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 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 100

Site Details
 Site at 254780, 666140

Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	MGR	Made Ground (Undivided)	Artificial Deposit	Not Supplied - Holocene
	WMGR	Infilled Ground	Artificial Deposit	Not Supplied - Holocene

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	SUPNM	Superficial Theme Not Mapped [For Digital Map Use Only]	Unknown/Unclassified Entry	Not Supplied - Not Supplied
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	ALV	Alluvium	Silt and Clay	Not Supplied - Holocene
	RMBDF	RAISED MARINE BEACH DEPOSITS OF HOLOCENE AGE	Sand and Gravel	Not Supplied - Holocene
	RTFDD	Raised Tidal Flat Deposits, Late Devensian	Gravel, Sand and Silt	Not Supplied - Devensian
	TILLD	Till, Devensian	Diamicton	Not Supplied - Devensian
	RMBDD	Raised Marine Beach Deposits, Late Devensian	Sand and Gravel	Not Supplied - Devensian
	SUPD	Superficial Deposits	Sediment	Not Supplied - Quaternary
	RTDU	River Terrace Deposits (Undifferentiated)	Gravel, Sand and Silt	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	WMVAS	Western Midland Valley Westphalian to Early Permian Sills	Microgabbro	Not Supplied - Westphalian
	CAL	Calmy Limestone	Limestone	Not Supplied - Namurian
	PGP	Passage Formation	Sedimentary Rock Cycles, Clackmannan Group Type	Not Supplied - Namurian
	LSC	Limestone Coal Formation	Sedimentary Rock Cycles, Clackmannan Group Type	Not Supplied - Namurian

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ULGS	Upper Limestone Formation	Sedimentary Rock Cycles, Clackmannan Group Type	Not Supplied - Namurian
	ILS	INDEX LIMESTONE (SCOTLAND)	Limestone	Not Supplied - Namurian
	TOHO	Top Hosie Limestone	Limestone	Not Supplied - Visean
	LLGS	Lower Limestone Formation	Sedimentary Rock Cycles, Clackmannan Group Type	Not Supplied - Visean
	MAHO	Main Hosie Limestone	Limestone	Not Supplied - Visean
		Rock Segments		
		Faults		

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Geology 1:50,000 Maps

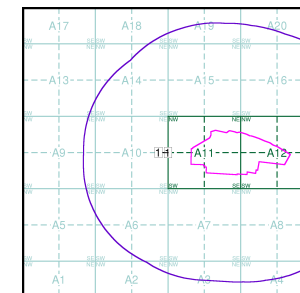
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.

The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID: 1
Map Sheet No: 030E
Map Name: Glasgow
Map Date: 1994
Bedrock Geology: Not Available
Superficial Geology: Available
Artificial Geology: Available
Faults: Not Supplied
Landslip: Available
Rock Segments: Not Supplied

Geology 1:50,000 Maps - Slice A



Order Details:

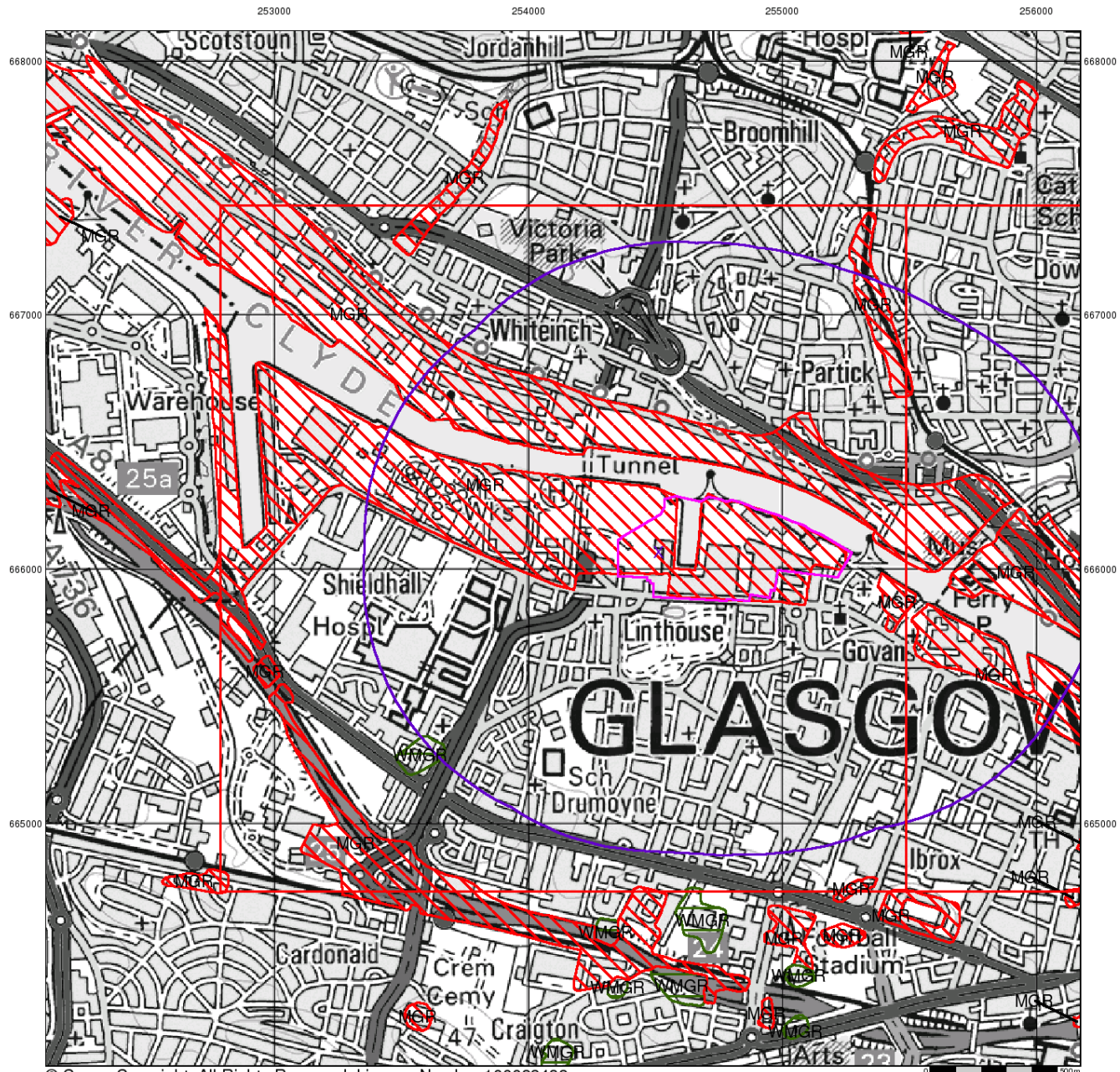
Order Number: 293036501_1_1
Customer Reference: 100107212-001
National Grid Reference: 254510, 666070
Slice: A
Site Area (Ha): 25.37
Search Buffer (m): 1000

Site Details:

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Artificial Ground and Landslip

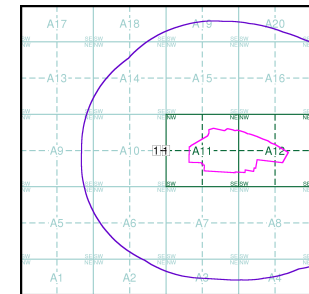
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice A



Order Details:

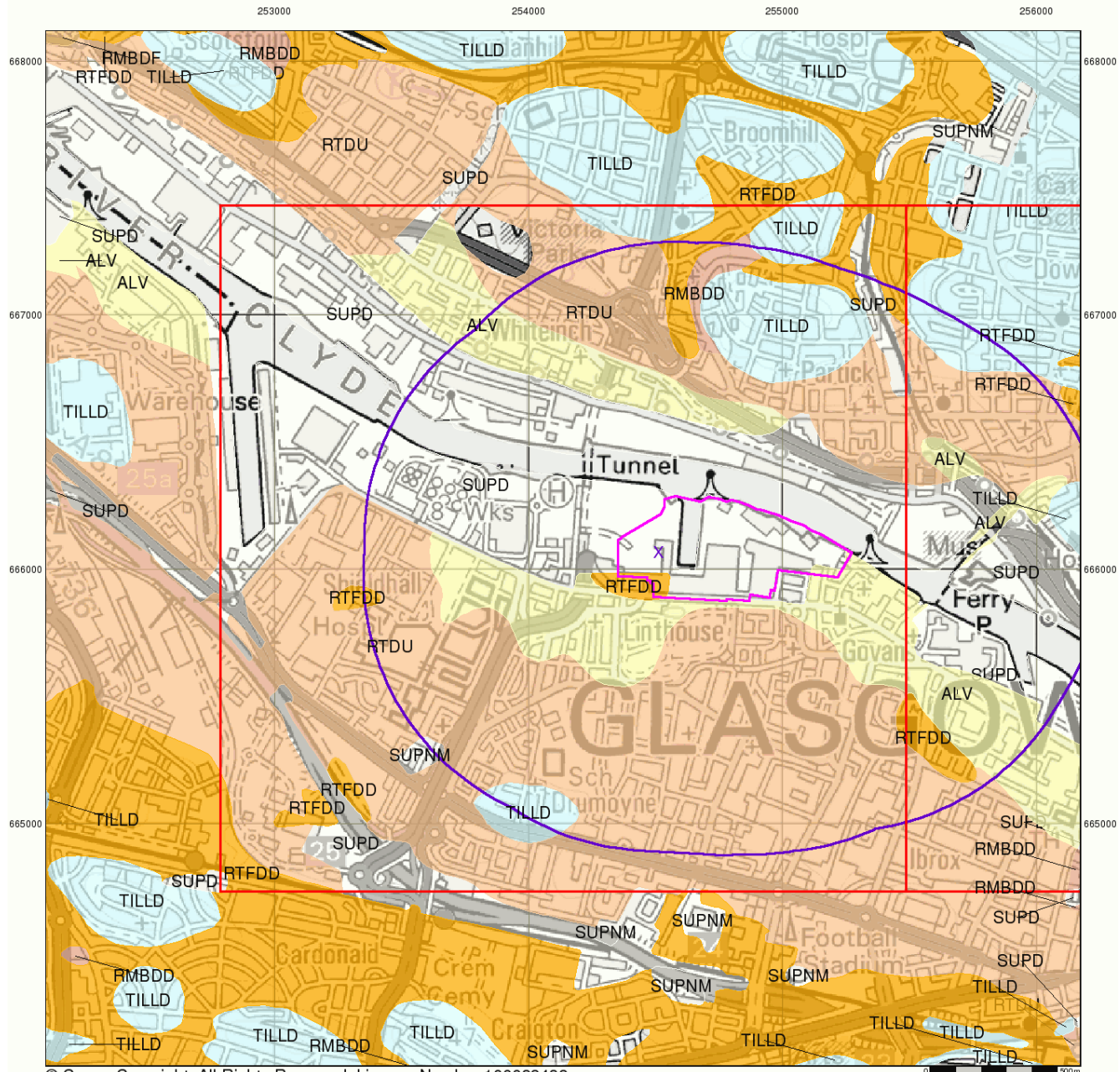
Order Number: 293036501_1_1
 Customer Reference: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details:

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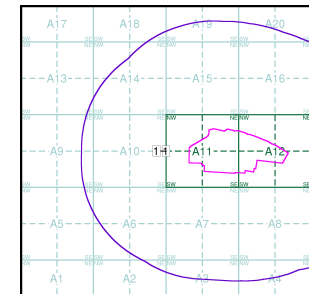
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice A



Order Details:

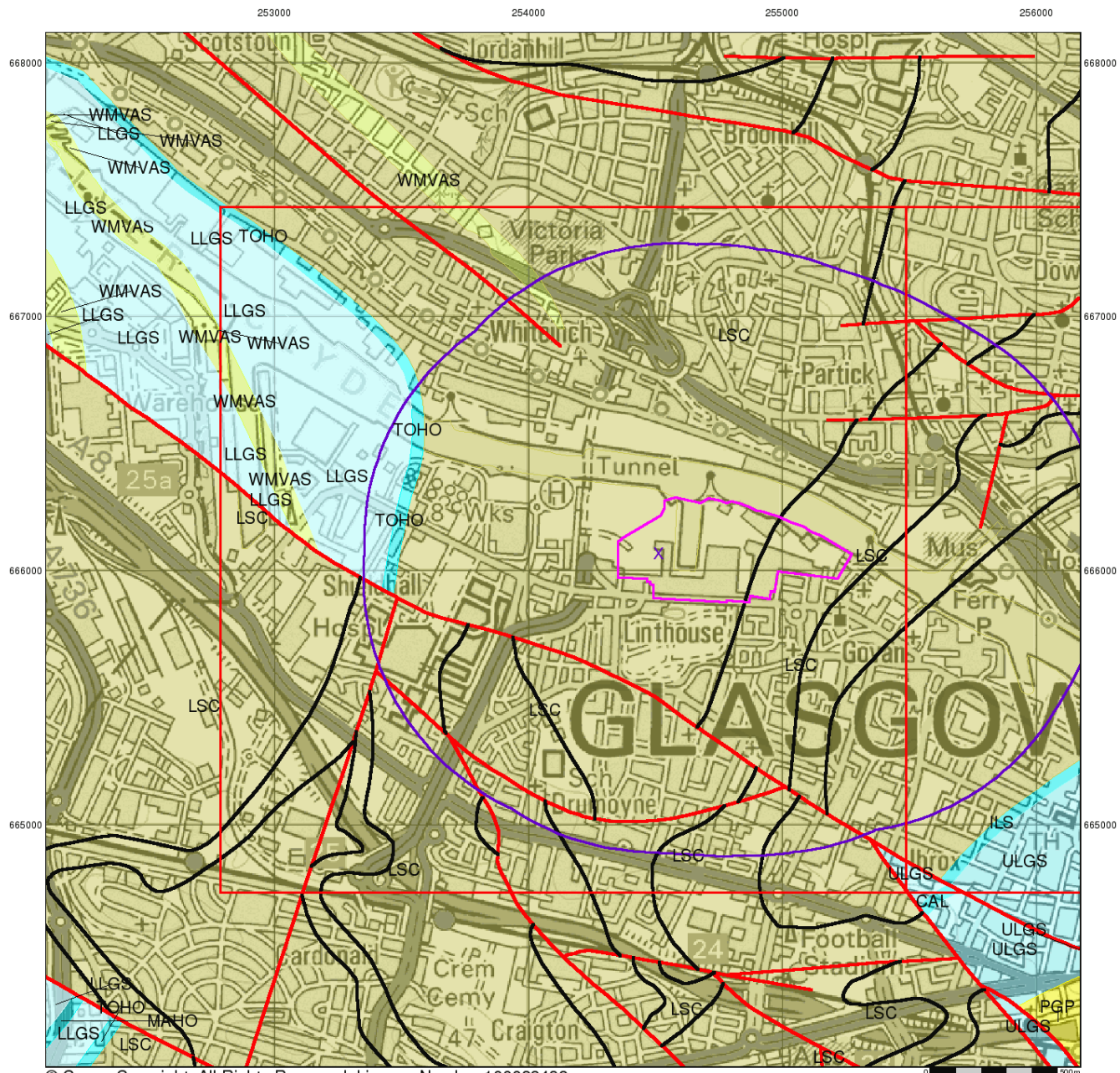
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 Slice: A
 Site Area (Ha): 25.37
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Bedrock and Faults

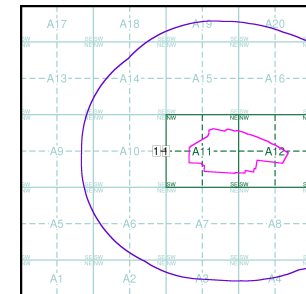
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice A



Order Details:

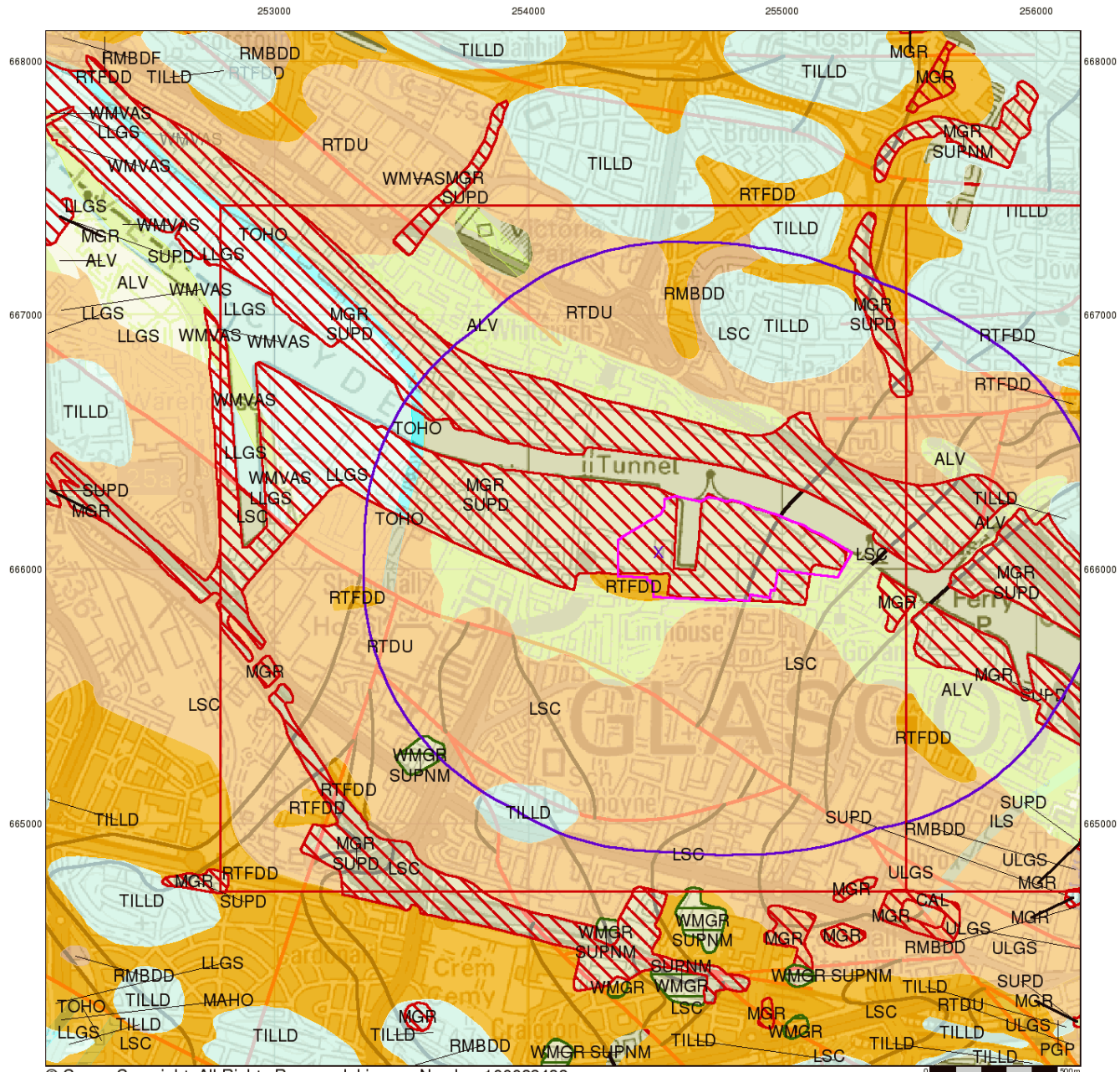
Order Number: 293036501_1_1
 Customer Reference: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
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Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

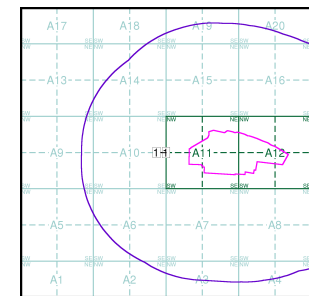
Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

Contact

British Geological Survey
Kingsley Dunham Centre
Keyworth
Nottingham
NG12 5GG
Telephone: 0115 936 3143
Fax: 0115 936 3276
email: enquiries@bgs.ac.uk
website: www.bgs.ac.uk

Combined Geology Map - Slice A



Order Details:

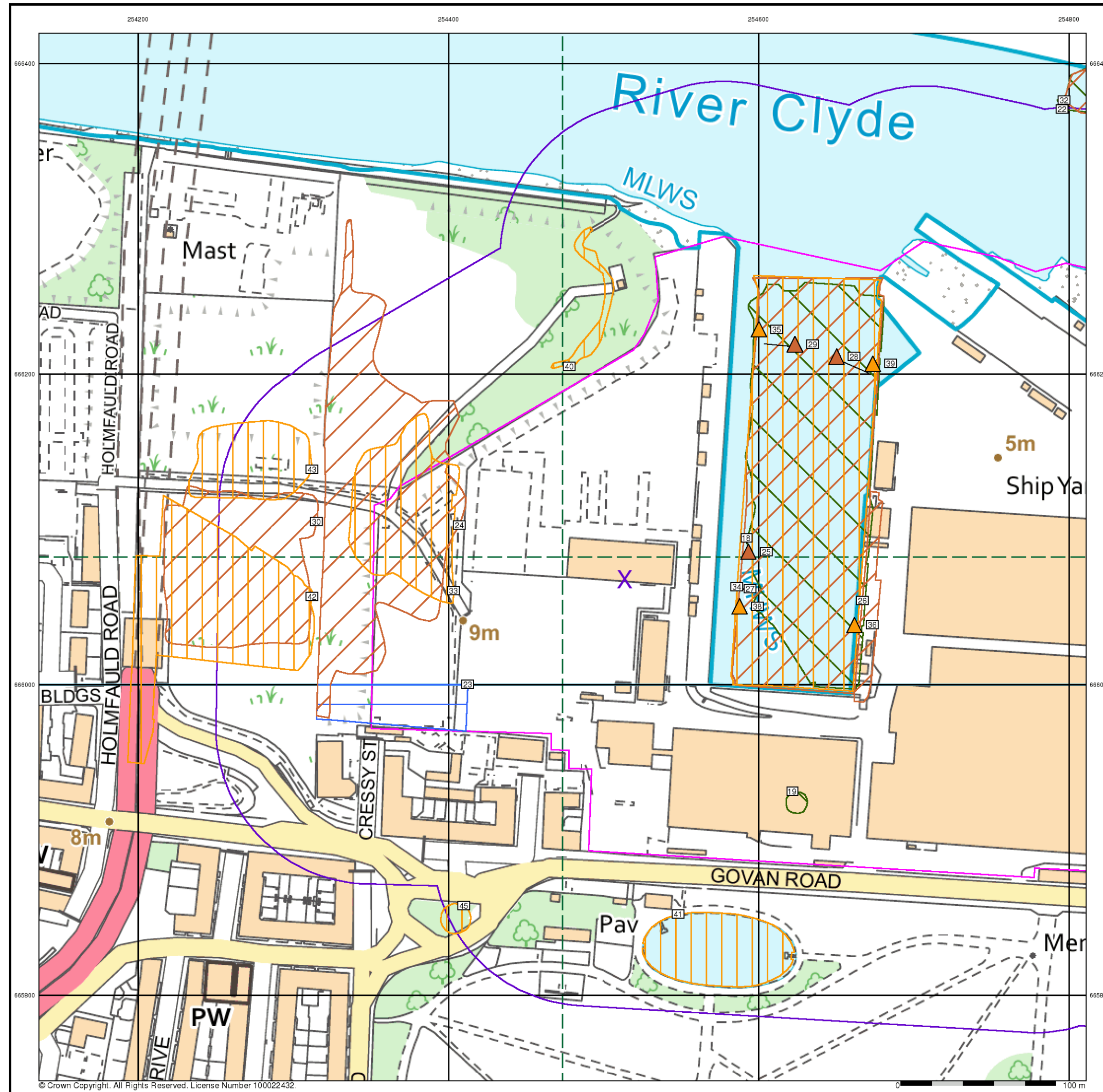
Order Number: 293036501_1_1
Customer Reference: 100107212-001
National Grid Reference: 254510, 666070
Slice: A
Site Area (Ha): 25.37
Search Buffer (m): 1000

Site Details:

Site at 254780, 666140

Landmark
INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



M M

**MOTT
MACDONALD**
Historical Land Use Information (1:2,500)

General
 Specified Site Specified Buffer(s) Bearing Reference Point Map ID
 Several of Type at Location

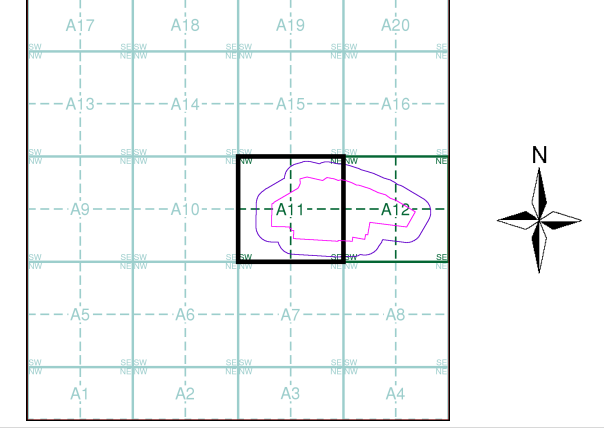
Potentially Contaminative Industrial Uses (Extractive Industries Activity)

	Point	Line	Polygon
Extractive Industries Activity from 1855 - 1909	▲	—	■
Extractive Industries Activity from 1893 - 1915	▲	—	▨
Extractive Industries Activity from 1906 - 1937	▲	—	▩
Extractive Industries Activity from 1924 - 1949	▲	—	▧
Extractive Industries Activity from 1950 - 1980	▲	—	▨

Subterranean Features

	Point	Line	Polygon
Subterranean Features	▼	- - -	■

Mining and Ground Stability - Segment A11



Order Details
 Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Plot Buffer (m): 100

Site Details
 Site at 254780, 666140

Landmark
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 Fax: 0844 844 9951
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M M

**MOTT
MACDONALD**
Historical Land Use Information (1:2,500)

General
 Specified Site Specified Buffer(s) Bearing Reference Point Map ID
 Several of Type at Location

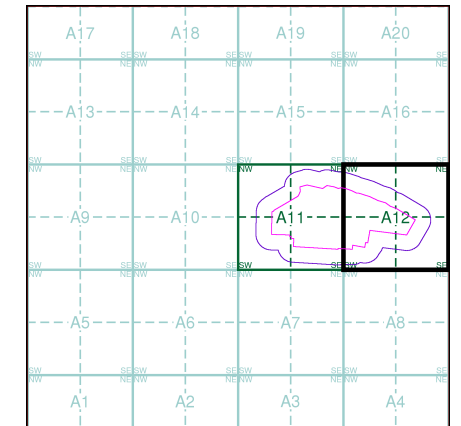
**Potentially Contaminative Industrial Uses
(Extractive Industries Activity)**

	Point	Line	Polygon
Extractive Industries Activity from 1855 - 1909	▲	—	■
Extractive Industries Activity from 1893 - 1915	▲	—	▨
Extractive Industries Activity from 1906 - 1937	▲	—	▨
Extractive Industries Activity from 1924 - 1949	▲	—	▨
Extractive Industries Activity from 1950 - 1980	▲	—	▨

Subterranean Features

	Point	Line	Polygon
Subterranean Features	▼	- - -	■

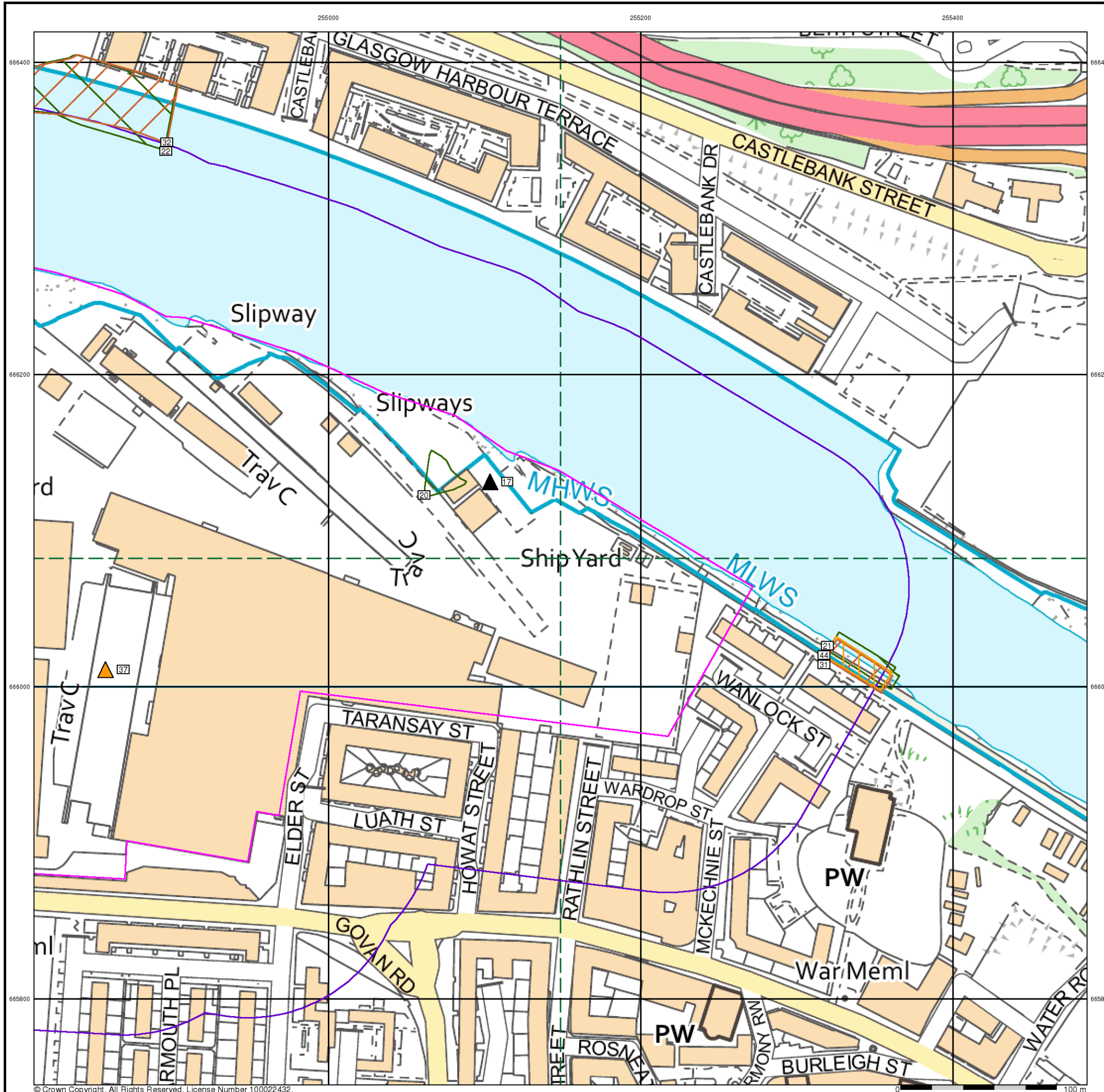
Mining and Ground Stability - Segment A12



Order Details
 Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Plot Buffer (m): 100

Site Details
 Site at 254780, 666140

Landmark
 INFORMATION GROUP
 Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



Envirocheck[®] Report:

Mining and Ground Stability Datasheet

Order Details:

Order Number:

293036501_1_1

Customer Reference:

100107212-001

National Grid Reference:

254510, 666070

Slice:

A

Site Area (Ha):

25.37

Search Buffer (m):

1000

Site Details:

Site at 254780, 666140

Client Details:

Mr C Smith

Mott Macdonald

3rd Floor Caledonian Exchange

19a Canning Street

Edinburgh

EH3 8EG

Report Section and Details	Page Number
Summary	-
<p>The Summary section provides an overview of the data contained within the report, detailing the number of data set features or the existence of a data set in relation to the buffer selected.</p> <p>For ease of reference, the report is broken down into 4 sections of data; Mining and Natural Cavities Data, Historical Land Use Information (1:2,500), Historical Land Use Information (1:10,000) and Ground Stability Data (1:50,000).</p>	
Mining and Natural Cavities Data	1
<p>The Mining and Natural Cavities Data section features data sets related to the existence of mining areas and their potential hazards; and details of naturally formed cavities.</p> <p>Data sets within this section are not plotted, with the exception of BGS Recorded Mineral Sites and Potential Mining Areas which feature on the Historical Land Use Information (1:10,000) map.</p>	
Historical Land Use Information (1:2,500)	4
<p>The Historical Land Use Information (1:2,500) section contains data captured from analysis carried out by Landmark of 1:1,250 and 1:2,500 scale historical Ordnance Survey mapping, identifying areas where, historically, the land uses were potentially contaminative.</p> <p>For the purpose of this Envirocheck module, only historical data relating to mining and ground stability has been included and plotted on the corresponding Historical Land Use Information (1:2,500) map. This section also includes the Subterranean Features data set, which details various man-made and man-used underground spaces obtained from the Subterranea Britannica society.</p>	
Historical Land Use Information (1:10,000)	7
<p>The Historical Land Use (1:10,000) section covers data captured from the systematic analysis carried out by Landmark of 1:10, 560 and 1:10,000 scale historical Ordnance Survey mapping dating back to the mid-19th century, identifying potentially contaminative past industrial land uses.</p> <p>For the purpose of this Envirocheck module, only data relating to mining and ground stability has been included and plotted on the accompanying Historical Land Use Information (1:10,000) map.</p>	
Ground Stability Data (1:50,000)	9
<p>The Ground Stability (1:50,000) section includes the BGS Geosure data suite, reporting features to 250m and plotted onto 3 separate maps. Also reported is brine subsidence, brine mining and salt mining data sets, of which Brine Pumping and Salt Mining Related Features are plotted, and subsidence insurance claims and insurance investigations data, which is not plotted.</p>	
Historical Map List	11
<p>The Historical Map List section details the historical mapping that has been analysed for your site, in relation to the Historical Land Use Information sections.</p>	
Data Currency	13
Data Suppliers	14
Useful Contacts	15

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The brine subsidence data relating to the Driotwich area as provided in this report is derived from JPB studies and physical monitoring undertaken annually over more than 35 years. For more detailed interpretation contact enquiries@jpb.co.uk. JPB retain the copyright and intellectual rights to this data and accept no liability for any loss or damage, including in direct or consequential loss, arising from the use of this data.

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Report Version v53.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
Mining and Natural Cavities Data					
BGS Recorded Mineral Sites	pg 1		3		4
Coal Mining Affected Areas	pg 2	Yes	n/a	n/a	n/a
Man Made Mining Cavities					
Mining Instability	pg 2	Yes	n/a	n/a	n/a
Natural Cavities					
Non Coal Mining Areas of Great Britain	pg 2	Yes	Yes	n/a	n/a
Potential Mining Areas	pg 2		3		6
Historical Land Use Information (1:2,500)					
Extractive Industries or Potential Excavations from 1855-1909 (100m)	pg 4	1		n/a	n/a
Extractive Industries or Potential Excavations from 1893-1915 (100m)	pg 4	3	2	n/a	n/a
Extractive Industries or Potential Excavations from 1906-1937 (100m)	pg 4	1		n/a	n/a
Extractive Industries or Potential Excavations from 1924-1949 (100m)	pg 4	6	3	n/a	n/a
Extractive Industries or Potential Excavations from 1950-1980 (100m)	pg 5	7	6	n/a	n/a
Subterranean Features (100m)				n/a	n/a
Historical Land Use Information (1:10,000)					
Air Shafts					
Disturbed Ground	pg 7				1
General Quarrying					
Heap, unknown constituents	pg 7	1	1		1
Mineral Railway	pg 7				1
Mining & quarrying general	pg 7				1
Mining of coal & lignite					
Quarrying of sand & clay, operation of sand & gravel pits	pg 7		2		1
Former Marshes					
Potentially Infilled Land (Non-Water)	pg 7		2		2
Potentially Infilled Land (Water)	pg 7			1	17
Ground Stability Data (1:50,000)					
CBSCB Compensation District			n/a	n/a	n/a
Brine Pumping Related Features					
Brine Subsidence Solution Area					
Potential for Collapsible Ground Stability Hazards	pg 9	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 9	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 9	Yes	Yes	n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 10	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 10	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 10	Yes	Yes	n/a	n/a
Salt Mining Related Features					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Linthouse Sand Pit Location: Govan, Glasgow, Lanarkshire Source: British Geological Survey, National Geoscience Information Service Reference: 234602 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Superficial Deposits Commodity: Sand Positional Accuracy: Located by supplier to within 10m</p>	A11NW (NW)	108	1	254389 666264
2	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Linthouse Sand Pit Location: Govan, Glasgow, Lanarkshire Source: British Geological Survey, National Geoscience Information Service Reference: 234603 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Superficial Deposits Commodity: Sand Positional Accuracy: Located by supplier to within 10m</p>	A11NW (NW)	146	1	254274 666239
3	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Meadowside Quay Location: Glasgow, Strathclyde Source: British Geological Survey, National Geoscience Information Service Reference: 10858 Type: Wharf Status: Ceased Operator: Riskend Aggregates Ltd. Operator Location: Not Supplied Periodic Type: Not Available Geology: Quarry (Hard Rock) Commodity: Crushed Rock Positional Accuracy: Located by supplier to within 10m</p>	A15SE (N)	243	1	254550 666530
4	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Melville Park Ironstone Pit Location: Drumoyne, Govan, Glasgow, Lanarkshire Source: British Geological Survey, National Geoscience Information Service Reference: 131267 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Lower Garscadden Blackband Ironstone (Glasgow) Commodity: Iron Ore - Ironstone Positional Accuracy: Located by supplier to within 10m</p>	A7SW (S)	683	1	254365 665222
5	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Mid Drumoyne Ironstone Pit Location: Drumoyne, Govan, Glasgow, Lanarkshire Source: British Geological Survey, National Geoscience Information Service Reference: 131268 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Lower Garscadden Blackband Ironstone (Glasgow) Commodity: Iron Ore - Ironstone Positional Accuracy: Located by supplier to within 10m</p>	A7SW (S)	761	1	254305 665155
6	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Drumoyne Ironstone Pit Location: Drumoyne, Govan, Glasgow, Lanarkshire Source: British Geological Survey, National Geoscience Information Service Reference: 131269 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Lower Garscadden Blackband Ironstone (Glasgow) Commodity: Iron Ore - Ironstone Positional Accuracy: Located by supplier to within 10m</p>	A3NW (S)	865	1	254300 665050

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	BGS Recorded Mineral Sites Site Name: Shieldhall Sand Pit Location: Govan, Glasgow, Stirlingshire Source: British Geological Survey, National Geoscience Information Service Reference: 233905 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: River Terrace Deposits (Undifferentiated) Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A9SE (W)	941	1	253410 665988
	Coal Mining Affected Areas Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A11SE (SE)	0	2	254514 666068
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A11SE (SE)	0	3	254514 666068
	Non Coal Mining Areas of Great Britain Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	0	1	255000 666068
	Non Coal Mining Areas of Great Britain Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	0	1	254514 666068
	Non Coal Mining Areas of Great Britain Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A12NW (NE)	104	1	255000 666338
	Non Coal Mining Areas of Great Britain Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A15SE (N)	120	1	254556 666436
8	Potential Mining Areas Name: Drumoyne Ceased Operation: 1876 Commodity: Ironstone; Garibaldi Reference: 475 Alternate No. 1 Name/Mine: Custodian: Not Supplied	A7NE (S)	164	4	254505 665719
9	Potential Mining Areas Name: Drumoyne and Craigton Ceased Operation: Not Supplied Commodity: Ironstone; Blackband; Clayband Reference: Not Supplied Alternate Not Supplied Name/Mine: Custodian: McCreaths and Stevenson, 175 St. Vincent Street, Glasgow.	A7NE (S)	164	4	254505 665719
10	Potential Mining Areas Name: Drumoyne East Ceased Operation: 1860-1866 Commodity: Ironstone Reference: 14707 Alternate Not Supplied Name/Mine: Custodian: Not Supplied	A7NE (S)	166	4	254505 665717
11	Potential Mining Areas Name: Drumoyne Ceased Operation: 1882 Commodity: Coal; Gas; Ironstone; Clayband Reference: 1458 Alternate Nos. 2, 3 Name/Mine: Custodian: Not Supplied	A7SE (S)	573	4	254494 665317

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	Potential Mining Areas Name: Ibrox Ceased Operation: 1882 Commodity: Coal; Gas; Ironstone; Blackband; Clayband Reference: Not Supplied Alternate: Nos. 1, 2, 3 Name/Mine: Custodian: R. and J.M. Hill Brown and Co. 41 West George Street, Glasgow.	A8SW (SE)	582	4	254974 665304
13	Potential Mining Areas Name: Ibrox Ceased Operation: 1863 Commodity: Coal and Ironstone; Blackband Reference: Not Supplied Alternate: Not Supplied Name/Mine: Custodian: John and G.H. Geddes, 21 Young Street, Edinburgh.	A3NE (S)	969	4	254561 664912
14	Potential Mining Areas Name: Craigton Ceased Operation: Not Supplied Commodity: Coal; Probably Gas Reference: Not Supplied Alternate: No. 1 Name/Mine: Custodian: D. and G.R. Rankine, 238 West George Street, Glasgow.	A3NE (S)	969	4	254561 664912
15	Potential Mining Areas Name: Ibrox Ceased Operation: 1832 Commodity: Ironstone; Govan Garibaldi; Govan Blackband Reference: 1483A Alternate: Nos. 1, 2, 3 Name/Mine: Custodian: Not Supplied	A3NE (S)	969	4	254561 664912
16	Potential Mining Areas Name: Ibrox Ceased Operation: 1868 Commodity: Coal; Gas Reference: Not Supplied Alternate: Not Supplied Name/Mine: Custodian: Simpson and Rankin, 175 Hope Street, Glasgow.	A4NW (S)	980	4	254964 664902

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
17	Extractive Industries or Potential Excavations from 1855-1909 Use: Gasometer First Map Published 1860 Date: Last Map Published Not Applicable Date:	A12NW (E)	0	-	255103 666129
18	Extractive Industries or Potential Excavations from 1893-1915 Use: Basin First Map Published 1896 Date: Last Map Published 1896 Date:	A11NE (E)	0	-	254592 666091
19	Extractive Industries or Potential Excavations from 1893-1915 Use: Gasometer First Map Published 1896 Date: Last Map Published Not Applicable Date:	A11SE (SE)	0	-	254622 665931
20	Extractive Industries or Potential Excavations from 1893-1915 Use: Unspecified Deposited Material First Map Published 1896 Date: Last Map Published Not Applicable Date:	A12NW (E)	0	-	255061 666123
21	Extractive Industries or Potential Excavations from 1893-1915 Use: Govan Wharf First Map Published 1896 Date: Last Map Published Not Applicable Date:	A12SE (E)	62	-	255320 666023
22	Extractive Industries or Potential Excavations from 1893-1915 Use: Timber Pond First Map Published 1896 Date: Last Map Published Not Applicable Date:	A11NE (NE)	96	-	254795 666371
23	Extractive Industries or Potential Excavations from 1906-1937 Use: Unspecified Deposited Material First Map Published 1913 Date: Last Map Published Not Applicable Date:	A11SW (SW)	0	-	254412 666000
24	Extractive Industries or Potential Excavations from 1924-1949 Use: Unspecified Deposited Material First Map Published 1932 Date: Last Map Published 1933 Date:	A11NW (W)	0	-	254407 666102
25	Extractive Industries or Potential Excavations from 1924-1949 Use: Wharf First Map Published 1933 Date: Last Map Published Not Applicable Date:	A11NE (E)	0	-	254593 666084
26	Extractive Industries or Potential Excavations from 1924-1949 Use: Wharf First Map Published 1932 Date: Last Map Published 1933 Date:	A11SE (E)	0	-	254667 666054
27	Extractive Industries or Potential Excavations from 1924-1949 Use: Basin First Map Published 1932 Date: Last Map Published 1933 Date:	A11SE (E)	0	-	254587 666061

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
28	Extractive Industries or Potential Excavations from 1924-1949 Use: Wharf First Map Published 1932 Date: Last Map Published Not Applicable Date:	A11NE (NE)	0	-	254671 666201
29	Extractive Industries or Potential Excavations from 1924-1949 Use: Wharf First Map Published 1932 Date: Last Map Published Not Applicable Date:	A11NE (NE)	0	-	254604 666220
30	Extractive Industries or Potential Excavations from 1924-1949 Use: Unspecified Pits First Map Published 1933 Date: Last Map Published Not Applicable Date:	A11NW (W)	37	-	254315 666105
31	Extractive Industries or Potential Excavations from 1924-1949 Use: Govan Wharf First Map Published 1933 Date: Last Map Published Not Applicable Date:	A12SE (E)	63	-	255318 666019
32	Extractive Industries or Potential Excavations from 1924-1949 Use: Timber Pond First Map Published 1932 Date: Last Map Published Not Applicable Date:	A11NE (NE)	98	-	254797 666376
33	Extractive Industries or Potential Excavations from 1950-1980 Use: Refuse Heap First Map Published 1949 Date: Last Map Published N/A Date:	A11SW (W)	0	-	254403 666060
34	Extractive Industries or Potential Excavations from 1950-1980 Use: Basin First Map Published 1949 Date: Last Map Published N/A Date:	A11SE (E)	0	-	254586 666063
35	Extractive Industries or Potential Excavations from 1950-1980 Use: Wharf First Map Published 1949 Date: Last Map Published N/A Date:	A11NE (NE)	0	-	254600 666227
36	Extractive Industries or Potential Excavations from 1950-1980 Use: Wharf First Map Published 1949 Date: Last Map Published N/A Date:	A11SE (E)	0	-	254662 666037
37	Extractive Industries or Potential Excavations from 1950-1980 Use: Gasholder First Map Published 1949 Date: Last Map Published N/A Date:	A12SW (E)	0	-	254857 666009
38	Extractive Industries or Potential Excavations from 1950-1980 Use: Wharf First Map Published 1949 Date: Last Map Published N/A Date:	A11SE (E)	0	-	254588 666049

Historical Land Use Information (1:2,500)

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
39	Extractive Industries or Potential Excavations from 1950-1980 Use: Wharf First Map Published 1949 Date: Last Map Published N/A Date:	A11NE (NE)	0	-	254673 666205
40	Extractive Industries or Potential Excavations from 1950-1980 Use: Refuse Heap First Map Published 1949 Date: Last Map Published 1949 Date:	A11NE (N)	11	-	254478 666205
41	Extractive Industries or Potential Excavations from 1950-1980 Use: Pond First Map Published 1948 Date: Last Map Published N/A Date:	A11SE (S)	35	-	254548 665852
42	Extractive Industries or Potential Excavations from 1950-1980 Use: Refuse Heap First Map Published 1948 Date: Last Map Published 1949 Date:	A11SW (W)	38	-	254312 666056
43	Extractive Industries or Potential Excavations from 1950-1980 Use: Unspecified Deposited Material First Map Published 1949 Date: Last Map Published N/A Date:	A11NW (W)	47	-	254312 666138
44	Extractive Industries or Potential Excavations from 1950-1980 Use: Govan Wharf First Map Published 1950 Date: Last Map Published N/A Date:	A12SE (E)	62	-	255317 666020
45	Extractive Industries or Potential Excavations from 1950-1980 Use: Paddling Pond First Map Published 1948 Date: Last Map Published N/A Date:	A11SW (SW)	87	-	254410 665857

Historical Land Use Information (1:10,000)

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
46	Disturbed Ground Use: Not Supplied Date of Mapping: 1956	A8SE (SE)	750	-	255482 665267
47	Heap, unknown constituents Use: Not Supplied Date of Mapping: 1914 - 1932	A11NW (W)	0	-	254395 666085
48	Heap, unknown constituents Use: Not Supplied Date of Mapping: 1932 - 1956	A11SW (W)	40	-	254311 666064
49	Heap, unknown constituents Use: Not Supplied Date of Mapping: 1897	A3NW (S)	914	-	254443 664981
50	Mineral Railway Use: Not Supplied Date of Mapping: 1897	A3NW (S)	887	-	254416 665009
51	Mining & quarrying general Use: Not Supplied Date of Mapping: 1914 - 1956	A10NW (W)	816	-	253538 666163
52	Quarrying of sand & clay, operation of sand & gravel pits Use: Not Supplied Date of Mapping: 1914	A11NW (NW)	107	-	254391 666264
53	Quarrying of sand & clay, operation of sand & gravel pits Use: Not Supplied Date of Mapping: 1932	A11NW (NW)	137	-	254239 666193
54	Quarrying of sand & clay, operation of sand & gravel pits Use: Not Supplied Date of Mapping: 1914	A10NW (W)	854	-	253499 666091
55	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1989	A11NW (NW)	107	-	254391 666264
56	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1989	A11NW (NW)	137	-	254239 666193
57	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1979	A7SW (S)	747	-	254471 665147
58	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1989	A10NW (W)	854	-	253499 666091
59	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A7NE (S)	463	-	254606 665423
60	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1897	A7SE (S)	526	-	254610 665360
61	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1897	A7SE (S)	613	-	254587 665274
62	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A7SE (S)	637	-	254581 665250
63	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A7SE (S)	679	-	254796 665197
64	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1924	A6SE (SW)	710	-	254035 665335
65	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A8SW (S)	787	-	254912 665091
66	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1934	A6SE (SW)	824	-	254039 665204

Historical Land Use Information (1:10,000)

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
67	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A6SE (SW)	825	-	254009 665221
68	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1932	A19SW (N)	834	-	254410 667105
69	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1924	A6NW (W)	843	-	253540 665741
70	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1924	A6SE (SW)	876	-	254001 665168
71	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1898	A9SE (W)	924	-	253430 665897
72	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A3NE (S)	933	-	254515 664958
73	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A19SW (N)	942	-	254395 667212
74	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A19SW (N)	962	-	254349 667223
75	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1924	A9SE (W)	963	-	253391 665898
76	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1924	A6SW (SW)	999	-	253624 665286

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	CBSCB Compensation District The site does not fall within the brine compensation area.				
	Brine Subsidence Solution Area The site does not fall within the brine subsidence solution area.				
77	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	0	1	254514 666068
78	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	0	1	255000 666068
79	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12SW (SE)	75	1	255000 665834
80	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12NW (NE)	102	1	255000 666340
81	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A15SE (N)	124	1	254560 666438
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	0	1	254548 665902
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	0	1	255000 665871
82	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	0	1	254514 666068
83	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	0	1	255000 666068
84	Potential for Compressible Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	0	1	254502 665984
85	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	0	1	254548 665902
86	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	0	1	255000 665871
87	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12NW (NE)	102	1	255000 666340
88	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A15SE (N)	124	1	254560 666438
89	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12SE (E)	142	1	255374 665932
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	25	1	254640 665835
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A12SW (SE)	75	1	255000 665834
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	0	1	254514 666068
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	0	1	255000 666068

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A12NW (NE)	102	1	255000 666340
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A15SE (N)	124	1	254560 666438
90	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	0	1	255000 666068
91	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	0	1	254514 666068
92	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12NW (NE)	102	1	255000 666340
93	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A15SE (N)	124	1	254560 666438
94	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	0	1	254514 666068
95	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	0	1	255000 666068
96	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	0	1	254502 665984
97	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	0	1	255000 665871
98	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12SW (SE)	75	1	255000 665834
99	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12NW (NE)	102	1	255000 666340
100	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A15SE (N)	124	1	254560 666438
101	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12SE (E)	142	1	255374 665932
102	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	0	1	254514 666068
103	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	0	1	255000 666068
104	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A12NW (NE)	102	1	255000 666340
105	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A15SE (N)	124	1	254560 666438
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (S)	0	1	254511 665985
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	25	1	254640 665835
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A12SW (SE)	75	1	255000 665834

The following mapping has been analysed for Historical Land Use Information (1:2,500):








1:2,500	Mapsheet	Published Date
Lanarkshire	005_12	1858
Lanarkshire	005_08	1860
Lanarkshire	006_05	1860
Lanarkshire	006_05	1860
Lanarkshire	006_09	1861
Lanarkshire	006_09	1861
Renfrewshire	009_09	1893
Renfrewshire	009_09	1893
Lanarkshire	005_08	1895
Lanarkshire	005_12	1895
Lanarkshire	006_05	1896
Lanarkshire	006_05	1896
Lanarkshire	006_09	1896
Lanarkshire	006_09	1896
Lanarkshire	005_08	1913
Lanarkshire	005_12	1913
Lanarkshire	006_09	1913
Lanarkshire	006_09	1913
Lanarkshire	006_05	1932
Lanarkshire	006_05	1932
Lanarkshire	006_09	1933
Lanarkshire	006_09	1933
Lanarkshire	005_08	1934
Lanarkshire	005_12	1934

The following mapping has been analysed for Historical Land Use Information (1:10,000):

1:10,560	Mapsheet	Published Date
Renfrewshire	013_00	1863
Lanarkshire	005_00	1864
Renfrewshire	008_00	1864
Renfrewshire	009_00	1864
Renfrewshire	012_00	1864
Dumbartonshire	028_00	1864
Lanarkshire	006_00	1865
Lanarkshire	006_NW	1897
Lanarkshire	006_SW	1897
Lanarkshire	005_SE	1898
Renfrewshire	012_NE	1898
Renfrewshire	008_SE	1899
Renfrewshire	009_SW	1899
Renfrewshire	013_NW	1899
Lanarkshire	006_NW	1914
Lanarkshire	006_SW	1914
Renfrewshire	008_SE	1914
Lanarkshire	005_NE	1915
Renfrewshire	012_NE	1916
Renfrewshire	009_SW	1920
Renfrewshire	013_NW	1920
Dumbartonshire	025_00	1924
Lanarkshire	006_NW	1932
Lanarkshire	005_SE	1934
Dumbartonshire	025_NE	1934
Lanarkshire	006_SW	1938
Renfrewshire	012_NE	1938
Renfrewshire	008_SE	1939
Ordnance Survey Plan	NS56NE	1956
Ordnance Survey Plan	NS56NW	1956
Ordnance Survey Plan	NS56SE	1956
Ordnance Survey Plan	NS56SW	1956
1:10,000	Mapsheet	Published Date
Ordnance Survey Plan	NS56SW	1979
Ordnance Survey Plan	NS56NW	1989
Ordnance Survey Plan	NS56SE	1989
Ordnance Survey Plan	NS56NE	1994

Mining and Cavities Data	Version	Update Cycle
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2021	Bi-Annually
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Man Made Mining Cavities Stantec UK Ltd	December 2021	Bi-Annually
Mining Instability Ove Arup & Partners	June 1998	Not Applicable
Natural Cavities Stantec UK Ltd	December 2021	Bi-Annually
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Historical Land Use Information (1:2,500)	Version	Update Cycle
Subterranean Features Landmark Information Group Limited	February 2020	Bi-Annually
Ground Stability Data (1:50,000)	Version	Update Cycle
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB) Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011 November 2020	As notified
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	As notified
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Brine Subsidence Solution Area Johnson Poole & Bloomer	December 2020	Annual Rolling Update

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
British Geological Survey	 British Geological Survey <small>NATURAL ENVIRONMENT RESEARCH COUNCIL</small>
The Coal Authority	
Ove Arup	
Stantec UK Ltd	
Wardell Armstrong	
Johnson Poole & Bloomer	

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	The Coal Authority - Property Searches 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
3	Ove Arup & Partners Central Square, Forth Street, Newcastle upon Tyne, Tyne and Wear, NE1 3PL	Telephone: 0191 261 6080 Fax: 0191 261 7879
4	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9960 Fax: 0844 844 9951 Email: customerservice@promap.co.uk Website: www.landmarkinfo.co.uk
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

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Historical Land Use Information (1:10,000)

General
 Specified Site Specified Buffer(s) Bearing Reference Point Map ID
 Several of Type at Location

Potentially Contaminative Industrial Uses (Past Land Uses - Mining)

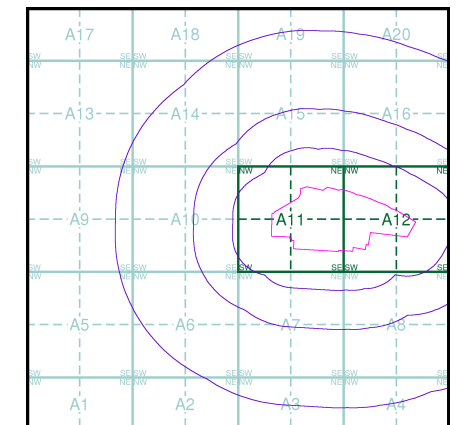
	Point	Line	Polygon
Air Shafts			
Disturbed Ground			
General Quarrying			
Heap, unknown constituents			
Mineral Railway			
Mining and Quarrying General			
Mining of Coal & Lignite			
Quarrying of Sand and Clay, Operation of Sand and Gravel Pits			

	Point	Line	Polygon
Potentially Infilled Land (Non-Water)			
Potentially Infilled Land (Water)			
Former Marsh			

Mining Data

- Potential Mining Area
- BGS Recorded Mineral Site

Mining and Ground Stability - Slice A

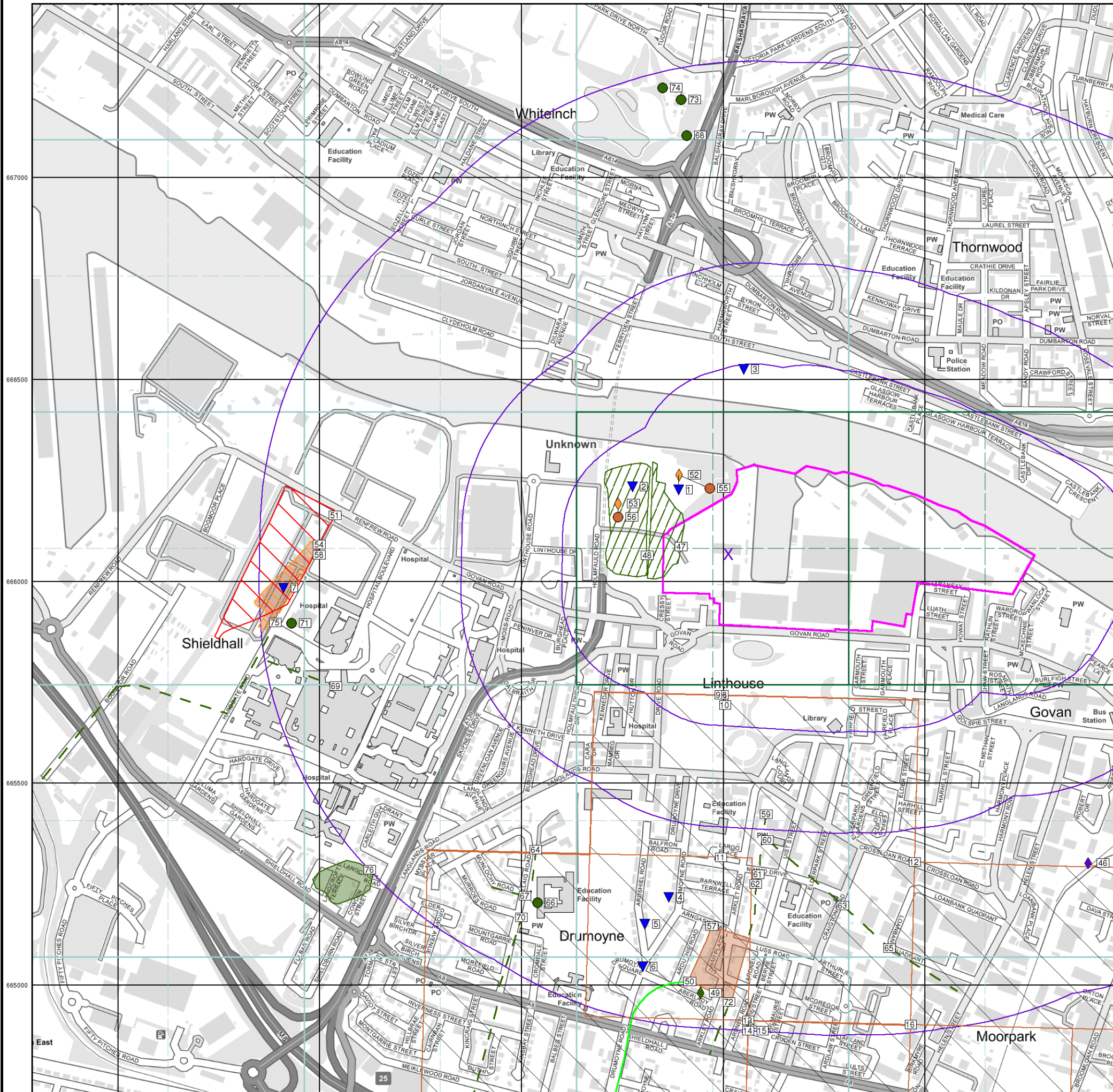


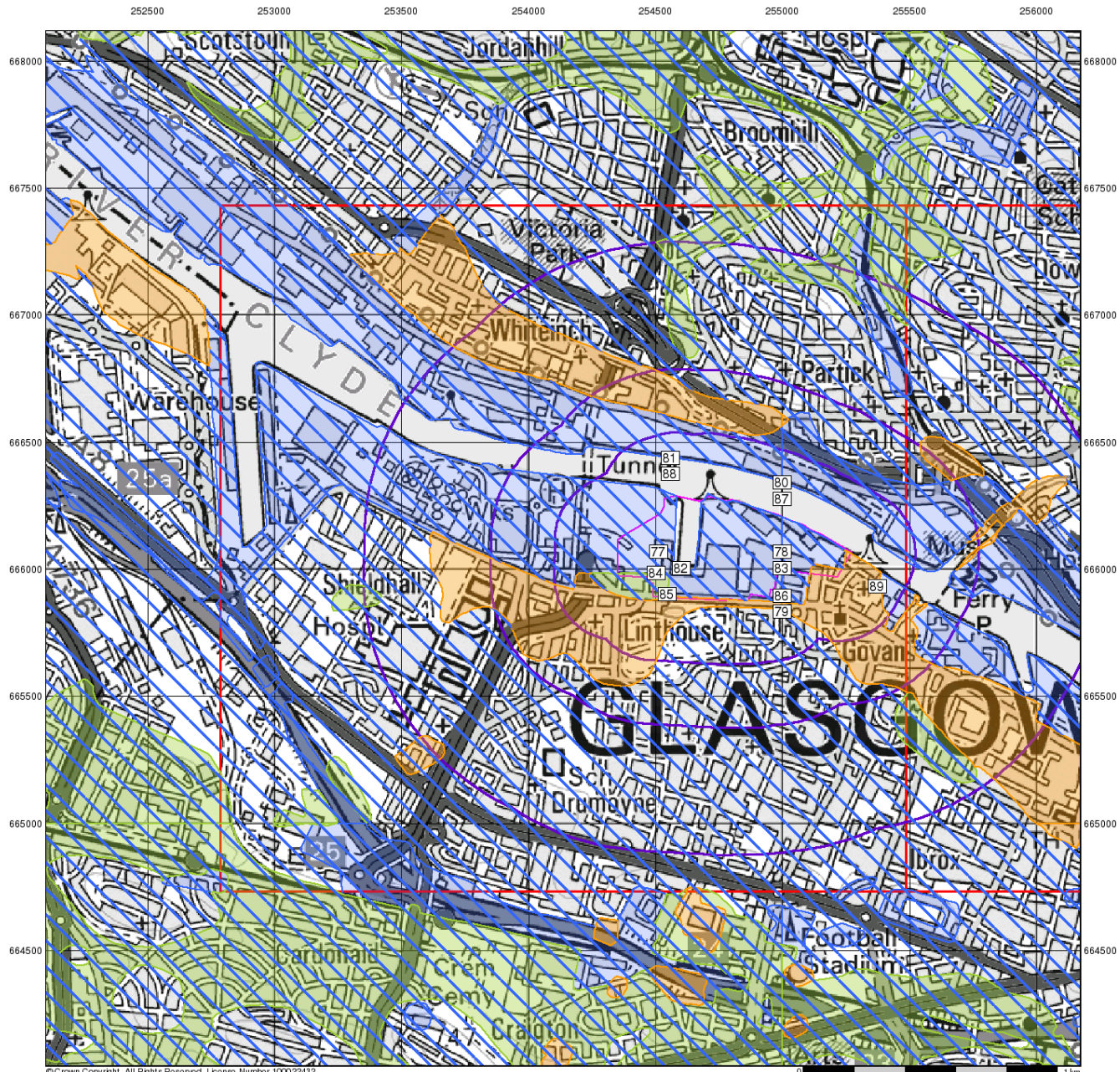
Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

Site at 254780, 666140





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Ground Stability Data (1:50,000)

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Potential for Compressible Ground Stability Hazards

- High
- Moderate
- Low
- Very Low

Potential for Collapsible Ground Stability Hazards

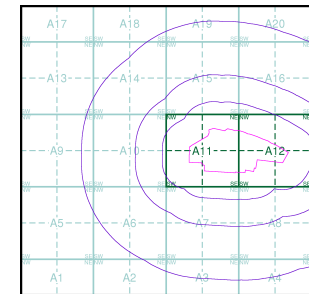
- High
- Moderate
- Low
- Very Low

Brine Pumping and Salt Mining

- Brine Pumping Related Feature
- Salt Mining Related Feature

- Point Polygon**
- -

Mining and Ground Stability - Slice A



Order Details

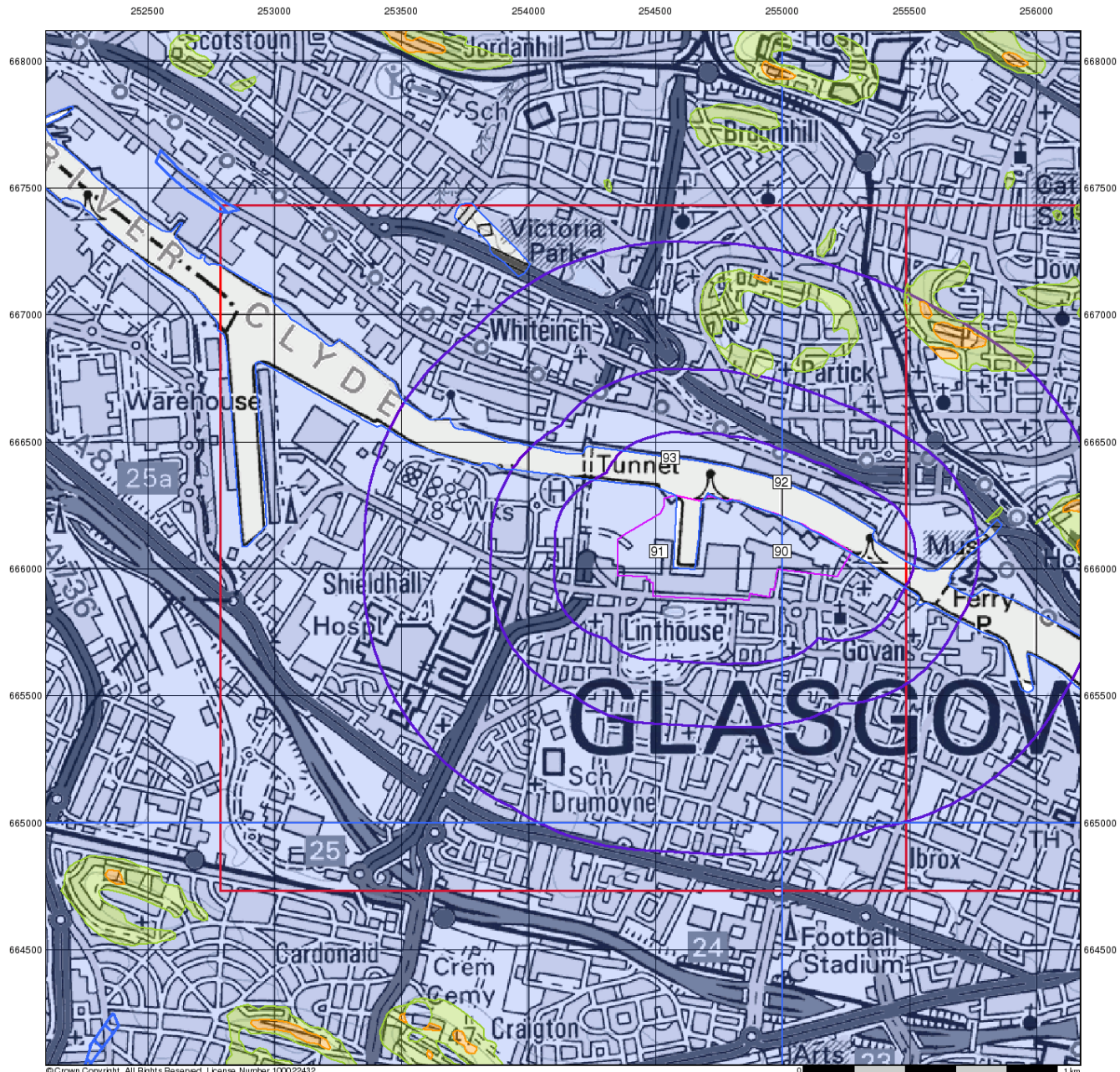
Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

Site at 254780, 666140

Landmark
 INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk








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Ground Stability Data (1:50,000)





General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point
-  Slice
-  Map ID

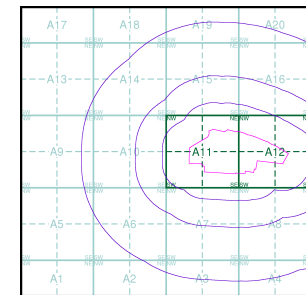
Potential for Landslide Ground Stability Hazards

-  High
-  Low
-  Moderate
-  Very Low

Potential for Ground Dissolution Stability Hazards

-  High
-  Low
-  Moderate
-  Very Low

Mining and Ground Stability - Slice A



Order Details

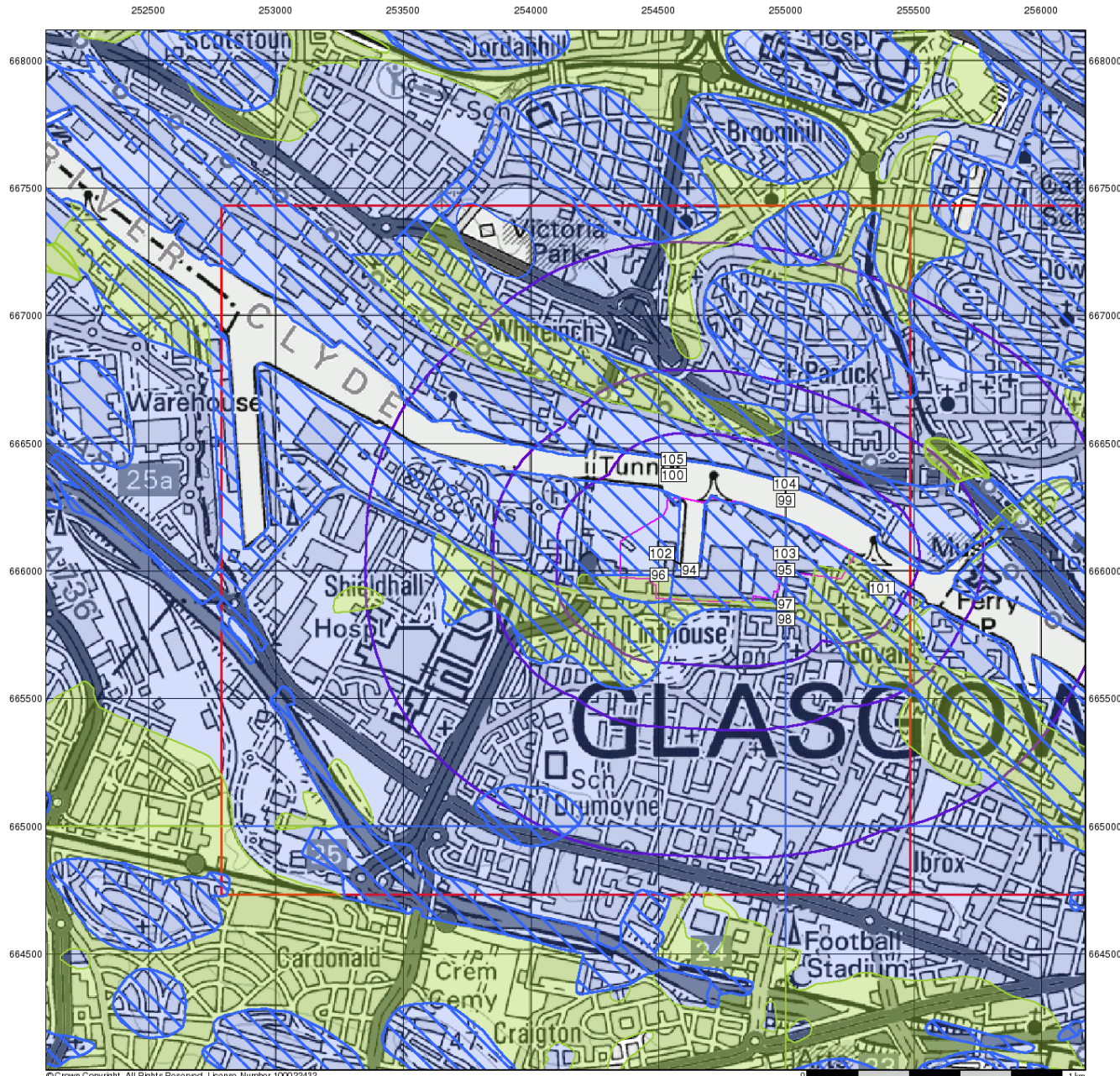
Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

Site at 254780, 666140

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Ground Stability Data (1:50,000)

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

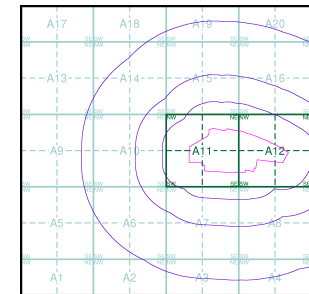
Potential for Running Sand Ground Stability Hazards

- High
- Low
- Moderate
- Very Low

Potential for Shrinking or Swelling Clay Ground Stability Hazards

- High
- Low
- Moderate
- Very Low

Mining and Ground Stability - Slice A



Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

Site at 254780, 666140

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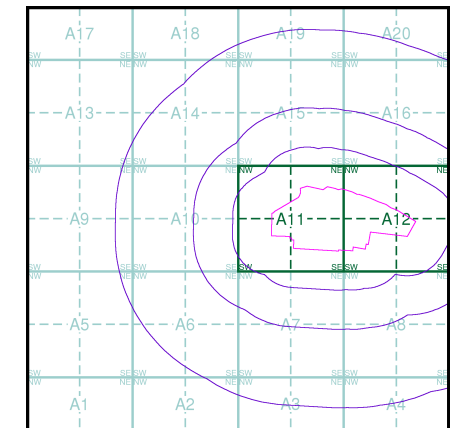
Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

M M

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- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location
- Historical Building Plans**
- Area Cleared due to Enemy Action
- Historical Land Use**
- Former Marsh
 - Historical Flood Liability
 - Historical Flood Liability (Location)
 - Potentially Contaminative Industrial Use (Past Land Use)
 - Potentially Contaminative Industrial Use (Past Land Use) (Linear)
 - Potentially Contaminative Industrial Use (Past Land Use) (Location)
 - Potentially Infilled Land (Non-Water)
 - Potentially Infilled Land (Non-Water) (Linear)
 - Potentially Infilled Land (Non-Water) (Location)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water) (Linear)
 - Potentially Infilled Land (Water) (Location)

Historical Data Report - Slice Map A

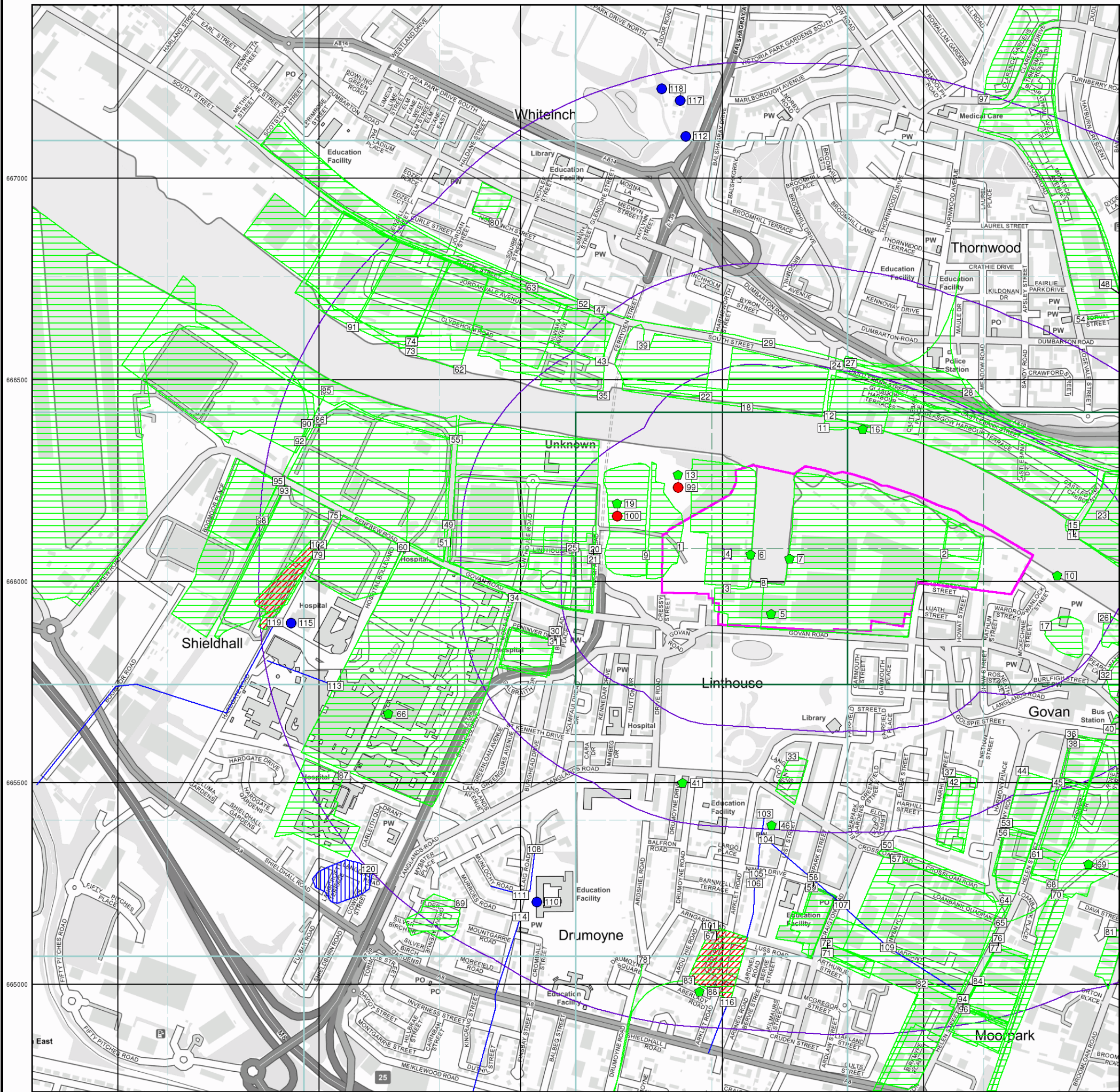


Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

Site at 254780, 666140



Envirocheck® Report: Historical Data Report Datasheet

Order Details:

Order Number:

293036501_1_1

Customer Reference:

100107212-001

National Grid Reference:

254510, 666070

Slice:

A

Site Area (Ha):

25.37

Search Buffer (m):

1000

Site Details:

Site at 254780, 666140

Client Details:

Mr C Smith
Mott Macdonald
3rd Floor Caledonian Exchange
19a Canning Street
Edinburgh
EH3 8EG

Report Section	Page Number
Summary	-
Historical Building Plans Information	-
Historical Land Use Information	1
Historical Tanks and Energy Facilities	7
Historical Map List	8
Useful Contacts and Further Information	11

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination. For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.

In the attached datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Report Version v53.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
Historical Building Plans Information					
Areas Cleared Due To Enemy Action					
Above Ground Fuel Tanks (100m)				n/a	n/a
Asbestos (100m)				n/a	n/a
Benzene/Benzole/Naphtha, Naphthalene/Kerosene (100m)				n/a	n/a
Electricity Generation (100m)				n/a	n/a
Electricity Sub-Station (100m)				n/a	n/a
Gas Industry (100m)				n/a	n/a
Gas Storage (100m)				n/a	n/a
Gas Use (100m)				n/a	n/a
Oil Industry (100m)				n/a	n/a
Oil Storage (100m)				n/a	n/a
Oil Use (100m)				n/a	n/a
Paint based Oils (100m)				n/a	n/a
Paraffin (100m)				n/a	n/a
Petrol and Diesel Industry (100m)				n/a	n/a
Petrol and Diesel Storage (100m)				n/a	n/a
Petrol and Diesel Use (100m)				n/a	n/a
Potential Fuel Gas (100m)				n/a	n/a
Potential Fuel Oil (100m)				n/a	n/a
Potential Fuel Use (100m)				n/a	n/a
Potential Petrol and Diesel (100m)				n/a	n/a
Potential Tanks (100m)				n/a	n/a
Potentially Fuel-related Tanks (100m)				n/a	n/a
Underground Fuel Tanks (100m)				n/a	n/a
Historical Land Use Information					
Former Marshes					
Historical Flood Liabilities					
Potentially Contaminative Industrial Uses (Past Land Use)	pg 1	8	18	20	52
Potentially Infilled Land (Non-Water)	pg 5		2		2
Potentially Infilled Land (Water)	pg 5			1	17

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
Historical Tanks and Energy Facilities					
Electrical Sub Station Facilities (100m)	pg 7		3	n/a	n/a
Electricity Industry Facilities (100m)				n/a	n/a
Gas Industry Facilities (100m)	pg 7	2		n/a	n/a
Gas Monitoring Facilities (100m)				n/a	n/a
Miscellaneous Power Facilities (100m)				n/a	n/a
Oil Industry Facilities (100m)				n/a	n/a
Petroleum Storage Facilities (100m)				n/a	n/a
Potential Tanks (100m)				n/a	n/a
Tanks (100m)	pg 7	11		n/a	n/a

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	Potentially Contaminative Industrial Uses (Past Land Use) Use: Heap, unknown constituents Date of Mapping: 1914 - 1932	A11NW (W)	0	1	254395 666085
2	Potentially Contaminative Industrial Uses (Past Land Use) Use: Natural and man-made textile manufacture and products Date of Mapping: 1865 - 1897	A12SW (E)	0	1	255050 666068
3	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport manufacturing and repair Date of Mapping: 1914 - 1989	A11SE (S)	0	1	254512 665982
4	Potentially Contaminative Industrial Uses (Past Land Use) Use: Sawmilling, planing & impregnation [i.e. treatment of timber] Date of Mapping: 1914	A11SE (SE)	0	1	254514 666068
5	Potentially Contaminative Industrial Uses (Past Land Use) Use: Oil, petroleum & gas refining & storage Date of Mapping: 1897	A11SE (SE)	0	1	254621 665918
6	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport support & cargo handling Date of Mapping: 1914 - 1938	A11SE (E)	0	1	254570 666066
7	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport support & cargo handling Date of Mapping: 1914 - 1938	A11SE (E)	0	1	254667 666056
8	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1897	A11SE (SE)	0	1	254604 665996
9	Potentially Contaminative Industrial Uses (Past Land Use) Use: Heap, unknown constituents Date of Mapping: 1932 - 1956	A11SW (W)	40	1	254311 666064
10	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport support & cargo handling Date of Mapping: 1914 - 1994	A12SE (E)	77	1	255331 666013
11	Potentially Contaminative Industrial Uses (Past Land Use) Use: Sawmilling, planing & impregnation [i.e. treatment of timber] Date of Mapping: 1865 - 1932	A11NE (NE)	101	1	254751 666381
12	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport support & cargo handling Date of Mapping: 1914 - 1989	A11NE (NE)	103	1	254767 666411
13	Potentially Contaminative Industrial Uses (Past Land Use) Use: Quarrying of sand & clay, operation of sand & gravel pits Date of Mapping: 1914	A11NW (NW)	107	1	254391 666264
14	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport manufacturing and repair Date of Mapping: 1865 - 1932	A12NE (E)	111	1	255371 666114
15	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport support & cargo handling Date of Mapping: 1956	A12NE (E)	113	1	255372 666115
16	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport support & cargo handling Date of Mapping: 1897 - 1932	A12NW (NE)	115	1	254849 666377
17	Potentially Contaminative Industrial Uses (Past Land Use) Use: Cemetery or Graveyard Date of Mapping: 1865 - 1914	A12SE (E)	115	1	255301 665889
18	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport support & cargo handling Date of Mapping: 1914 - 1989	A15SE (N)	126	1	254562 666431
19	Potentially Contaminative Industrial Uses (Past Land Use) Use: Quarrying of sand & clay, operation of sand & gravel pits Date of Mapping: 1932	A11NW (NW)	137	1	254239 666193
20	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport manufacturing and repair Date of Mapping: 1899 - 1956	A11SW (W)	167	1	254185 666079
21	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1989	A11SW (W)	171	1	254181 666079

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
22	Potentially Contaminative Industrial Uses (Past Land Use) Use: Sawmilling, planing & impregnation [i.e. treatment of timber] Date of Mapping: 1914 - 1956	A15SW (N)	198	1	254458 666458
23	Potentially Contaminative Industrial Uses (Past Land Use) Use: Road haulage Date of Mapping: 1994	A12NE (E)	199	1	255443 666164
24	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1914 - 1956	A15SE (NE)	222	1	254798 666536
25	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1898	A10NE (W)	223	1	254128 666084
26	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport manufacturing and repair Date of Mapping: 1914	A12SE (E)	227	1	255448 665910
27	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1914 - 1956	A16SW (NE)	252	1	254817 666542
28	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1914 - 1956	A16SW (NE)	254	1	255112 666469
29	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1914 - 1956	A15SE (N)	271	1	254615 666592
30	Potentially Contaminative Industrial Uses (Past Land Use) Use: Sawmilling, planing & impregnation [i.e. treatment of timber] Date of Mapping: 1934	A10SE (SW)	291	1	254086 665852
31	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1956	A10SE (SW)	294	1	254083 665851
32	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport manufacturing and repair Date of Mapping: 1897 - 1956	A12SE (E)	307	1	255451 665768
33	Potentially Contaminative Industrial Uses (Past Land Use) Use: Sawmilling, planing & impregnation [i.e. treatment of timber] Date of Mapping: 1897 - 1914	A7NE (S)	315	1	254674 665565
34	Potentially Contaminative Industrial Uses (Past Land Use) Use: Hospitals Date of Mapping: 1898 - 1989	A10SE (W)	366	1	253985 665959
35	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport manufacturing and repair Date of Mapping: 1864 - 1956	A15SW (NW)	370	1	254204 666460
36	Potentially Contaminative Industrial Uses (Past Land Use) Use: Heavy product manufacture - rolling and drawing of iron, steel and ferroalloys Date of Mapping: 1897 - 1938	A8NE (SE)	378	1	255366 665622
37	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1956	A8NW (SE)	380	1	255064 665526
38	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1956	A8NE (SE)	384	1	255371 665616
39	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1956	A15SW (N)	386	1	254304 666585
40	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1897 - 1994	A8NE (SE)	398	1	255461 665633
41	Potentially Contaminative Industrial Uses (Past Land Use) Use: Hospitals Date of Mapping: 1914 - 1989	A7NW (S)	404	1	254401 665499
42	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1897 - 1914	A8NW (SE)	407	1	255074 665502

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
43	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1989	A15SW (NW)	429	1	254200 666545
44	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1956 - 1994	A8NE (SE)	439	1	255243 665530
45	Potentially Contaminative Industrial Uses (Past Land Use) Use: Machinery: engines, building and general industrial [manufacture] Date of Mapping: 1914 - 1938	A8NE (SE)	479	1	255334 665500
46	Potentially Contaminative Industrial Uses (Past Land Use) Use: Tableware & other ceramics [manufacture] Date of Mapping: 1897	A7SE (S)	492	1	254622 665393
47	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1915 - 1956	A15SW (NW)	521	1	254198 666674
48	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1897 - 1994	(NE)	531	1	255533 666583
49	Potentially Contaminative Industrial Uses (Past Land Use) Use: Sewage Date of Mapping: 1915 - 1989	A10NE (W)	533	1	253821 666141
50	Potentially Contaminative Industrial Uses (Past Land Use) Use: Metal casting/foundries Date of Mapping: 1938 - 1956	A8SW (SE)	534	1	254909 665345
51	Potentially Contaminative Industrial Uses (Past Land Use) Use: Animal slaughtering & basic processing of meat [other than poultry] Date of Mapping: 1899	A10NE (W)	542	1	253810 666097
52	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1915 - 1956	A15SW (NW)	561	1	254155 666689
53	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1956 - 1994	A8SE (SE)	563	1	255204 665387
54	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1897 - 1994	A16SE (NE)	566	1	255389 666650
55	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport support & cargo handling Date of Mapping: 1915 - 1989	A10NE (NW)	566	1	253839 666352
56	Potentially Contaminative Industrial Uses (Past Land Use) Use: Machinery: engines, building and general industrial [manufacture] Date of Mapping: 1914	A8SE (SE)	570	1	255197 665376
57	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1979	A8SW (SE)	570	1	254932 665311
58	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1989	A7SE (S)	636	1	254727 665242
59	Potentially Contaminative Industrial Uses (Past Land Use) Use: Food processing - major Date of Mapping: 1938 - 1956	A7SE (S)	638	1	254722 665240
60	Potentially Contaminative Industrial Uses (Past Land Use) Use: Sawmilling, planing & impregnation [i.e. treatment of timber] Date of Mapping: 1914 - 1956	A10NW (W)	643	1	253709 666085
61	Potentially Contaminative Industrial Uses (Past Land Use) Use: Machinery: engines, building and general industrial [manufacture] Date of Mapping: 1897 - 1914	A8SE (SE)	649	1	255281 665322
62	Potentially Contaminative Industrial Uses (Past Land Use) Use: Metal casting/foundries Date of Mapping: 1899 - 1915	A14SE (NW)	650	1	253849 666526
63	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1899	A14SE (NW)	679	1	254028 666729

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
64	Potentially Contaminative Industrial Uses (Past Land Use) Use: Metal casting/foundries Date of Mapping: 1914	A8SE (SE)	726	1	255202 665208
65	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1938 - 1956	A8SE (SE)	735	1	255192 665152
66	Potentially Contaminative Industrial Uses (Past Land Use) Use: Laundries & dry cleaning Date of Mapping: 1934	A6NW (SW)	743	1	253671 665671
67	Potentially Contaminative Industrial Uses (Past Land Use) Use: Clay bricks & tiles [manufacture] Date of Mapping: 1897	A7SW (S)	747	1	254471 665147
68	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1897 - 1956	A8SE (SE)	748	1	255319 665227
69	Potentially Contaminative Industrial Uses (Past Land Use) Use: Disturbed Ground Date of Mapping: 1956	A8SE (SE)	750	1	255482 665267
70	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1897 - 1989	A8SE (SE)	755	1	255331 665223
71	Potentially Contaminative Industrial Uses (Past Land Use) Use: Machinery: engines, building and general industrial [manufacture] Date of Mapping: 1956	A7SE (S)	773	1	254761 665103
72	Potentially Contaminative Industrial Uses (Past Land Use) Use: Food processing - major Date of Mapping: 1897 - 1914	A7SE (S)	773	1	254759 665103
73	Potentially Contaminative Industrial Uses (Past Land Use) Use: Machinery: engines, building and general industrial [manufacture] Date of Mapping: 1899 - 1914	A14SW (NW)	779	1	253728 666581
74	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1939	A14SW (NW)	787	1	253729 666595
75	Potentially Contaminative Industrial Uses (Past Land Use) Use: Mining & quarrying general Date of Mapping: 1914 - 1956	A10NW (W)	816	1	253538 666163
76	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1989	A8SE (SE)	824	1	255186 665099
77	Potentially Contaminative Industrial Uses (Past Land Use) Use: Machinery: engines, building and general industrial [manufacture] Date of Mapping: 1938 - 1956	A8SE (SE)	831	1	255178 665090
78	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1914	A3NW (S)	853	1	254305 665061
79	Potentially Contaminative Industrial Uses (Past Land Use) Use: Quarrying of sand & clay, operation of sand & gravel pits Date of Mapping: 1914	A10NW (W)	854	1	253499 666091
80	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1899	A14NE (NW)	858	1	253936 666891
81	Potentially Contaminative Industrial Uses (Past Land Use) Use: Sawmilling, planing & impregnation [i.e. treatment of timber] Date of Mapping: 1914	A8SE (SE)	873	1	255463 665129
82	Potentially Contaminative Industrial Uses (Past Land Use) Use: Natural and man-made textile manufacture and products Date of Mapping: 1897 - 1956	A4NW (SE)	885	1	254995 665001
83	Potentially Contaminative Industrial Uses (Past Land Use) Use: Mineral railway Date of Mapping: 1897	A3NW (S)	887	1	254416 665009
84	Potentially Contaminative Industrial Uses (Past Land Use) Use: Metal casting/foundries Date of Mapping: 1914	A4NW (SE)	900	1	255136 665008

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
85	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1899	A14SW (W)	906	1	253521 666473
86	Potentially Contaminative Industrial Uses (Past Land Use) Use: Sawmilling, planing & impregnation [i.e. treatment of timber] Date of Mapping: 1915 - 1956	A10NW (W)	909	1	253489 666401
87	Potentially Contaminative Industrial Uses (Past Land Use) Use: Hospitals Date of Mapping: 1898 - 1956	A6NW (SW)	910	1	253562 665518
88	Potentially Contaminative Industrial Uses (Past Land Use) Use: Heap, unknown constituents Date of Mapping: 1897	A3NW (S)	914	1	254443 664981
89	Potentially Contaminative Industrial Uses (Past Land Use) Use: Hospitals Date of Mapping: 1934 - 1956	A6SE (SW)	918	1	253852 665201
90	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1939 - 1956	A10NW (W)	924	1	253470 666391
91	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport manufacturing and repair Date of Mapping: 1899 - 1914	A14SW (NW)	927	1	253583 666632
92	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1899 - 1989	A9NE (W)	929	1	253453 666348
93	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1898 - 1956	A9NE (W)	946	1	253414 666236
94	Potentially Contaminative Industrial Uses (Past Land Use) Use: Machinery: engines, building and general industrial [manufacture] Date of Mapping: 1897 - 1938	A4NW (SE)	958	1	255098 664942
95	Potentially Contaminative Industrial Uses (Past Land Use) Use: Road haulage Date of Mapping: 1989	A9NE (W)	962	1	253399 666248
96	Potentially Contaminative Industrial Uses (Past Land Use) Use: Road haulage Date of Mapping: 1989	A4NW (SE)	963	1	255100 664938
97	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1914 - 1956	A20SE (NE)	987	1	255150 667197
98	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1898 - 1956	A9NE (W)	995	1	253358 666151
99	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1989	A11NW (NW)	107	1	254391 666264
100	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1989	A11NW (NW)	137	1	254239 666193
101	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1979	A7SW (S)	747	1	254471 665147
102	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1989	A10NW (W)	854	1	253499 666091
103	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A7NE (S)	463	1	254606 665423
104	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1897	A7SE (S)	526	1	254610 665360
105	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1897	A7SE (S)	613	1	254587 665274

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
106	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A7SE (S)	637	1	254581 665250
107	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A7SE (S)	679	1	254796 665197
108	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1924	A6SE (SW)	710	1	254035 665335
109	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A8SW (S)	787	1	254912 665091
110	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1934	A6SE (SW)	824	1	254039 665204
111	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A6SE (SW)	825	1	254009 665221
112	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1932	A19SW (N)	834	1	254410 667105
113	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1924	A6NW (W)	843	1	253540 665741
114	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1924	A6SE (SW)	876	1	254001 665168
115	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1898	A9SE (W)	924	1	253430 665897
116	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A3NE (S)	933	1	254515 664958
117	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A19SW (N)	942	1	254395 667212
118	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A19SW (N)	962	1	254349 667223
119	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1924	A9SE (W)	963	1	253391 665898
120	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1924	A6SW (SW)	999	1	253624 665286

Historical Tanks and Energy Facilities

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
121	Electrical Sub Station Facilities Scale of Mapping: 1:1,250 Date of Mapping: 1971	A11SW (SW)	25	1	254392 665946
121	Electrical Sub Station Facilities Scale of Mapping: 1:1,250 Date of Mapping: 1948	A11SW (SW)	36	1	254404 665935
121	Electrical Sub Station Facilities Scale of Mapping: 1:2,500 Date of Mapping: 1950	A11SW (SW)	37	1	254402 665934
122	Gas Industry Facilities Scale of Mapping: 1:2,500 Date of Mapping: 1951	A12SW (E)	0	1	254870 666005
122	Gas Industry Facilities Scale of Mapping: 1:1,250 Date of Mapping: 1949 - 1951	A12SW (E)	0	1	254866 666007
123	Tanks Scale of Mapping: 1:2,500 Date of Mapping: 1951	A11NE (NE)	0	1	254556 666167
123	Tanks Scale of Mapping: 1:1,250 Date of Mapping: 1949 - 1951	A11NE (N)	0	1	254552 666167
124	Tanks Scale of Mapping: 1:2,500 Date of Mapping: 1951	A11SE (E)	0	1	254750 666054
124	Tanks Scale of Mapping: 1:1,250 Date of Mapping: 1949 - 1951	A11SE (E)	0	1	254749 666054
125	Tanks Scale of Mapping: 1:2,500 Date of Mapping: 1951	A11NE (E)	0	1	254702 666085
125	Tanks Scale of Mapping: 1:1,250 Date of Mapping: 1949 - 1951	A11NE (E)	0	1	254708 666104
125	Tanks Scale of Mapping: 1:1,250 Date of Mapping: 1949 - 1951	A11NE (E)	0	1	254702 666087
126	Tanks Scale of Mapping: 1:2,500 Date of Mapping: 1950	A11SE (SE)	0	1	254696 665981
126	Tanks Scale of Mapping: 1:1,250 Date of Mapping: 1948	A11SE (SE)	0	1	254685 665975
127	Tanks Scale of Mapping: 1:2,500 Date of Mapping: 1950	A12SW (E)	0	1	254932 665906
127	Tanks Scale of Mapping: 1:1,250 Date of Mapping: 1948	A12SW (E)	0	1	254930 665905

The following plans have been analysed for Historical Building Plans Information:

Plan Name:	Town:	Published Date:	Last Pasted Date:
026_514_1944_geo1	Glasgow Vol 5	1901	1944
026_514_1901_geo1	Glasgow Vol 5	1901	1901

The following mapping has been analysed for Historical Land Use Information:

1:10,560	Mapsheet	Published Date
Renfrewshire	013_00	1863
Lanarkshire	005_00	1864
Renfrewshire	008_00	1864
Renfrewshire	009_00	1864
Renfrewshire	012_00	1864
Dumbartonshire	028_00	1864
Lanarkshire	006_00	1865
Lanarkshire	006_NW	1897
Lanarkshire	006_SW	1897
Lanarkshire	005_SE	1898
Renfrewshire	012_NE	1898
Renfrewshire	008_SE	1899
Renfrewshire	009_SW	1899
Renfrewshire	013_NW	1899
Lanarkshire	006_NW	1914
Lanarkshire	006_SW	1914
Renfrewshire	008_SE	1914
Lanarkshire	005_NE	1915
Renfrewshire	012_NE	1916
Renfrewshire	009_SW	1920
Renfrewshire	013_NW	1920
Dumbartonshire	025_00	1924
Lanarkshire	006_NW	1932
Lanarkshire	005_SE	1934
Dumbartonshire	025_NE	1934
Lanarkshire	006_SW	1938
Renfrewshire	012_NE	1938
Renfrewshire	008_SE	1939
Ordnance Survey Plan	NS56NE	1956
Ordnance Survey Plan	NS56NW	1956
Ordnance Survey Plan	NS56SE	1956
Ordnance Survey Plan	NS56SW	1956
1:10,000	Mapsheet	Published Date
Ordnance Survey Plan	NS56SW	1979
Ordnance Survey Plan	NS56NW	1989
Ordnance Survey Plan	NS56SE	1989
Ordnance Survey Plan	NS56NE	1994

The following mapping has been analysed for Historical Tanks and Energy Facilities:

1:2,500	Mapsheet	Published Date
Ordnance Survey Plan	NS5465	1950
Ordnance Survey Plan	NS5465	1950
Ordnance Survey Plan	NS5466	1951
Ordnance Survey Plan	NS5466	1951
Ordnance Survey Plan	NS5565	1951
Ordnance Survey Plan	NS5566	1951
Ordnance Survey Plan	NS5465	1967
Ordnance Survey Plan	NS5465	1967
Ordnance Survey Plan	NS5466	1967
Ordnance Survey Plan	NS5466	1967
Ordnance Survey Plan	NS5565	1967
Ordnance Survey Plan	NS5566	1967
1:1,250	Mapsheet	Published Date
Ordnance Survey Plan	NS5465NE	1948
Ordnance Survey Plan	NS5465NE	1948
Ordnance Survey Plan	NS5465NW	1948
Ordnance Survey Plan	NS5466SE	1949
Ordnance Survey Plan	NS5466SE	1949
Ordnance Survey Plan	NS5466SW	1949
Ordnance Survey Plan	NS5565NW	1950
Ordnance Survey Plan	NS5566SW	1950
Ordnance Survey Plan	NS5466SE	1951
Ordnance Survey Plan	NS5466SE	1951
Ordnance Survey Plan	NS5466SW	1951
Ordnance Survey Plan	NS5466SE	1961
Ordnance Survey Plan	NS5466SE	1961
Ordnance Survey Plan	NS5465NW	1965
Ordnance Survey Plan	NS5466SW	1965
Ordnance Survey Plan	NS5465NE	1966
Ordnance Survey Plan	NS5465NE	1966
Ordnance Survey Plan	NS5566SW	1969
Ordnance Survey Plan	NS5465NW	1971
Ordnance Survey Plan	NS5565NW	1971
Ordnance Survey Plan	NS5565NW	1985

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1	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9966 Fax: 0844 844 9951 Email: helpdesk@landmark.co.uk Website: www.landmark.co.uk

Historical Building Plans Information

This data set contains potentially contaminative features such as asbestos, petrol, oil and tanks captured from Historical Building Plans. The Historical Building Plans were produced by the London-based firm Charles E. Goad Ltd. as fire insurance plans, dating back to 1885. The firm ceased production of fire insurance plans in 1970. Most of the important towns and cities of the British Isles are covered. Historical Building Plans are usually at the scales of 1:480 (1 inch to 40 feet) for the British Isles. They were updated every 5-6 years by means of revision sheets designed to be pasted on to the original plans.

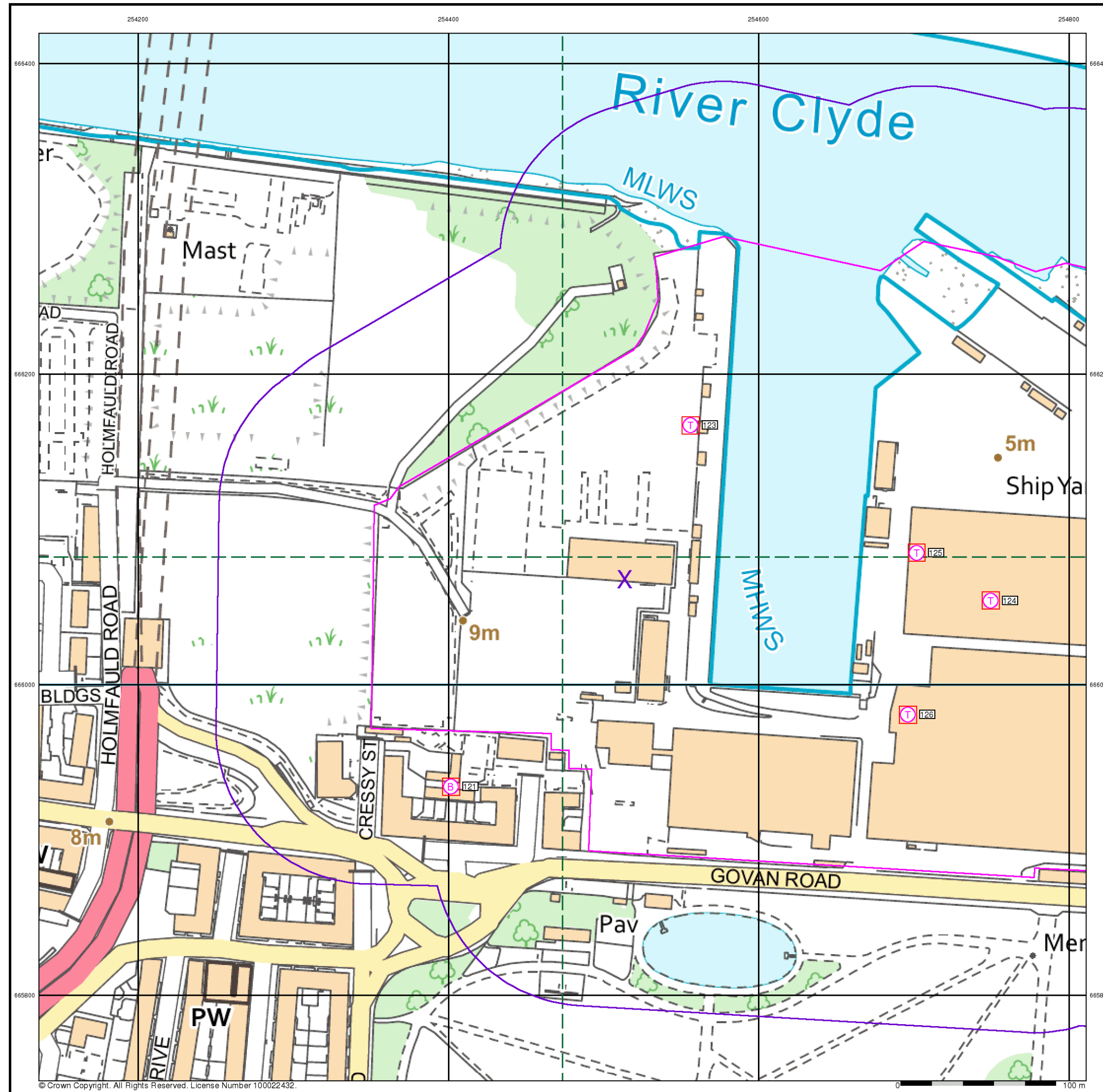
It should be noted that Historical Building Plans are only available for certain major towns and cities and in some cases there may only be partial coverage of the search area. It cannot therefore be assumed that the absence of responses under the Historical Building Plans section of this report indicates that no hazards exist. Please check the Historical Building Plans Map List table in the Historical Map List section of this report to establish if Historical Building Plans are available for this search area.

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Historical Tanks and Energy Facilities

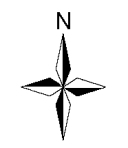
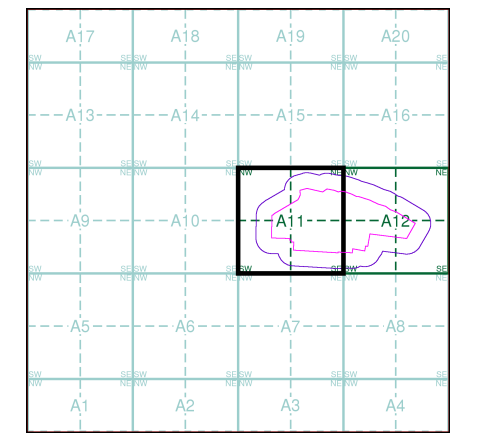
In addition to HLUD, additional analysis uncovered some of the most dangerous sources of contamination (past and present tanks, petrol storage, oil, gas, electricity, miscellaneous facilities). This data set covers over 390,000 Historical Tanks and Energy facilities in Great Britain and was captured from post war 1:2500 and 1:1250 Ordnance Survey historical mapping covering a period from 1943 to 1996.



M M
MOTT
MACDONALD

- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location
- Historical Building Plans**
- Area Cleared due to Enemy Action
 - Asbestos
 - Above Ground Fuel Tanks
 - Benzene/Benzole/Naphtha, Naphthalene/Kerosene
 - Electricity Generation
 - Electricity Sub-Stations
 - Gas Industry
 - Gas Storage
 - Gas Use
 - Oil Industry
 - Oil Storage
 - Oil Use
 - Paint based Oils
 - Paraffin
 - Petrol and Diesel Industry
 - Petrol and Diesel Storage
 - Petrol and Diesel Use
 - Potential Fuel Gas
 - Potential Fuel Oil
 - Potential Fuel Use
 - Potential Petrol and Diesel
 - Potential Tanks
 - Potentially Fuel-related Tanks
 - Underground Fuel Tanks
- Historical Tanks and Energy Facilities**
- Electrical Sub Station Facility
 - Electricity Industry Facility
 - Gas Industry Facility
 - Gas Monitoring Facility
 - Miscellaneous Power Facility
 - Oil Industry Facility
 - Petroleum Storage Facility
 - Potential Tank
 - Tank

Historical Data Report - Segment A11



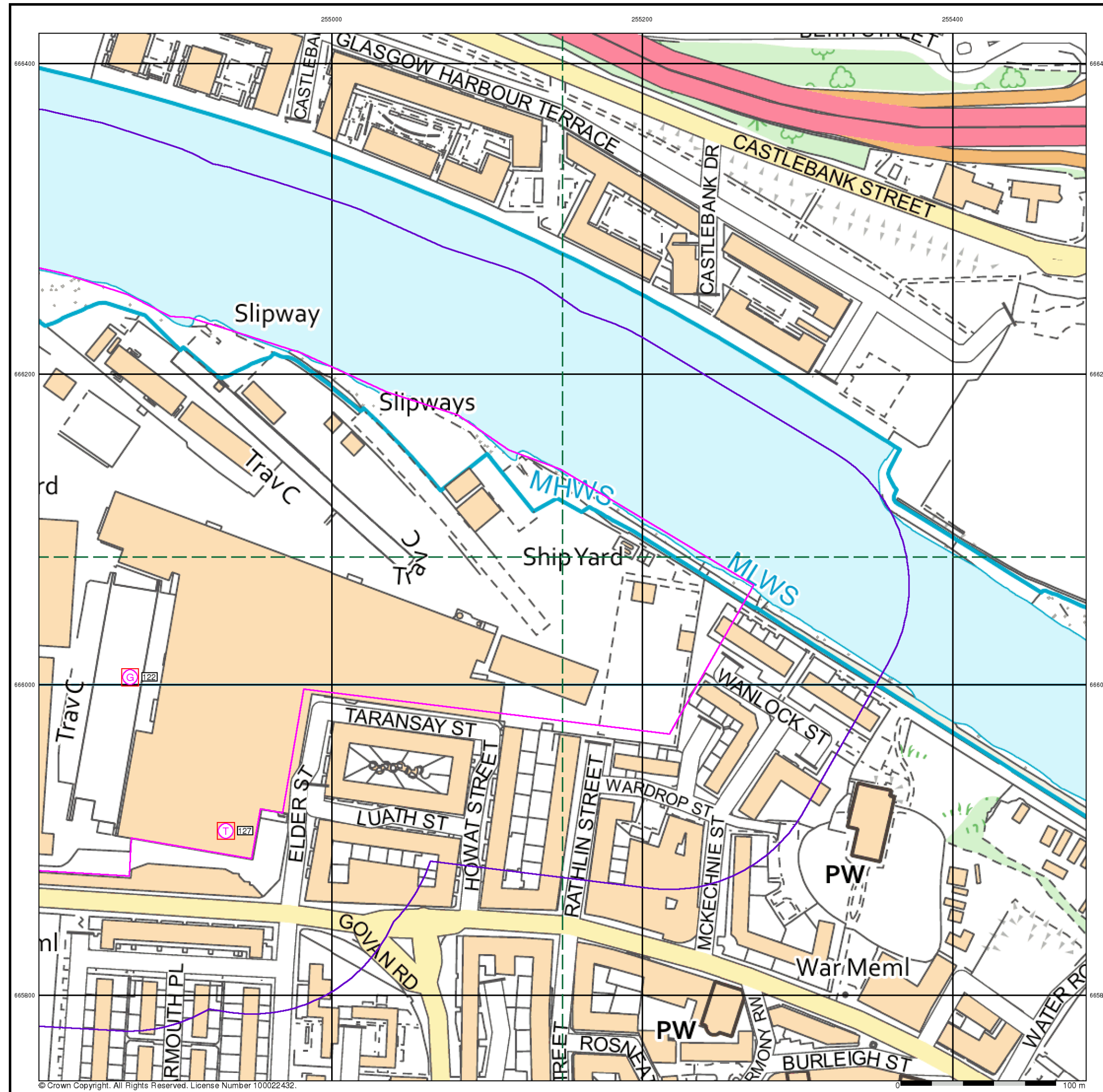
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Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Plot Buffer (m): 100

Site Details
 Site at 254780, 666140

Landmark
 INFORMATION GROUP

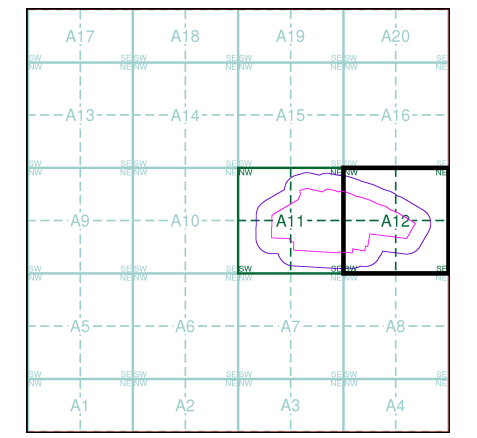
Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



M M
MOTT
MACDONALD

- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location
- Historical Building Plans**
- Area Cleared due to Enemy Action
 - Asbestos
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 - Benzene/Benzole/Naphtha, Naphthalene/Kerosene
 - Electricity Generation
 - Electricity Sub-Stations
 - Gas Industry
 - Gas Storage
 - Gas Use
 - Oil Industry
 - Oil Storage
 - Oil Use
 - Paint based Oils
 - Paraffin
 - Petrol and Diesel Industry
 - Petrol and Diesel Storage
 - Petrol and Diesel Use
 - Potential Fuel Gas
 - Potential Fuel Oil
 - Potential Fuel Use
 - Potential Petrol and Diesel
 - Potential Tanks
 - Potentially Fuel-related Tanks
 - Underground Fuel Tanks
- Historical Tanks and Energy Facilities**
- Electrical Sub Station Facility
 - Electricity Industry Facility
 - Gas Industry Facility
 - Gas Monitoring Facility
 - Miscellaneous Power Facility
 - Oil Industry Facility
 - Petroleum Storage Facility
 - Potential Tank
 - Tank

Historical Data Report - Segment A12



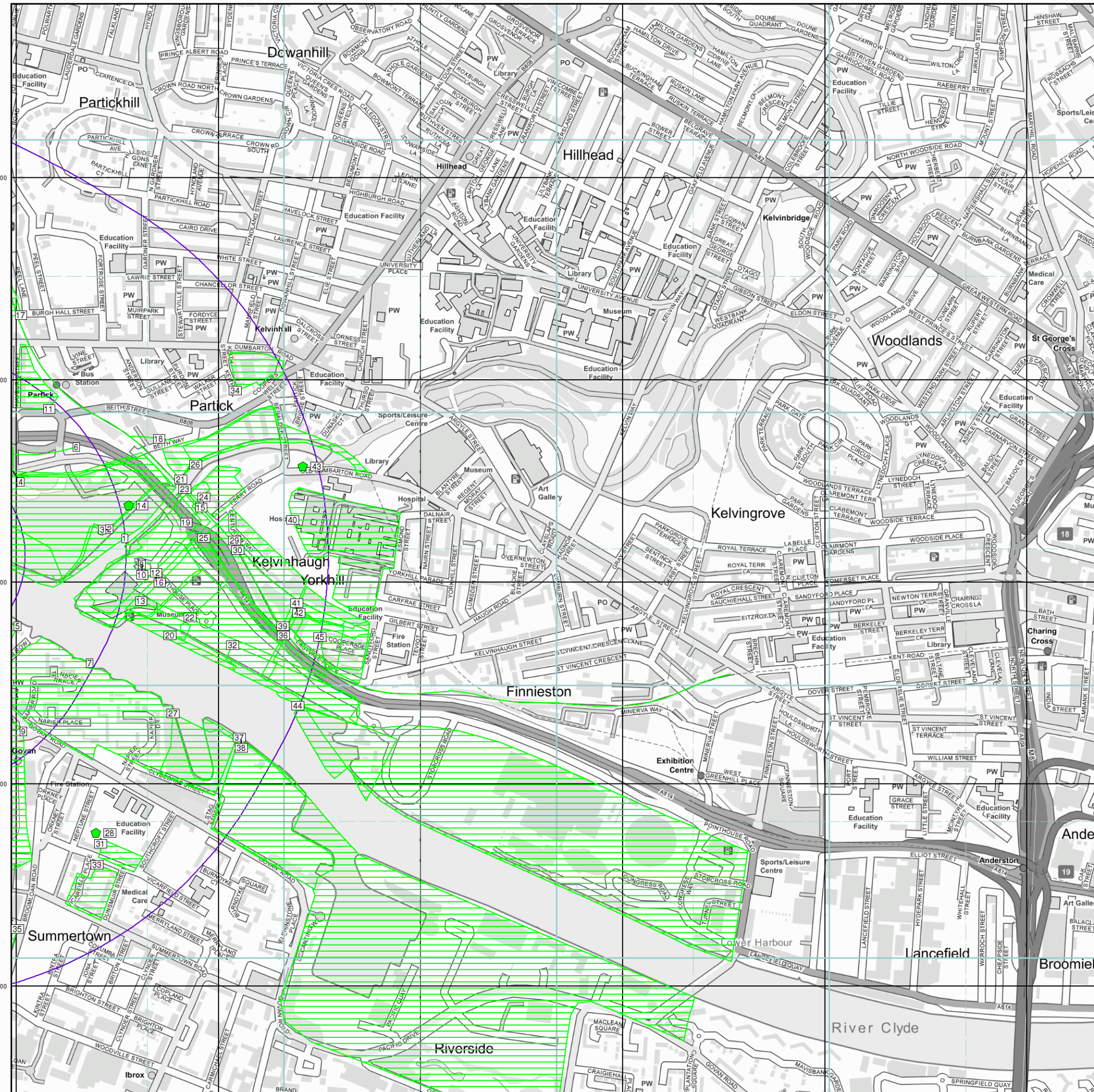
Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 254510, 666070
 Slice: A
 Site Area (Ha): 25.37
 Plot Buffer (m): 100

Site Details
 Site at 254780, 666140

Landmark
 INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

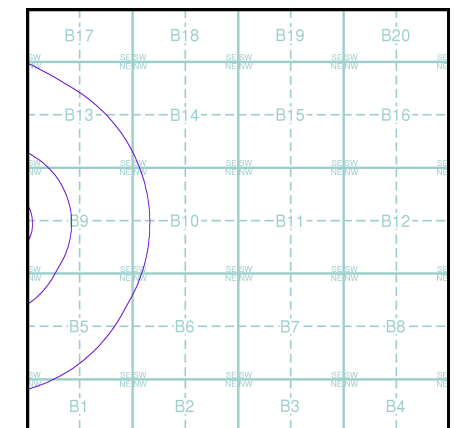


M M

**MOTT
MACDONALD**

- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location
- Historical Building Plans**
- Area Cleared due to Enemy Action
- Historical Land Use**
- Former Marsh
 - Historical Flood Liability
 - Historical Flood Liability (Location)
 - Potentially Contaminative Industrial Use (Past Land Use)
 - Potentially Contaminative Industrial Use (Past Land Use) (Linear)
 - Potentially Contaminative Industrial Use (Past Land Use) (Location)
 - Potentially Infilled Land (Non-Water)
 - Potentially Infilled Land (Non-Water) (Linear)
 - Potentially Infilled Land (Non-Water) (Location)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water) (Linear)
 - Potentially Infilled Land (Water) (Location)

Historical Data Report - Slice Map B



Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 255810, 666040
 Slice: B
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

Site at 254780, 666140

Envirocheck[®] Report:

Historical Data Report Datasheet

Order Details:

Order Number:

293036501_1_1

Customer Reference:

100107212-001

National Grid Reference:

255810, 666040

Slice:

B

Site Area (Ha):

25.37

Search Buffer (m):

1000

Site Details:

Site at 254780, 666140

Client Details:

Mr C Smith
Mott Macdonald
3rd Flood Caledonian Exchange
19a Canning Street
Edinburgh
EH3 8EG

Report Section	Page Number
Summary	-
Historical Building Plans Information	-
Historical Land Use Information	1
Historical Tanks and Energy Facilities	-
Historical Map List	4
Useful Contacts and Further Information	5

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination. For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.

In the attached datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Report Version v53.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
Historical Building Plans Information					
Areas Cleared Due To Enemy Action					
Above Ground Fuel Tanks (100m)				n/a	n/a
Asbestos (100m)				n/a	n/a
Benzene/Benzole/Naphtha, Naphthalene/Kerosene (100m)				n/a	n/a
Electricity Generation (100m)				n/a	n/a
Electricity Sub-Station (100m)				n/a	n/a
Gas Industry (100m)				n/a	n/a
Gas Storage (100m)				n/a	n/a
Gas Use (100m)				n/a	n/a
Oil Industry (100m)				n/a	n/a
Oil Storage (100m)				n/a	n/a
Oil Use (100m)				n/a	n/a
Paint based Oils (100m)				n/a	n/a
Paraffin (100m)				n/a	n/a
Petrol and Diesel Industry (100m)				n/a	n/a
Petrol and Diesel Storage (100m)				n/a	n/a
Petrol and Diesel Use (100m)				n/a	n/a
Potential Fuel Gas (100m)				n/a	n/a
Potential Fuel Oil (100m)				n/a	n/a
Potential Fuel Use (100m)				n/a	n/a
Potential Petrol and Diesel (100m)				n/a	n/a
Potential Tanks (100m)				n/a	n/a
Potentially Fuel-related Tanks (100m)				n/a	n/a
Underground Fuel Tanks (100m)				n/a	n/a
Historical Land Use Information					
Former Marshes					
Historical Flood Liabilities					
Potentially Contaminative Industrial Uses (Past Land Use)	pg 1		5	6	34
Potentially Infilled Land (Non-Water)					
Potentially Infilled Land (Water)					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
Historical Tanks and Energy Facilities					
Electrical Sub Station Facilities (100m)				n/a	n/a
Electricity Industry Facilities (100m)				n/a	n/a
Gas Industry Facilities (100m)				n/a	n/a
Gas Monitoring Facilities (100m)				n/a	n/a
Miscellaneous Power Facilities (100m)				n/a	n/a
Oil Industry Facilities (100m)				n/a	n/a
Petroleum Storage Facilities (100m)				n/a	n/a
Potential Tanks (100m)				n/a	n/a
Tanks (100m)				n/a	n/a

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport manufacturing and repair Date of Mapping: 1865 - 1932	B9NW (NW)	111	1	255767 666107
2	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport support & cargo handling Date of Mapping: 1914 - 1956	B9NW (NW)	113	1	255730 666130
3	Potentially Contaminative Industrial Uses (Past Land Use) Use: Road haulage Date of Mapping: 1994	B9NW (NW)	199	1	255726 666129
4	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1914 - 1956	B9NW (NW)	222	1	255493 666272
5	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport manufacturing and repair Date of Mapping: 1914	B9SW (SW)	227	1	255502 665890
6	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1914 - 1956	B9NW (NW)	252	1	255648 666334
7	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport manufacturing and repair Date of Mapping: 1865 - 1956	B9SW (SW)	307	1	255681 665800
8	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport support & cargo handling Date of Mapping: 1897 - 1994	B9SW (SW)	387	1	255811 666042
9	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1897 - 1994	(SW)	398	1	255479 665669
10	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport manufacturing and repair Date of Mapping: 1956	B9SW (SW)	410	1	255811 666042
11	Potentially Contaminative Industrial Uses (Past Land Use) Use: Road haulage Date of Mapping: 1897 - 1994	B13SW (NW)	434	1	255581 666428
12	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1956	B9SE (SE)	516	1	255845 666007
13	Potentially Contaminative Industrial Uses (Past Land Use) Use: Animal slaughtering & basic processing of meat [other than poultry] Date of Mapping: 1897	B9SW (S)	517	1	255809 665953
14	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport support & cargo handling Date of Mapping: 1994	B9NW (N)	522	1	255778 666189
15	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1897 - 1994	B9NE (NE)	531	1	255957 666183
16	Potentially Contaminative Industrial Uses (Past Land Use) Use: Sawmilling, planing & impregnation [i.e. treatment of timber] Date of Mapping: 1897	B9SE (SE)	556	1	255854 665999
17	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1897 - 1994	B13SW (NW)	566	1	255511 666660
18	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1914 - 1956	B9NE (N)	592	1	255853 666354
19	Potentially Contaminative Industrial Uses (Past Land Use) Use: Natural and man-made textile manufacture and products Date of Mapping: 1865	B9NE (NE)	631	1	255920 666147
20	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport support & cargo handling Date of Mapping: 1897	B9SE (S)	632	1	255880 665868
21	Potentially Contaminative Industrial Uses (Past Land Use) Use: Road haulage Date of Mapping: 1994	B9NE (NE)	644	1	255906 666254

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
22	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport support & cargo handling Date of Mapping: 1897 - 1994	B9SE (SE)	658	1	255929 665912
23	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1914 - 1956	B9NE (NE)	666	1	255917 666229
24	Potentially Contaminative Industrial Uses (Past Land Use) Use: Machinery: engines, building and general industrial [manufacture] Date of Mapping: 1914	B9NE (NE)	678	1	255963 666185
25	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1897 - 1956	B9NE (NE)	693	1	255963 666109
26	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1914 - 1956	B9NE (NE)	696	1	255943 666290
27	Potentially Contaminative Industrial Uses (Past Land Use) Use: Sawmilling, planing & impregnation [i.e. treatment of timber] Date of Mapping: 1914	B5NE (S)	728	1	255887 665674
28	Potentially Contaminative Industrial Uses (Past Land Use) Use: Laundries & dry cleaning Date of Mapping: 1897 - 1914	B5SW (S)	761	1	255697 665378
29	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1994	B9NE (E)	769	1	256040 666096
30	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1897 - 1994	B9SE (E)	777	1	256048 666079
31	Potentially Contaminative Industrial Uses (Past Land Use) Use: Machinery: engines, building and general industrial [manufacture] Date of Mapping: 1914	B5SW (S)	779	1	255708 665364
32	Potentially Contaminative Industrial Uses (Past Land Use) Use: Animal slaughtering & basic processing of meat [other than poultry] Date of Mapping: 1897	B9SE (SE)	790	1	256034 665843
33	Potentially Contaminative Industrial Uses (Past Land Use) Use: Machinery: engines, building and general industrial [manufacture] Date of Mapping: 1914	B5SW (S)	814	1	255700 665299
34	Potentially Contaminative Industrial Uses (Past Land Use) Use: Gas manufacture & distribution Date of Mapping: 1865	B13SE (NE)	871	1	256040 666474
35	Potentially Contaminative Industrial Uses (Past Land Use) Use: Sawmilling, planing & impregnation [i.e. treatment of timber] Date of Mapping: 1914	B5SW (S)	873	1	255503 665141
36	Potentially Contaminative Industrial Uses (Past Land Use) Use: Natural and man-made textile manufacture and products Date of Mapping: 1865	B9SE (SE)	886	1	256161 665868
37	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport support & cargo handling Date of Mapping: 1897 - 1989	B5NE (SE)	900	1	256050 665615
38	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport manufacturing and repair Date of Mapping: 1897 - 1956	B5NE (SE)	902	1	256056 665610
39	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1938 - 1956	B9SE (SE)	905	1	256159 665891
40	Potentially Contaminative Industrial Uses (Past Land Use) Use: Hospitals Date of Mapping: 1932 - 1994	B10NW (E)	912	1	256183 666154
41	Potentially Contaminative Industrial Uses (Past Land Use) Use: Refuse disposal Date of Mapping: 1897 - 1956	B10SW (E)	931	1	256193 665931
42	Potentially Contaminative Industrial Uses (Past Land Use) Use: Sawmilling, planing & impregnation [i.e. treatment of timber] Date of Mapping: 1914	B10SW (E)	938	1	256198 665924

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
43	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1897	B10NW (NE)	963	1	256208 666285
44	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport manufacturing and repair Date of Mapping: 1865	B6NW (SE)	996	1	256196 665693
45	Potentially Contaminative Industrial Uses (Past Land Use) Use: Natural and man-made textile manufacture and products Date of Mapping: 1865	B10SW (E)	999	1	256250 665863

No Historical Building Plans information available.

The following mapping has been analysed for Historical Land Use Information:

1:10,560	Mapsheets	Published Date
Renfrewshire	009_00	1864
Dumbartonshire	028_00	1864
Dumbartonshire	029_00	1864
Lanarkshire	006_00	1865
Lanarkshire	006_NW	1897
Lanarkshire	006_SW	1897
Renfrewshire	009_SW	1899
Dumbartonshire	026_NW	1899
Lanarkshire	006_NW	1914
Lanarkshire	006_SW	1914
Renfrewshire	009_SW	1920
Lanarkshire	006_NW	1932
Lanarkshire	006_SW	1938
Ordnance Survey Plan	NS56NE	1956
Ordnance Survey Plan	NS56SE	1956
1:10,000	Mapsheets	Published Date
Ordnance Survey Plan	NS56SE	1989
Ordnance Survey Plan	NS56NE	1994

No Historical Tanks and Energy Facilities information available.

Contact	Name and Address	Contact Details
1	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9966 Fax: 0844 844 9951 Email: helpdesk@landmark.co.uk Website: www.landmark.co.uk

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Historical Mapping Legends

Ordnance Survey County Series 1:10,560

- Gravel Pit
- Sand Pit
- Other Pits
- Quarry
- Shingle
- Orchard
- Osiers
- Reeds
- Marsh
- Mixed Wood
- Deciduous
- Brushwood
- Fir
- Furze
- Rough Pasture
- Arrow denotes flow of water
- Trigonometrical Station
- Site of Antiquities
- Bench Mark
- Pump, Guide Post, Signal Post
- Well, Spring, Boundary Post
- 285** Surface Level
- Sketched Contour
- Instrumental Contour
- Main Roads
- Minor Roads
- Sunken Road
- Raised Road
- Road over Railway
- Railway over River
- Railway over Road
- Level Crossing
- Road over River or Canal
- Road over Stream
- Road over Stream
- County Boundary (Geographical)
- County & Civil Parish Boundary
- Administrative County & Civil Parish Boundary
- Co. Boro. Bdy. County Borough Boundary (England)
- Co. Burgh Bdy. County Burgh Boundary (Scotland)
- R.D. Bdy. Rural District Boundary
- Civil Parish Boundary

Ordnance Survey Plan 1:10,000

- Chalk Pit, Clay Pit or Quarry
- Gravel Pit
- Sand Pit
- Disused Pit or Quarry
- Refuse or Slag Heap
- Lake, Loch or Pond
- Dunes
- Boulders
- Coniferous Trees
- Non-Coniferous Trees
- Orchard
- Scrub
- Coppice
- Bracken
- Heath
- Rough Grassland
- Marsh
- Reeds
- Saltings
- Building
- Glasshouse
- Sloping Masonry
- Pylon
- Electricity Transmission Line
- Pole
- Cutting
- Embankment
- Standard Gauge Multiple Track
- Standard Gauge Single Track
- Siding, Tramway or Mineral Line
- Narrow Gauge
- Geographical County
- Administrative County, County Borough or County of City
- Municipal Borough, Urban or Rural District, Burgh or District Council
- Borough, Burgh or County Constituency
Shown only when not coincident with other boundaries
- Civil Parish
Shown alternately when coincidence of boundaries occurs
- BP, BS Boundary Post or Stone
- Ch Church
- CH Club House
- F E Sta Fire Engine Station
- FB Foot Bridge
- Fn Fountain
- GP Guide Post
- MP Mile Post
- MS Mile Stone
- Pol Sta Police Station
- PO Post Office
- PC Public Convenience
- PH Public House
- SB Signal Box
- Spr Spring
- TCB Telephone Call Box
- TCP Telephone Call Post
- W Well

1:10,000 Raster Mapping

- Gravel Pit
- Rock
- Boulders
- Shingle
- Sand
- Slopes
- Refuse tip or slag heap
- Rock (scattered)
- Boulders (scattered)
- Mud
- Sand Pit
- Top of cliff
- General detail
- Overhead detail
- Multi-track railway
- Single track railway
- County boundary (England only)
- District, Unitary, Metropolitan, London Borough boundary
- Civil, parish or community boundary
- Constituency boundary
- Area of wooded vegetation
- Non-coniferous trees
- Coniferous trees
- Positioned tree
- Coppice or Osiers
- Rough Grassland
- Heath
- Marsh, Salt Marsh or Reeds
- Scrub
- Water feature
- Flow arrows
- MHW(S) Mean high water (springs)
- MLW(S) Mean low water (springs)
- Telephone line (where shown)
- Electricity transmission line (with poles)
- Bench mark (where shown)
- Point feature (e.g. Guide Post or Mile Stone)
- Site of (antiquity)
- General Building
- Important Building

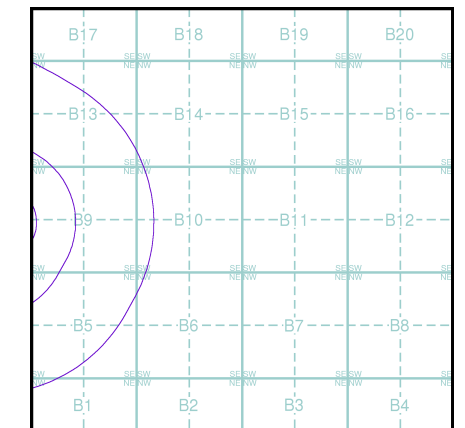
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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Dumbartonshire	1:10,560	1864	3
Renfrewshire	1:10,560	1864	4
Lanarkshire	1:10,560	1865	5
Lanarkshire	1:10,560	1897	6
Dumbartonshire	1:10,560	1899	7
Renfrewshire	1:10,560	1899	8
Lanarkshire	1:10,560	1914	9
Renfrewshire	1:10,560	1920	10
Lanarkshire	1:10,560	1933	11
Lanarkshire	1:10,560	1938	12
Ordnance Survey Plan	1:10,000	1956	13
Ordnance Survey Plan	1:10,000	1967	14
Ordnance Survey Plan	1:10,000	1975 - 1979	15
Glasgow	1:25,000	1981	16
Ordnance Survey Plan	1:10,000	1984 - 1989	17
Ordnance Survey Plan	1:10,000	1994	18
10K Raster Mapping	1:10,000	1999	19
10K Raster Mapping	1:10,000	2006	20
VectorMap Local	1:10,000	2021	21

Historical Map - Slice B



Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 255810, 666040
 Slice: B
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

Site at 254780, 666140

Landmark
INFORMATION GROUP

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Russian Military Mapping Legends

1:5,000 and 1:10,000 mapping

a. Not drawn to scale b. Drawn to scale

	Government and Administrative Buildings		Military and Industrial Buildings
	Military and Communication Areas		Subway Entrance
	Fireproof Building		Prominent Fireproof Building
	Non-fireproof Building		Non-fireproof Building (non-dwelling)
	Factory, mill, and flour mill, with chimneys		Factory, mill, and flour mill, without chimneys
	Power Station, drawn to scale		Hydroelectric Power Station
	Radio Station, drawn to scale		Telephone Station, drawn to scale
	Abandoned Open-pit Mine or Quarry		Open-pit Salt Mine
	Pit		Oil Deposit or Well
	Oil Seepage		Natural Gas Tank
	Tailings Pile		Fuel Storage Tanks
	Bench Mark		Drill Hole
	Burial Mound		Triangulation Point on Burial Mound
	Single-track Railroad		Double-track Railroad
	Small Bridge		Pipe (Culvert)
	Tunnel		Railroad and Station Building
	Coniferous Forest		Deciduous Forest
	Mixed Forest		Lawns
	Citrus Orchard		Wet Ground
	Scattered Vegetation		

243,8 Values for prominent elevations
186.0 Numbers for spot elevations, depth soundings, contour lines, etc.
0,2 Velocity of the current, width of river bed, depth of river
180/12 Fractional terms: length and capacity of bridges; depth of fords and condition of the river bottom; height of forest and the diameter of trees

Russian Alphabet (For reference and phonetic interpretation of map text)

А а (A)	З з (Z)	П п (P)	Ч ч (CH)
Б б (B)	И и (I)	Р р (R)	Ш ш (SH)
В в (V)	Й й (Y)	С с (S)	Щ щ (SHCH)
Г г (G)	К к (K)	Т т (T)	Ъ (-)
Д д (D)	Л л (L)	У у (U)	Ы (Y)
Е е (E)	М м (M)	Ф ф (F)	Ь (')
Ё ё (YO)	Н н (N)	Х х (KH)	Э э (E)
Ж ж (ZH)	О о (O)	Ц ц (TS)	Ю ю (YU or IU)
			Я я (YA or IA)

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale

	Government and Administrative Buildings		Military and Industrial Buildings
	Military and Communication Areas		Subway Entrance
	Partly Demolished Buildings		Demolished Buildings
	Built-Up Area with Fireproof Buildings Predominant		Built-Up Area with Non-Fireproof Buildings Predominant
	Individual Fireproof Building		Prominent Industrial Building
	Individual Dwelling, Fireproof		Ruins of an Individual Dwelling
	Factory or Mill Chimney		Factory or Mill with Chimney
	Factory or Mill without Chimney		Salt Mine
	Mine or Open Pit Mine		Tailings Pile
	Operating Shaft or Mine		Non-Operating Shaft or Mine
	Pit		Stone Quarry
	Gas Pump or Service Station		Fuel Storage or Natural Gas Tank
	Oil or Natural Gas Derrick		Small Hydroelectric Power Station
	Power Station		Transformer Station
	Cemetery		Burial Mound (height in metres)
	Triangulation Point on Burial Mound		Triangulation Point
	Bench Mark		Telegraph Office
	Telephone Station		Radio Station
	Radio Tower		Airfield or Seaplane Base
	Landing Strip		Cut
	Fill		Km Post
	Plantings		Width of Road
	Steep Grade		Highway under Construction
	Improved Dirt Road (former truck road)		Small Bridge
	Pipe (Culvert)		Tunnel
	Dismantled Railroad		Double-track Railroad with First Class Station
	Railroad Under Construction		Shore Embankment
	River or Ditch with Embankment		Water Gauge
	Direction and velocity of current		Water Level Mark
	Well		Spring
	Water Reservoir or Rain Water Pit		Isobath with value
	Heavy (Index) Contour Line		Half Contour Line
	Contour Line and Value		Spot Elevation Value
	Coniferous		Deciduous
	Mixed		Scrub

Key to Numbers on Mapping

NS56_Glasgow

No.	Description
7	Dockyard (Ship Building)
101	Factory (Ship Repairs)
106	Factory (Ship Building)

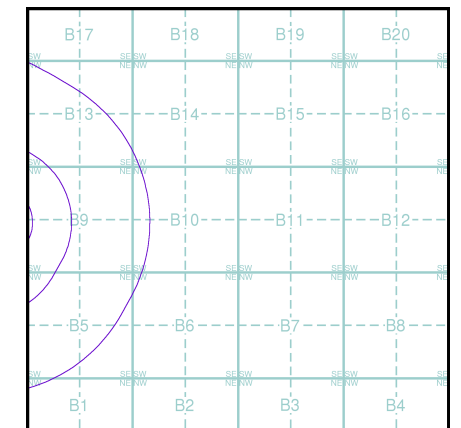
M M

MOTT
MACDONALD

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Dumbartonshire	1:10,560	1864	3
Renfrewshire	1:10,560	1864	4
Lanarkshire	1:10,560	1865	5
Lanarkshire	1:10,560	1897	6
Dumbartonshire	1:10,560	1899	7
Renfrewshire	1:10,560	1899	8
Lanarkshire	1:10,560	1914	9
Renfrewshire	1:10,560	1920	10
Lanarkshire	1:10,560	1933	11
Lanarkshire	1:10,560	1938	12
Ordnance Survey Plan	1:10,000	1956	13
Ordnance Survey Plan	1:10,000	1967	14
Ordnance Survey Plan	1:10,000	1975 - 1979	15
Glasgow	1:25,000	1981	16
Ordnance Survey Plan	1:10,000	1984 - 1989	17
Ordnance Survey Plan	1:10,000	1994	18
10K Raster Mapping	1:10,000	1999	19
10K Raster Mapping	1:10,000	2006	20
VectorMap Local	1:10,000	2021	21

Russian Map - Slice B



Order Details

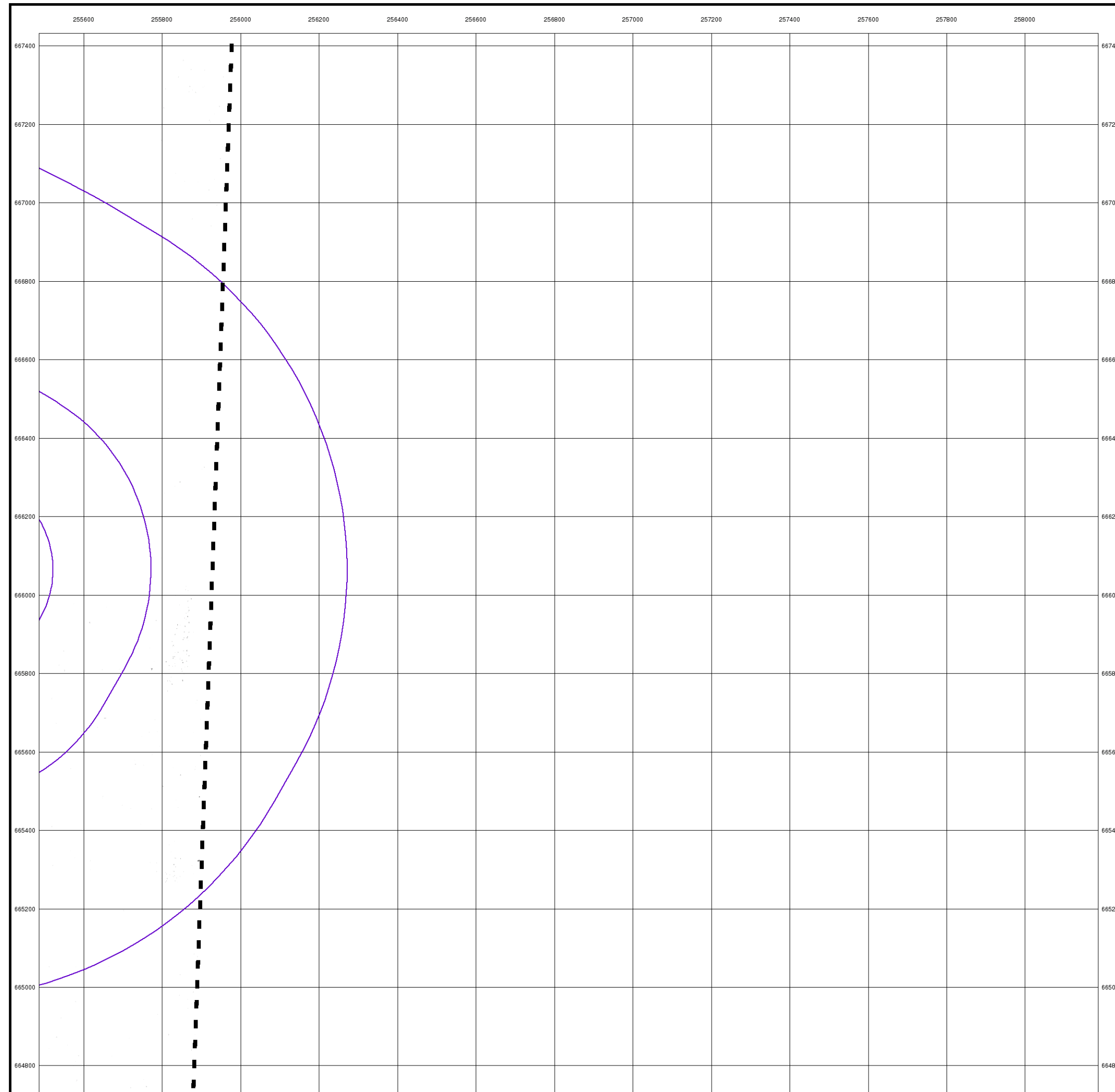
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Site Details

Site at 254780, 666140

Landmark
INFORMATION GROUP

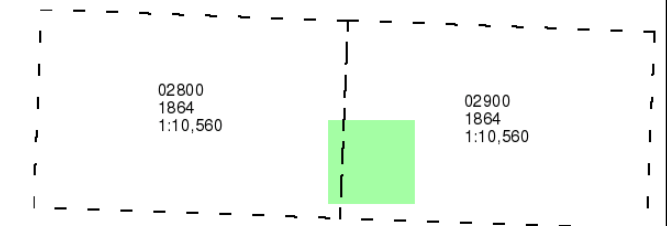
Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



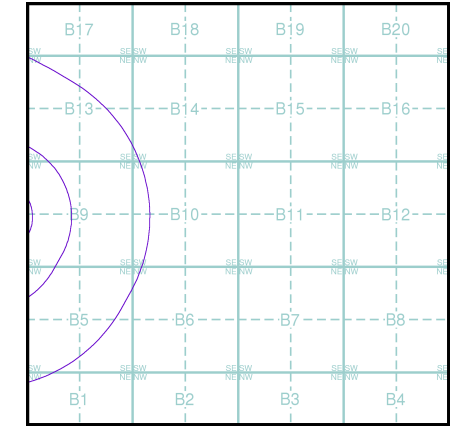
M M
MOTT
MACDONALD
Dumbartonshire
Published 1864
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice B

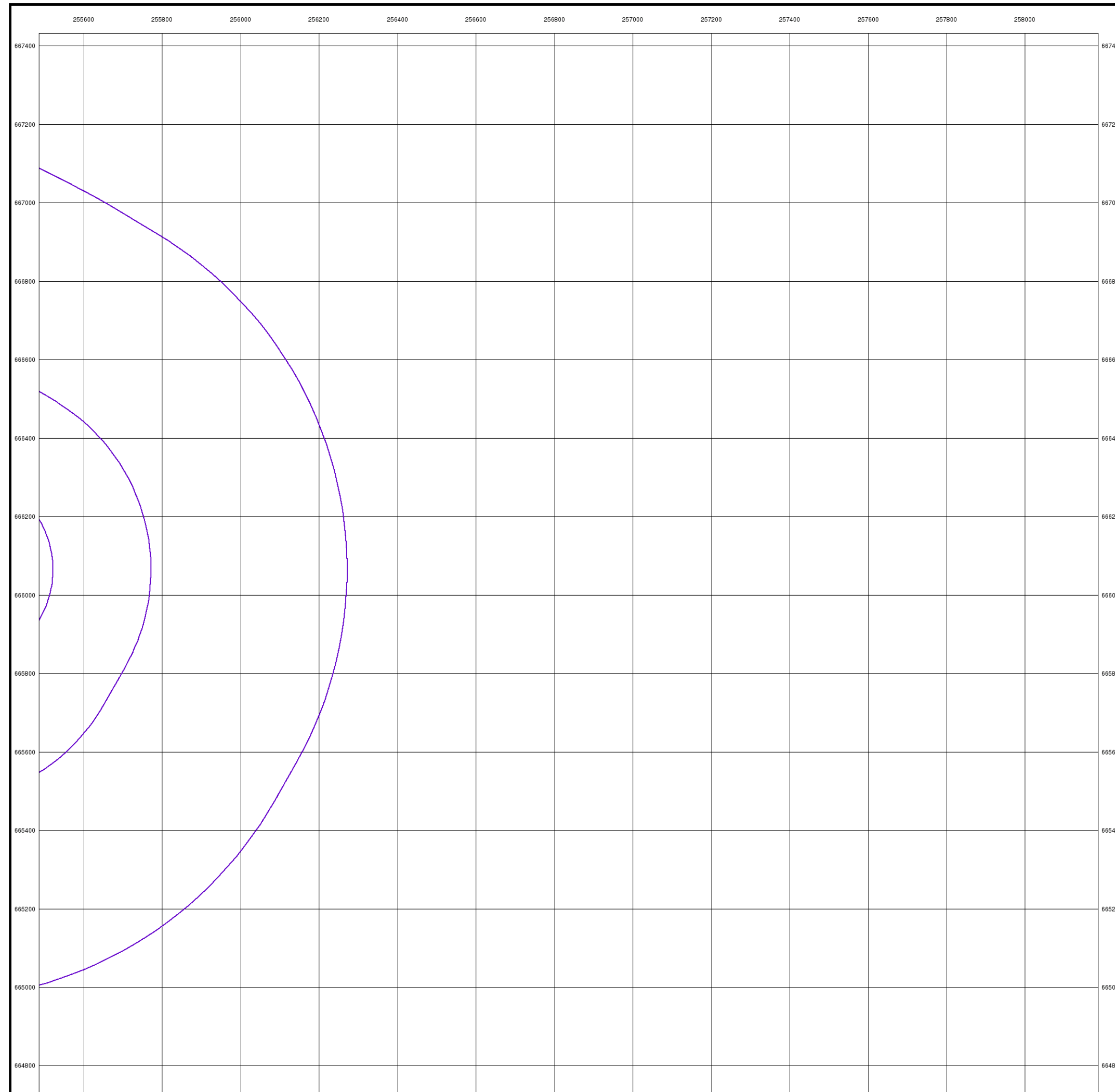


Order Details

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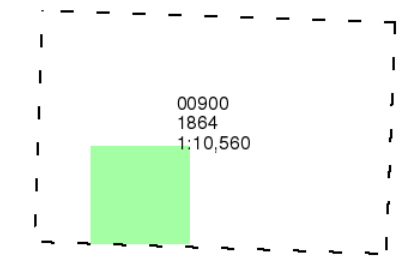
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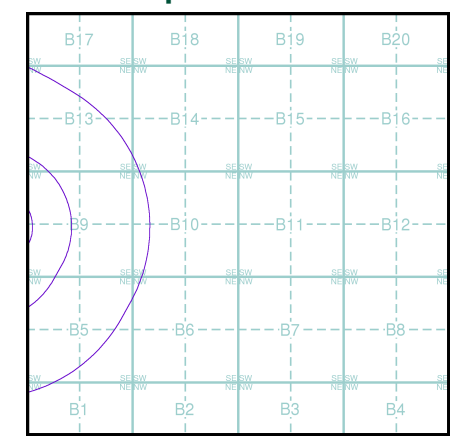
M
M
MOTT
MACDONALD
Renfrewshire
Published 1864
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice B



Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 255810, 666040
 Slice: B
 Site Area (Ha): 25.37
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Site Details

Site at 254780, 666140

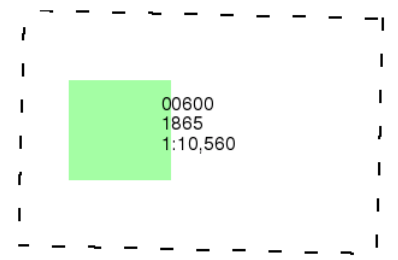




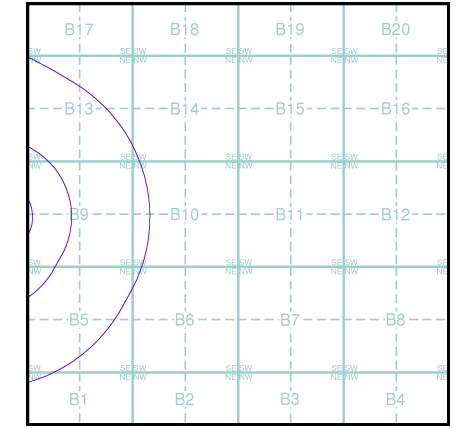
M M
MOTT
MACDONALD
Lanarkshire
Published 1865
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice B



Order Details
 Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 255810, 666040
 Slice: B
 Site Area (Ha): 25.37
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Site Details
 Site at 254780, 666140

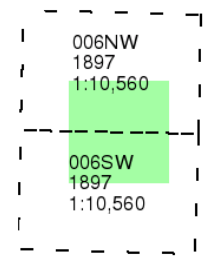
Landmark
 INFORMATION GROUP
 Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



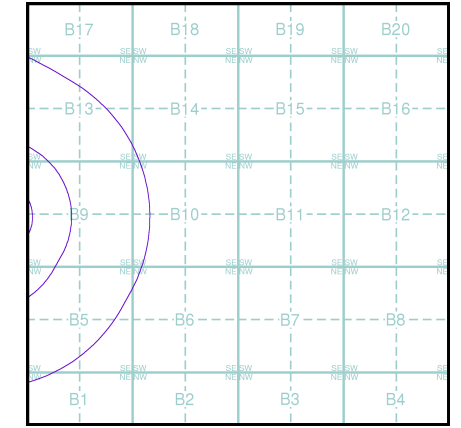
M M
MOTT
MACDONALD
Lanarkshire
Published 1897
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

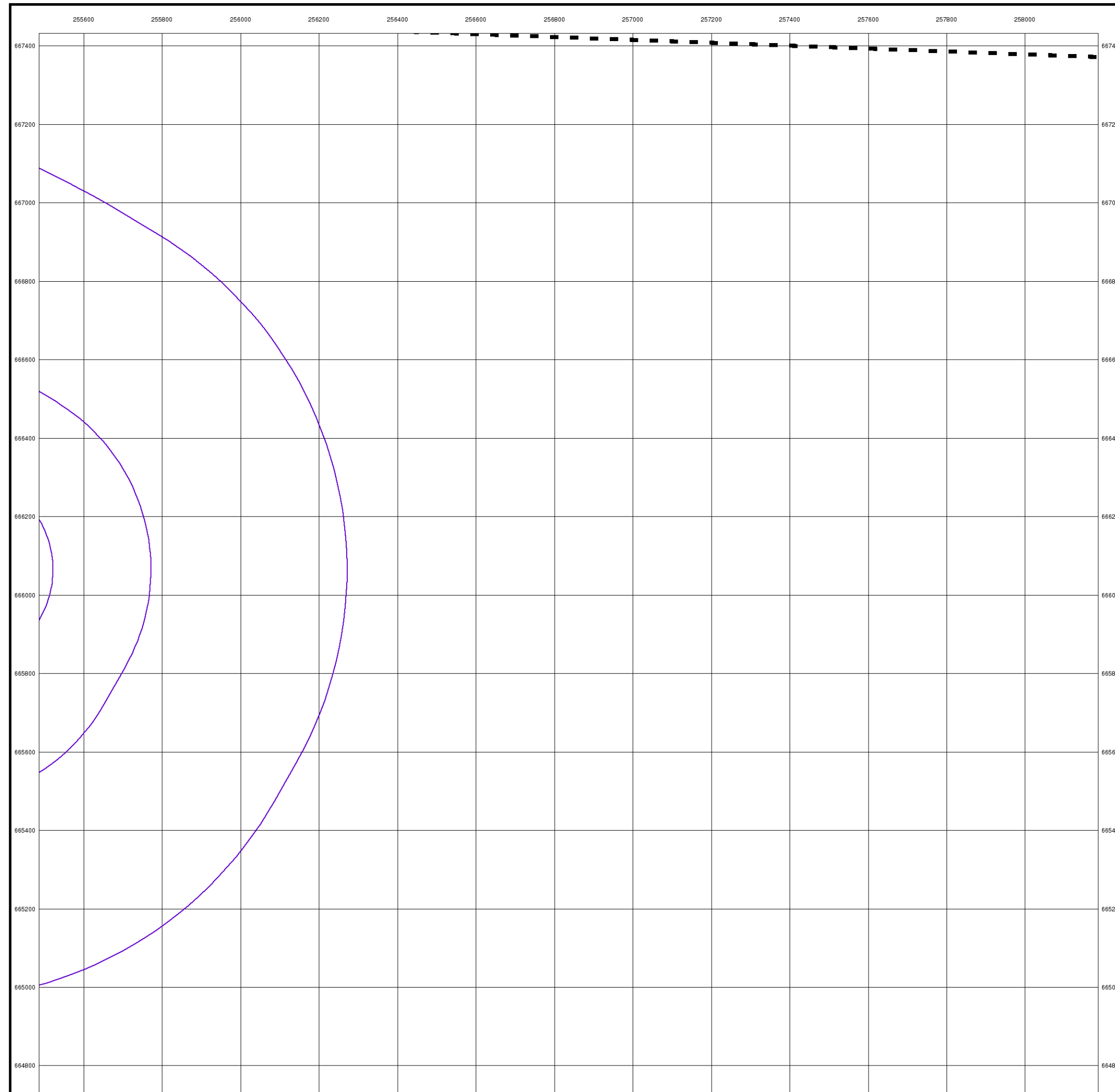


Historical Map - Slice B



Order Details
 Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 255810, 666040
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 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details
 Site at 254780, 666140



M
M

MOTT
MACDONALD

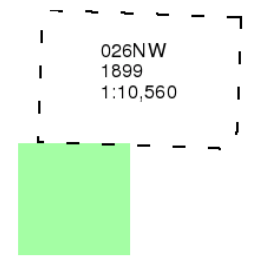
Dumbartonshire

Published 1899

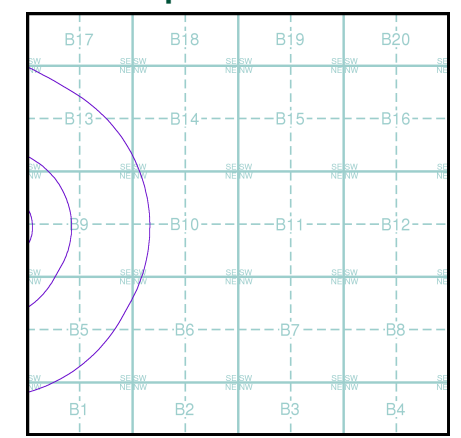
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice B



Order Details

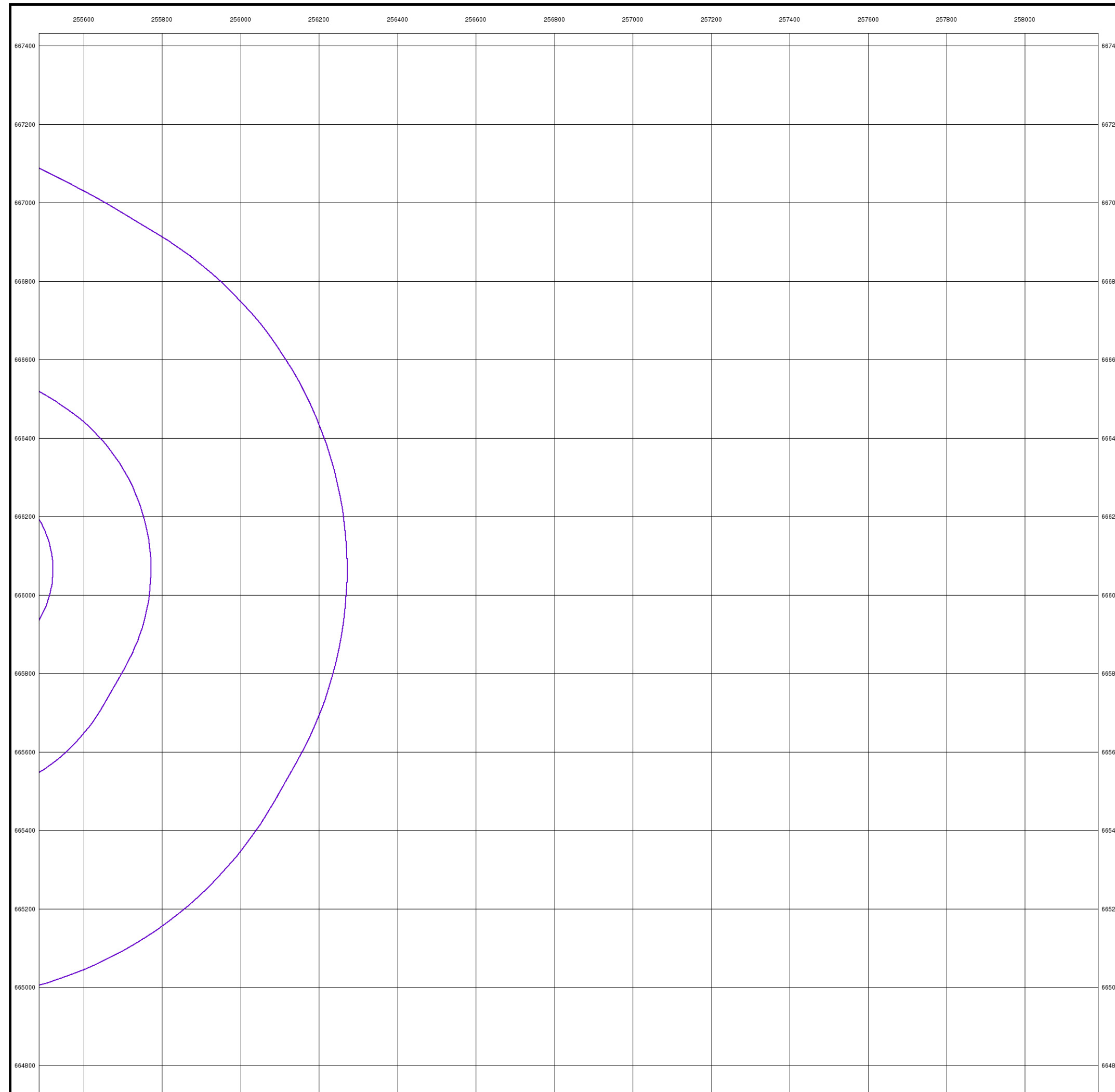
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Site Details

Site at 254780, 666140

Landmark
INFORMATION GROUP

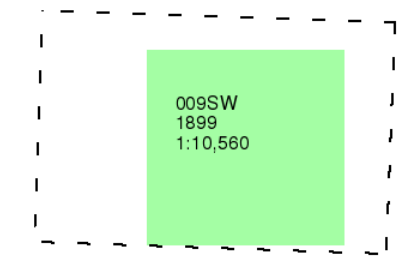
Tel: 0844 844 9952
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 Web: www.envirocheck.co.uk



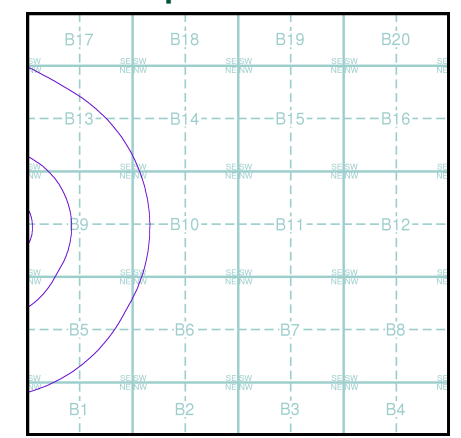
M M
MOTT
MACDONALD
Renfrewshire
Published 1899
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice B



Order Details

Order Number: 293036501_1_1
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Site Details

Site at 254780, 666140



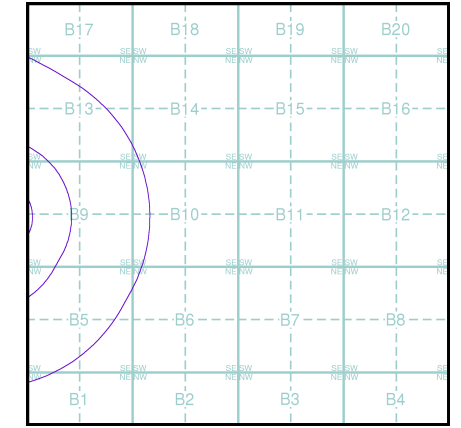
M M
MOTT
MACDONALD
Lanarkshire
Published 1914
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

006NW	1914	1:10,560
006SW	1914	1:10,560

Historical Map - Slice B



Order Details

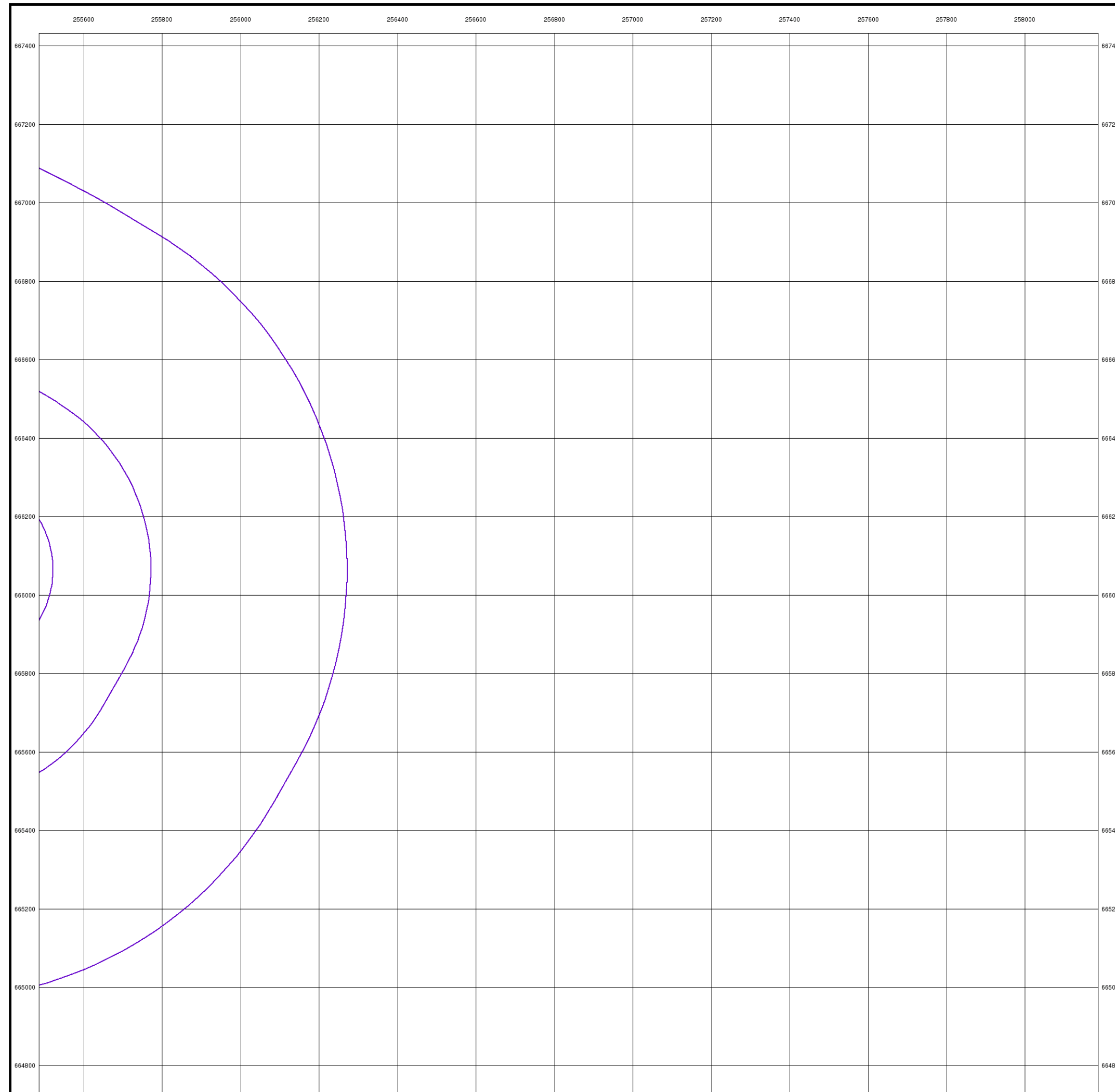
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Site Details

Site at 254780, 666140



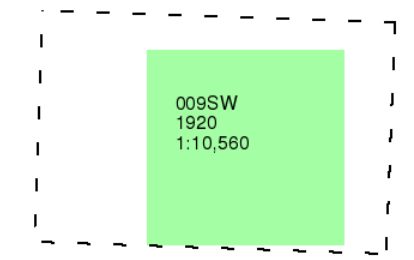
Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



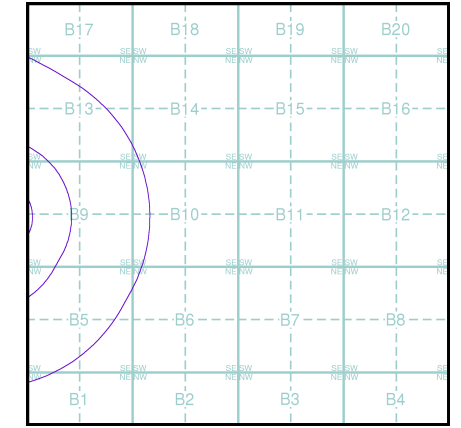
M
M
MOTT
MACDONALD
Renfrewshire
Published 1920
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice B

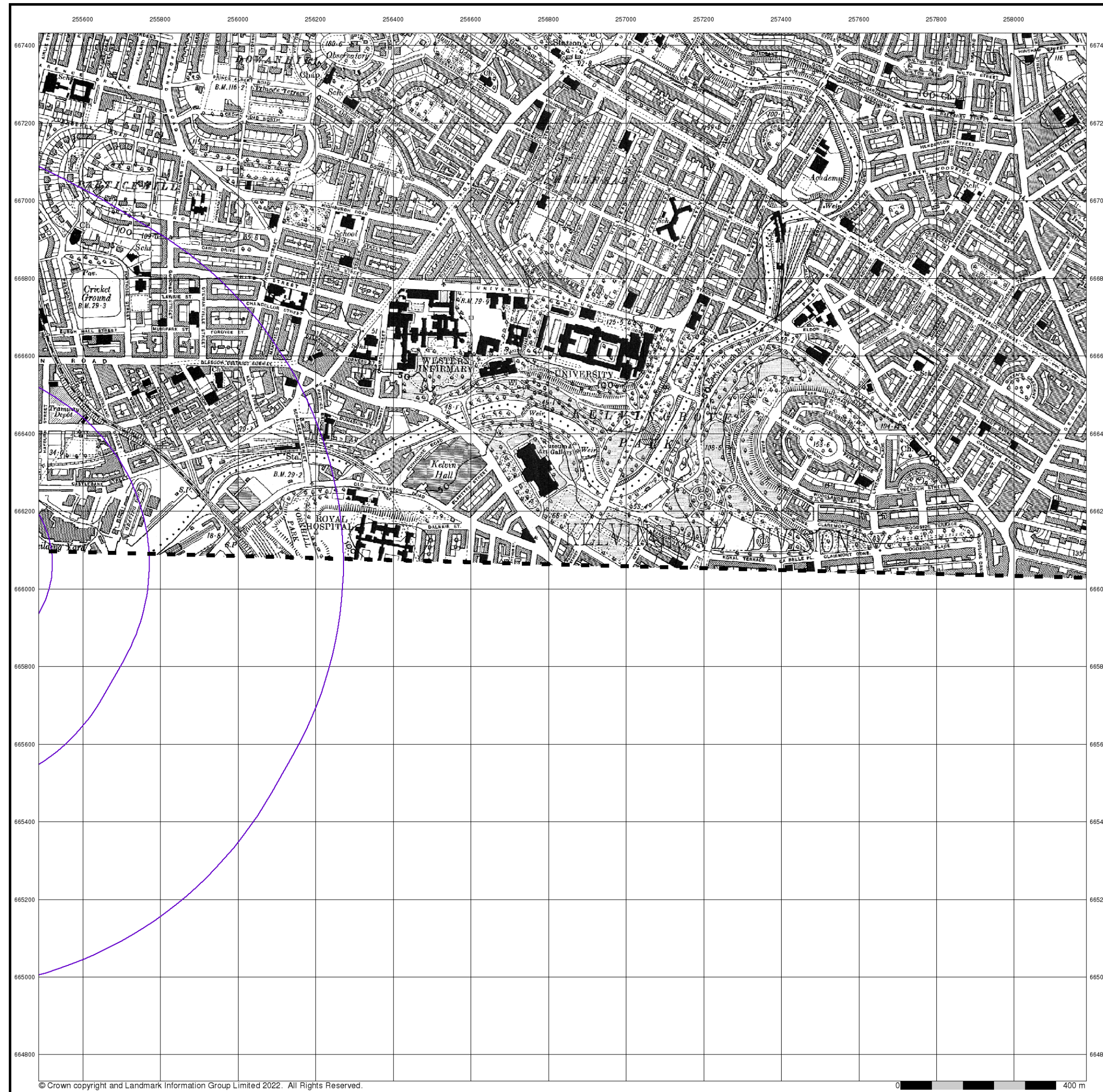


Order Details

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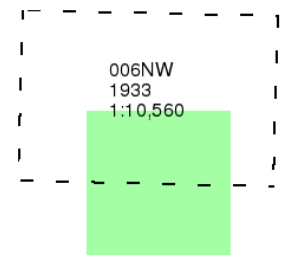
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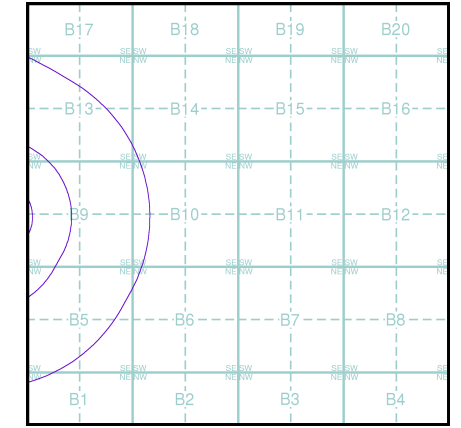
M M
MOTT MACDONALD
Lanarkshire
Published 1933
Source map scale - 1:10,560

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Map Name(s) and Date(s)

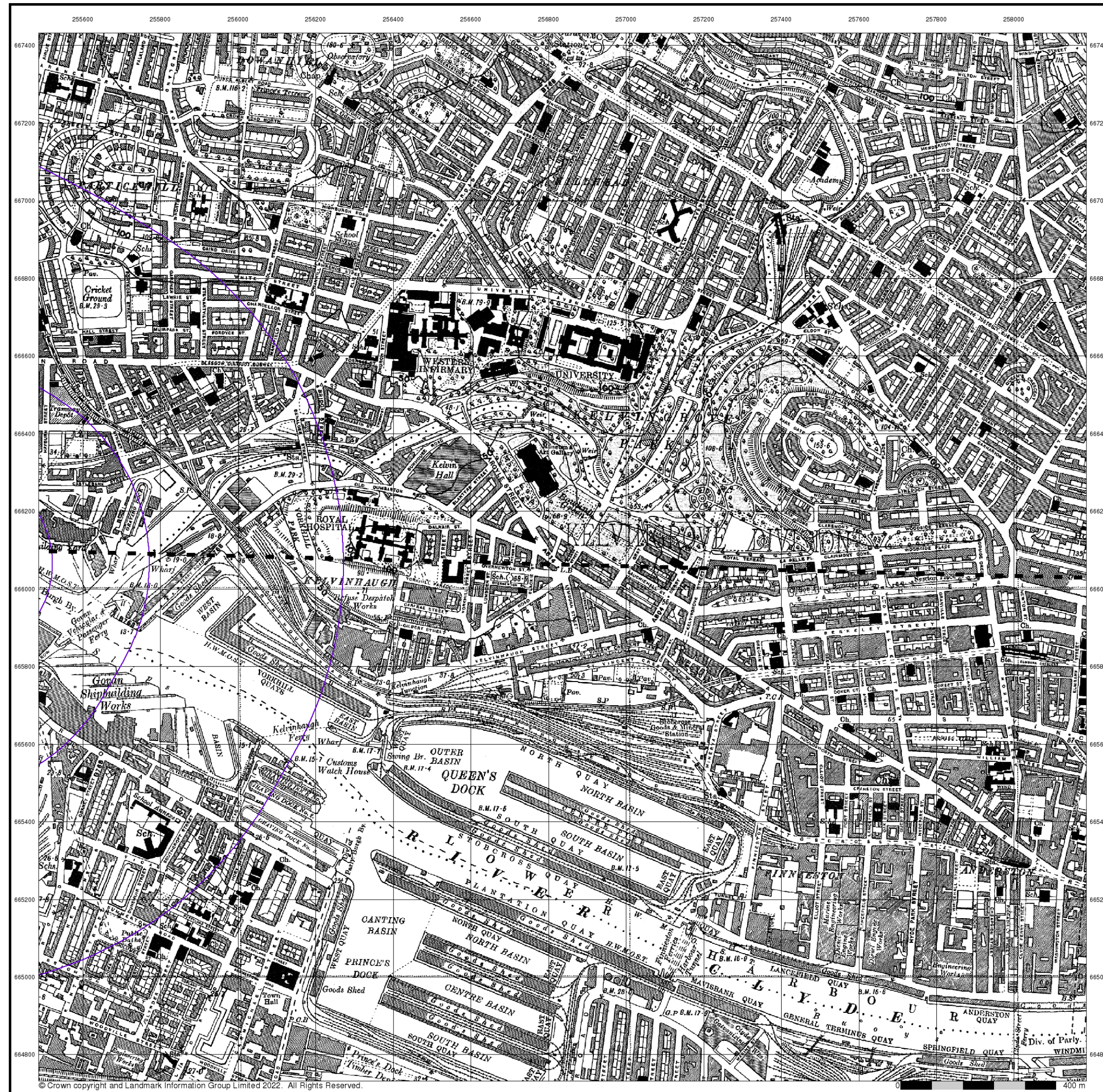


Historical Map - Slice B



Order Details
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Site Details
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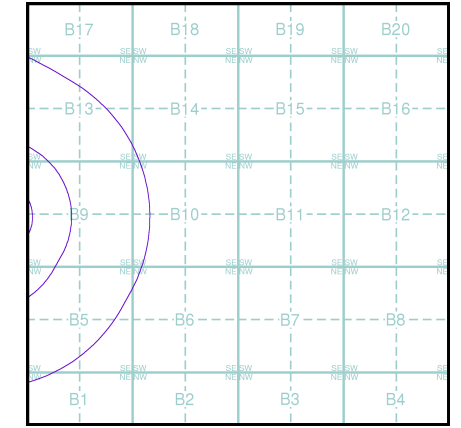
M M
MOTT MACDONALD
Lanarkshire
Published 1938
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

006NW	1938	1:10,560
006SW	1938	1:10,560

Historical Map - Slice B



Order Details

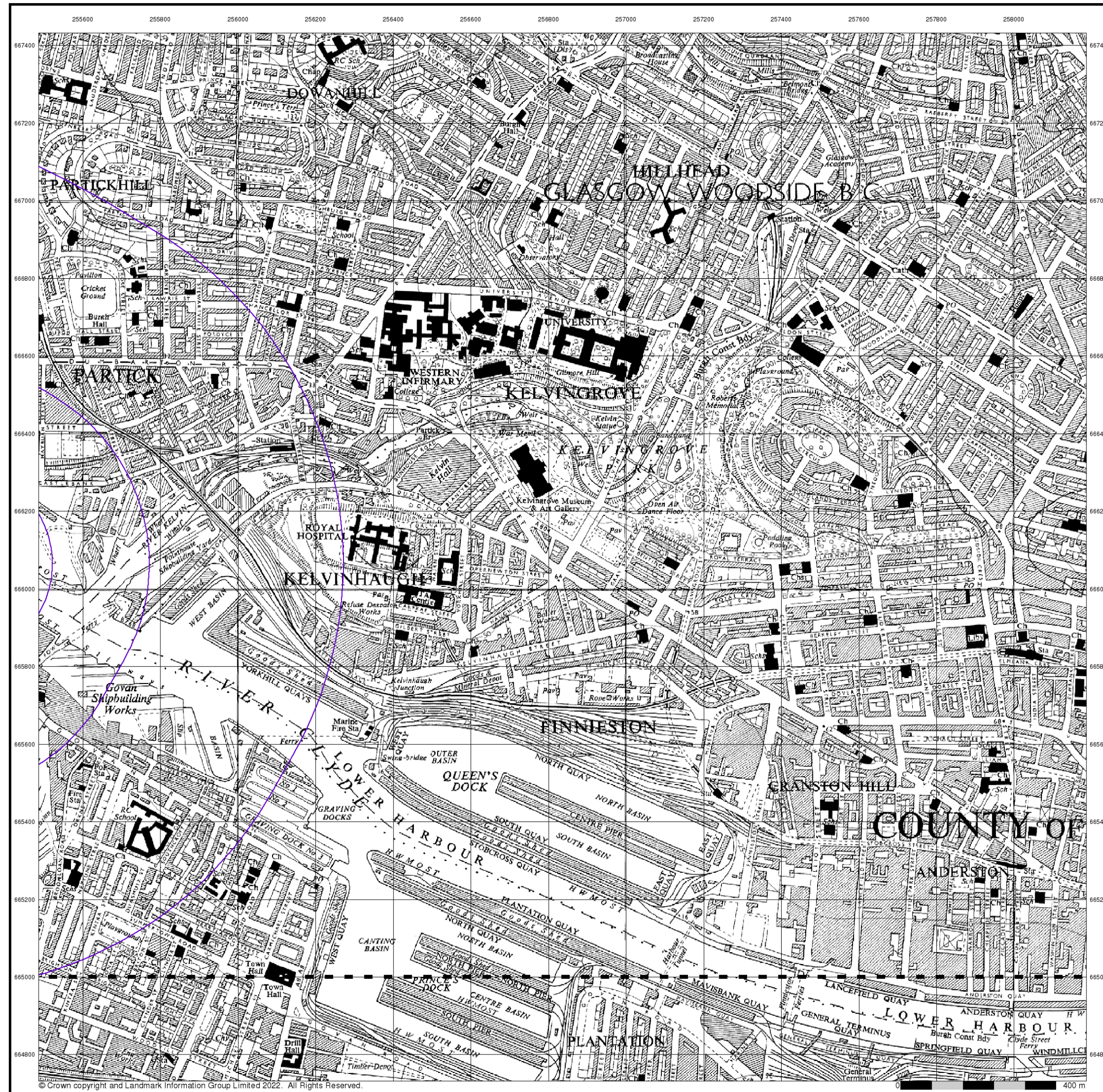
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Site Details

Site at 254780, 666140



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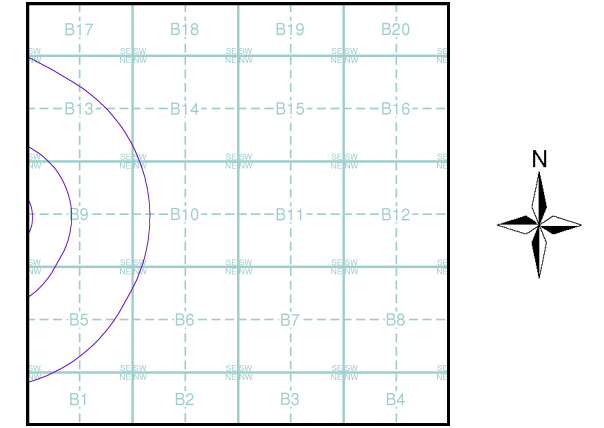
M M
MOTT MACDONALD
Ordnance Survey Plan
Published 1956
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

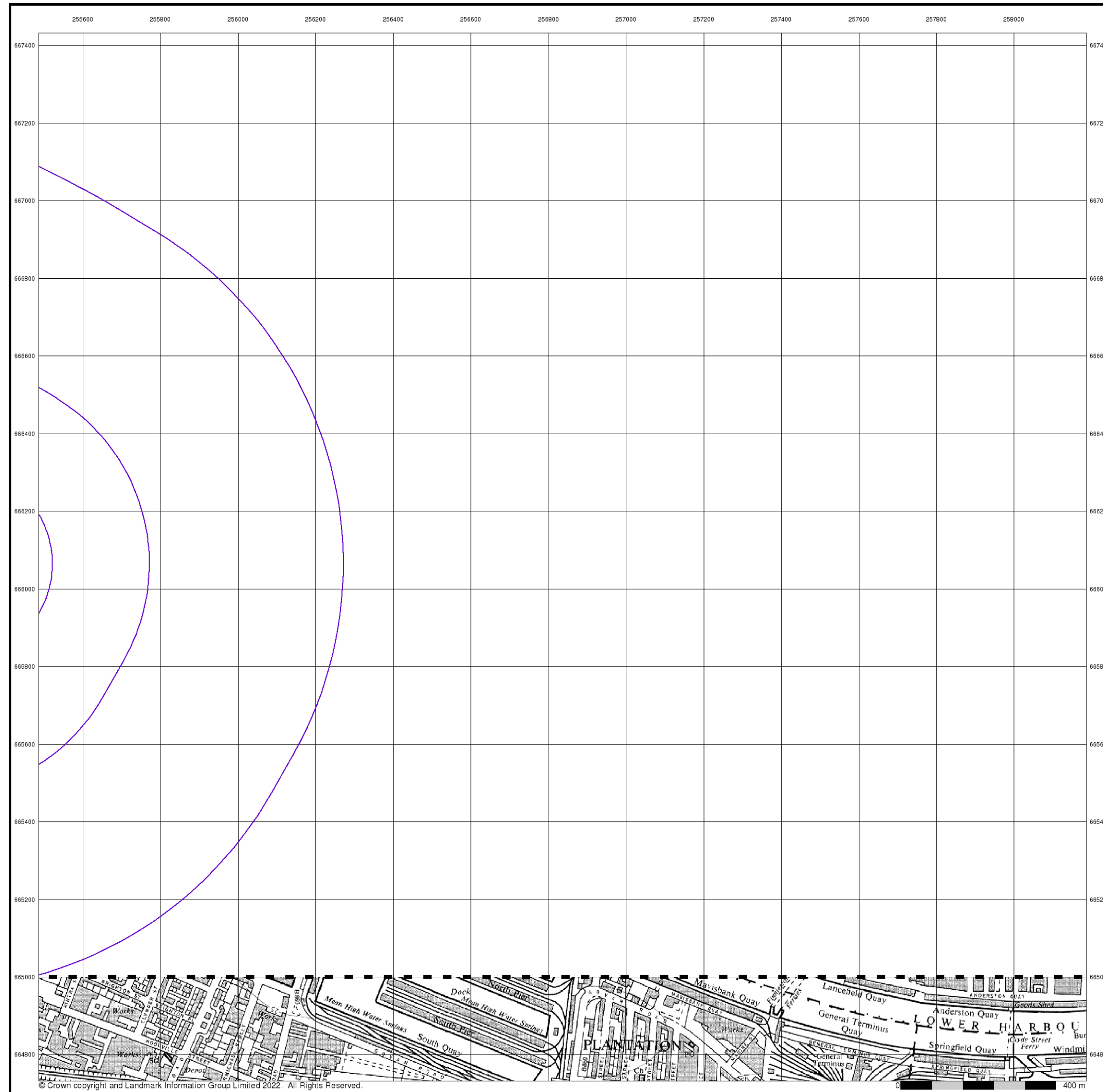
NS56NE	1956
1:10,560	
NS56SE	1956
1:10,560	

Historical Map - Slice B



Order Details
 Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 255810, 666040
 Slice: B
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

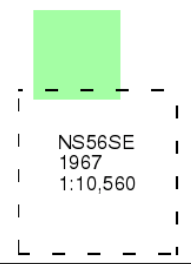
Site Details
 Site at 254780, 666140



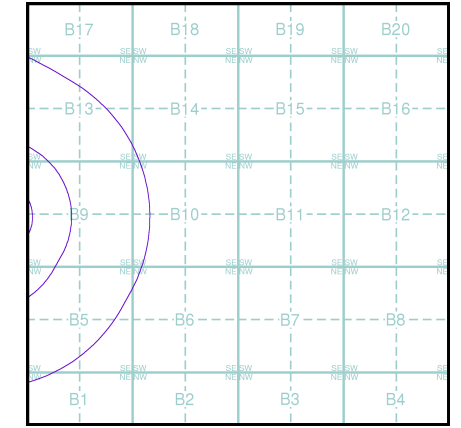
M M
MOTT MACDONALD
Ordnance Survey Plan
Published 1967
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice B



Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 255810, 666040
 Slice: B
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

Site at 254780, 666140



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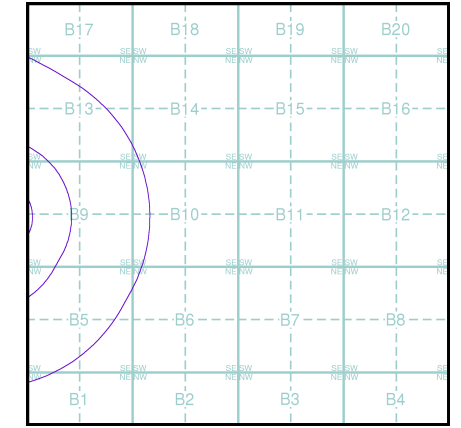
M M
MOTT MACDONALD
Ordnance Survey Plan
Published 1975 - 1979
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

NS56NE	1975
1:10,000	
NS56SE	1979
1:10,000	

Historical Map - Slice B



Order Details

Order Number: 293036501_1_1
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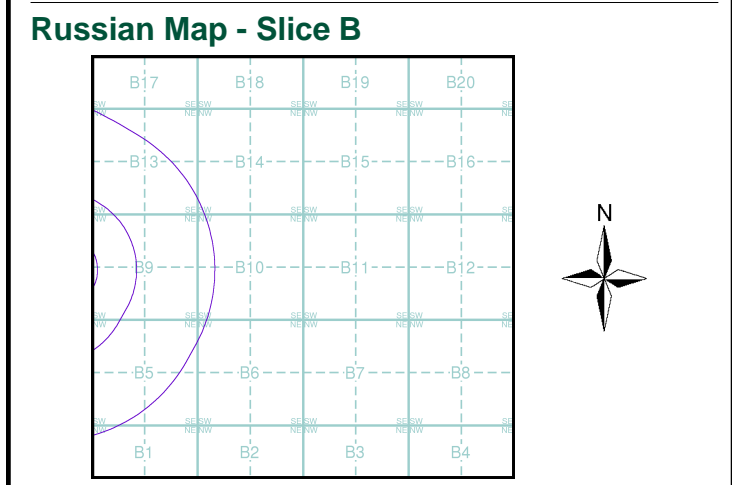
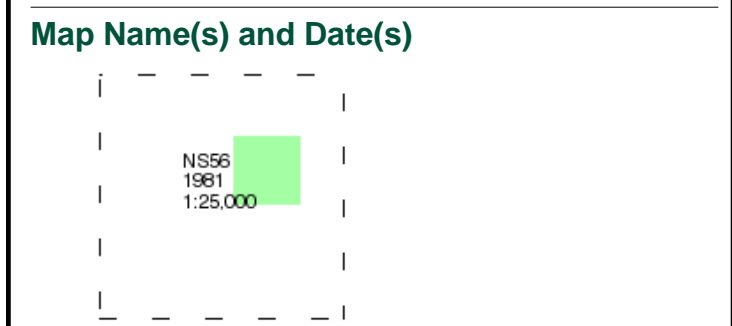
Site Details

Site at 254780, 666140



M M
MOTT MACDONALD
Glasgow
Published 1981
Source map scale - 1:25,000

These maps were produced by the Russian military during the Cold War between 1950 and 1997, and cover 103 towns and cities throughout the U.K. The maps are produced at 1:25,000, 1:10,000 and 1:5,000 scale, and show detailed land use, with colour-coded areas for development, green areas, and non-developed areas. Buildings are coloured black and important building uses (such as hospitals, post offices, factories etc.) are numbered, with a numbered key describing their use. They were produced by the Russians for the benefit of navigation, as well as strategic military sites and transport hubs, for use if they were to have invaded the U.K. The detailed information provided indicates that the areas were surveyed using land-based personnel, on the ground, in the cities that are mapped.



Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 255810, 666040
 Slice: B
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

Site at 254780, 666140

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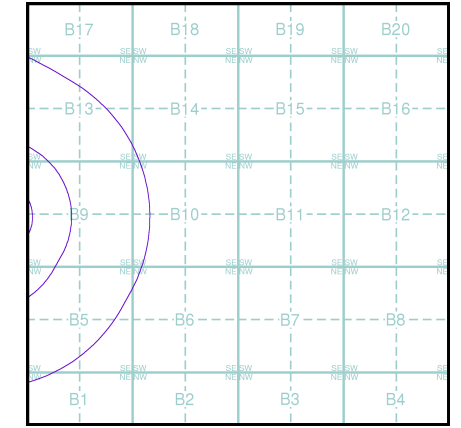
M M
MOTT MACDONALD
Ordnance Survey Plan
Published 1984 - 1989
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

NS56NE	1984	1:10,000
NS56SE	1989	1:10,000

Historical Map - Slice B



Order Details
 Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 255810, 666040
 Slice: B
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

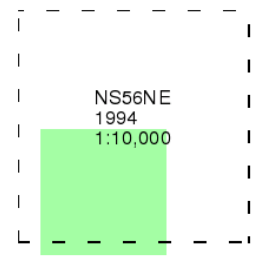
Site Details
 Site at 254780, 666140



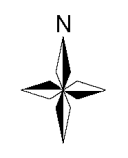
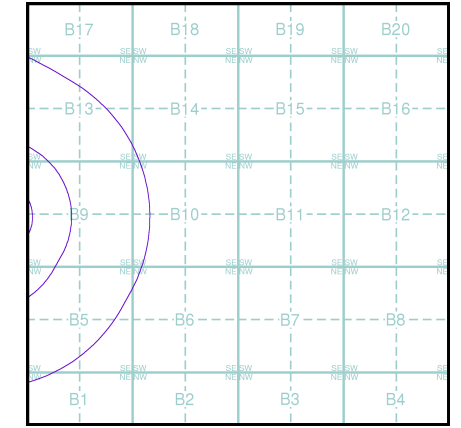
M M
MOTT MACDONALD
Ordnance Survey Plan
Published 1994
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice B



Order Details
 Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 255810, 666040
 Slice: B
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details
 Site at 254780, 666140





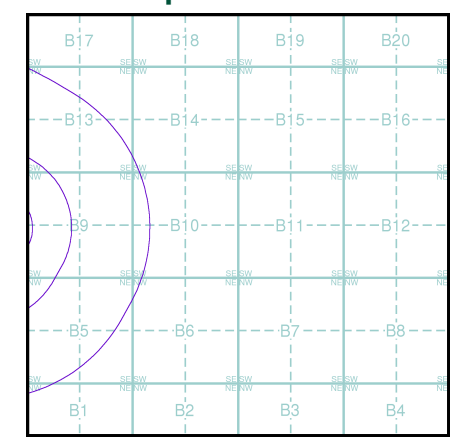
M M
MOTT MACDONALD
10k Raster Mapping
Published 1999
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

NS56NE	1999
1:10,000	
NS56SE	1999
1:10,000	

Historical Map - Slice B



Order Details

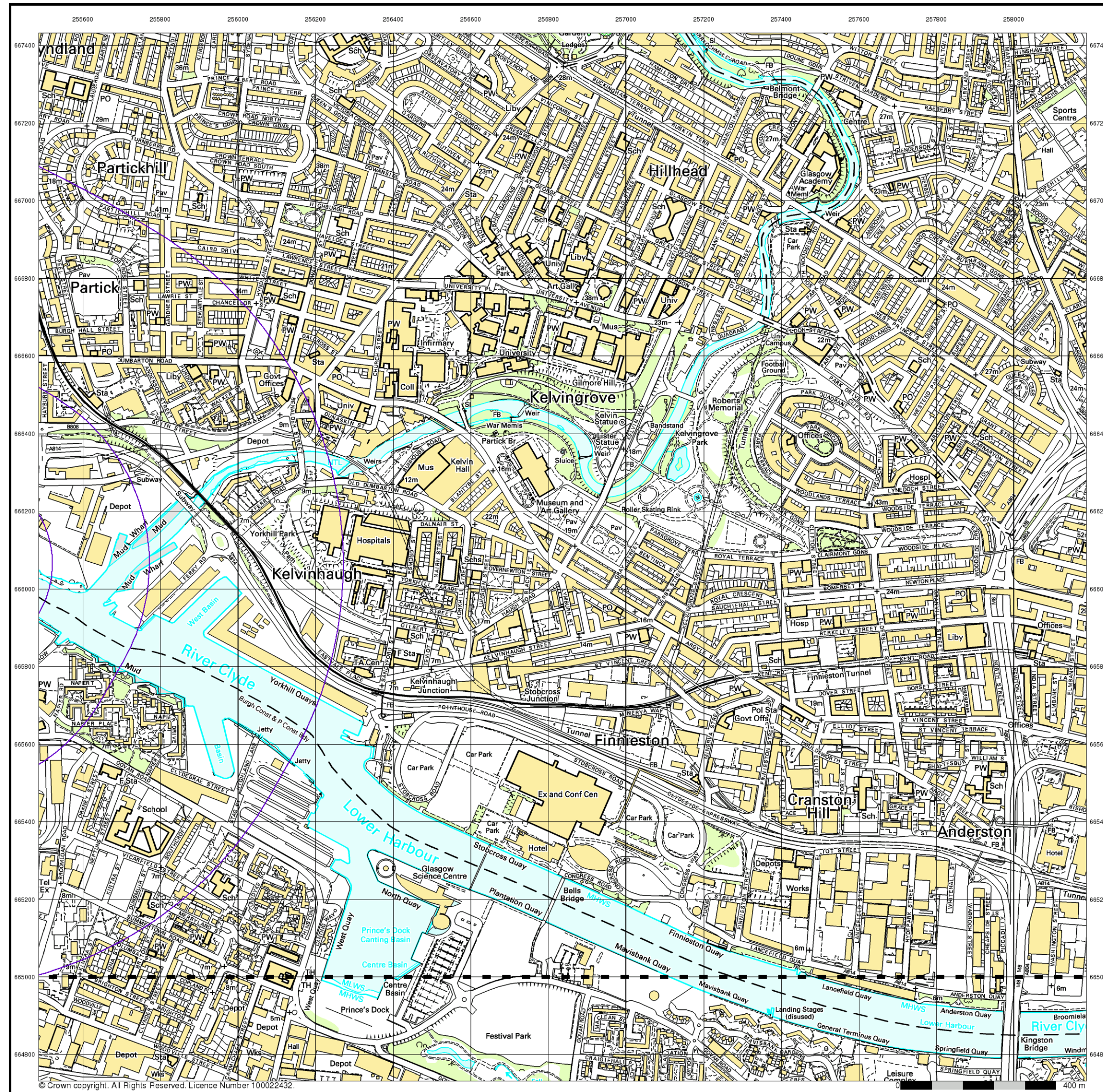
Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 255810, 666040
 Slice: B
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

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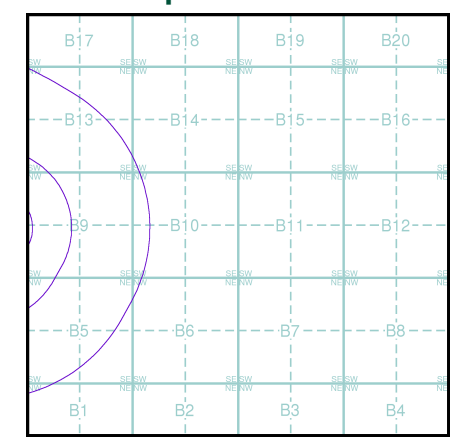
M M
MOTT MACDONALD
10k Raster Mapping
Published 2006
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

NS56NE	2006	1:10,000
NS56SE	2006	1:10,000

Historical Map - Slice B



Order Details
 Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 255810, 666040
 Slice: B
 Site Area (Ha): 25.37
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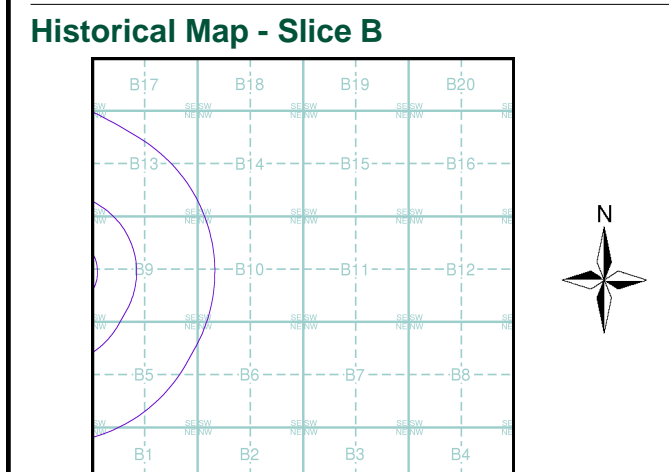


M M
MOTT MACDONALD
VectorMap Local
Published 2021
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities), 1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)

NS56NE | 2021 | Variable
 NS56SE | 2021 | Variable



Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 255810, 666040
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 Site Area (Ha): 25.37
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Site Details



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
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Geology 1:50,000 Maps Legends




Artificial Ground and Landslip






Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	MGR	Made Ground (Undivided)	Artificial Deposit	Not Supplied - Holocene
	WMGR	Infilled Ground	Artificial Deposit	Not Supplied - Holocene

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	SUPNM	Superficial Theme Not Mapped [For Digital Map Use Only]	Unknown/Unclassified Entry	Not Supplied - Not Supplied
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	ALV	Alluvium	Silt and Clay	Not Supplied - Holocene
	RMBDF	RAISED MARINE BEACH DEPOSITS OF HOLOCENE AGE	Sand and Gravel	Not Supplied - Holocene
	R MDF	RAISED MARINE DEPOSITS OF HOLOCENE AGE	Sand and Gravel	Not Supplied - Holocene
	TILLD	Till, Devensian	Diamicton	Not Supplied - Devensian
	RTFDD	Raised Tidal Flat Deposits, Late Devensian	Gravel, Sand and Silt	Not Supplied - Devensian
	RMBDD	Raised Marine Beach Deposits, Late Devensian	Sand and Gravel	Not Supplied - Devensian
	GLDD	Glaciolacustrine Deltaic Deposits	Sand and Gravel	Not Supplied - Pleistocene
	SUPD	Superficial Deposits	Sediment	Not Supplied - Quaternary
	RTDU	River Terrace Deposits (Undifferentiated)	Gravel, Sand and Silt	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	CAL	Calmy Limestone	Limestone	Not Supplied - Namurian
	PGP	Passage Formation	Sedimentary Rock Cycles, Clackmannan Group Type	Not Supplied - Namurian
	OLS	Orchard Limestone	Limestone	Not Supplied - Namurian

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	LSC	Limestone Coal Formation	Sedimentary Rock Cycles, Clackmannan Group Type	Not Supplied - Namurian
	ULGS	Upper Limestone Formation	Sedimentary Rock Cycles, Clackmannan Group Type	Not Supplied - Namurian
	ILS	INDEX LIMESTONE (SCOTLAND)	Limestone	Not Supplied - Namurian
		Rock Segments		
		Faults		

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Geology 1:50,000 Maps

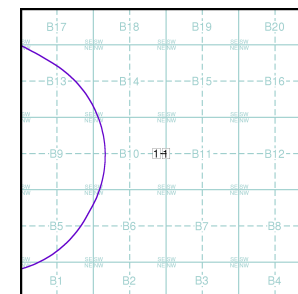
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.

The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID: 1
Map Sheet No: 030E
Map Name: Glasgow
Map Date: 1994
Bedrock Geology: Not Available
Superficial Geology: Available
Artificial Geology: Available
Faults: Not Supplied
Landslip: Available
Rock Segments: Not Supplied

Geology 1:50,000 Maps - Slice B



Order Details:

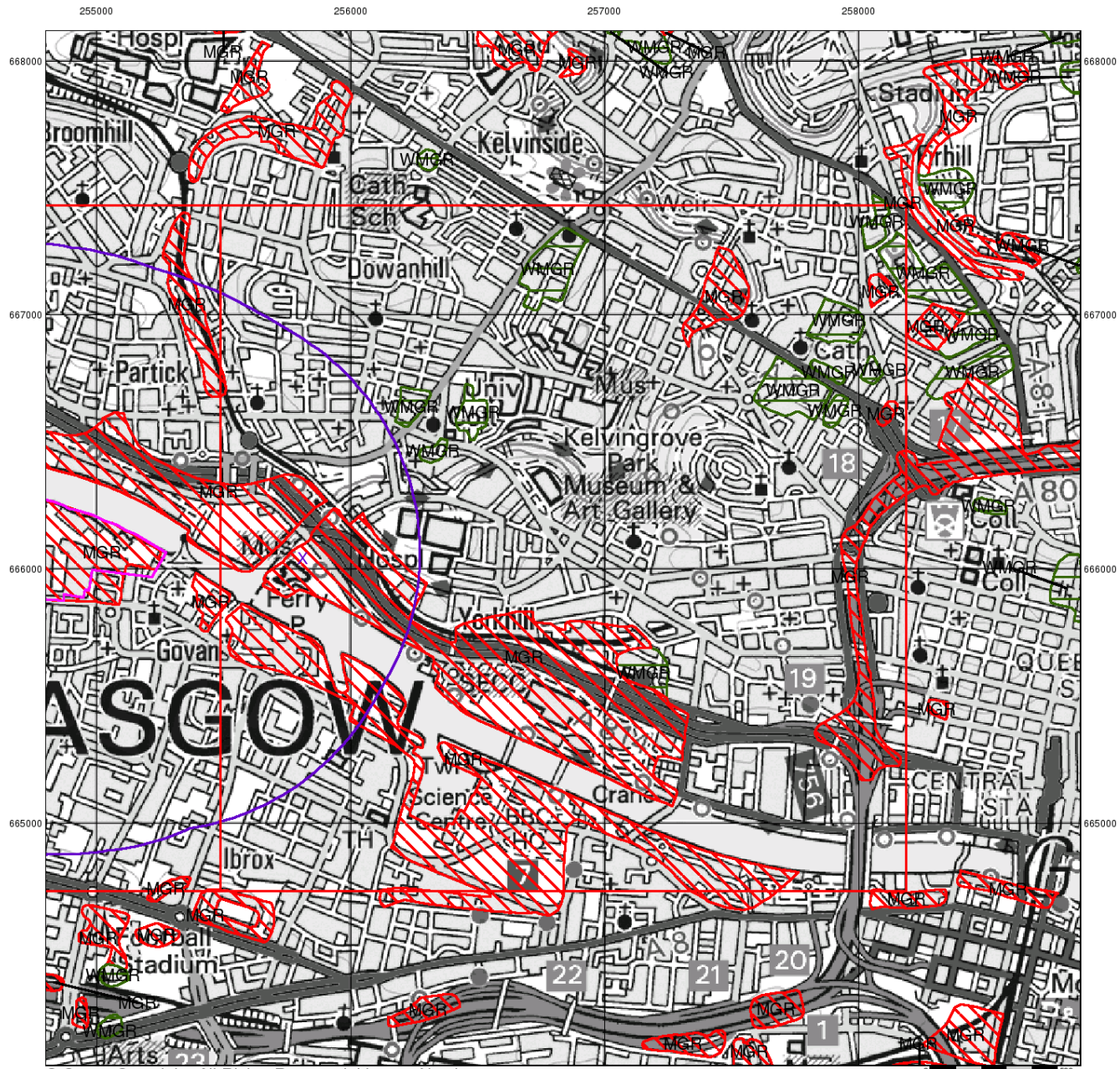
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Customer Reference: 100107212-001
National Grid Reference: 255810, 666040
Slice: B
Site Area (Ha): 25.37
Search Buffer (m): 1000

Site Details:

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Artificial Ground and Landslip

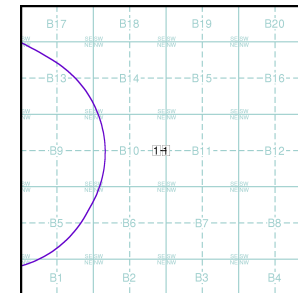
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice B



Order Details:

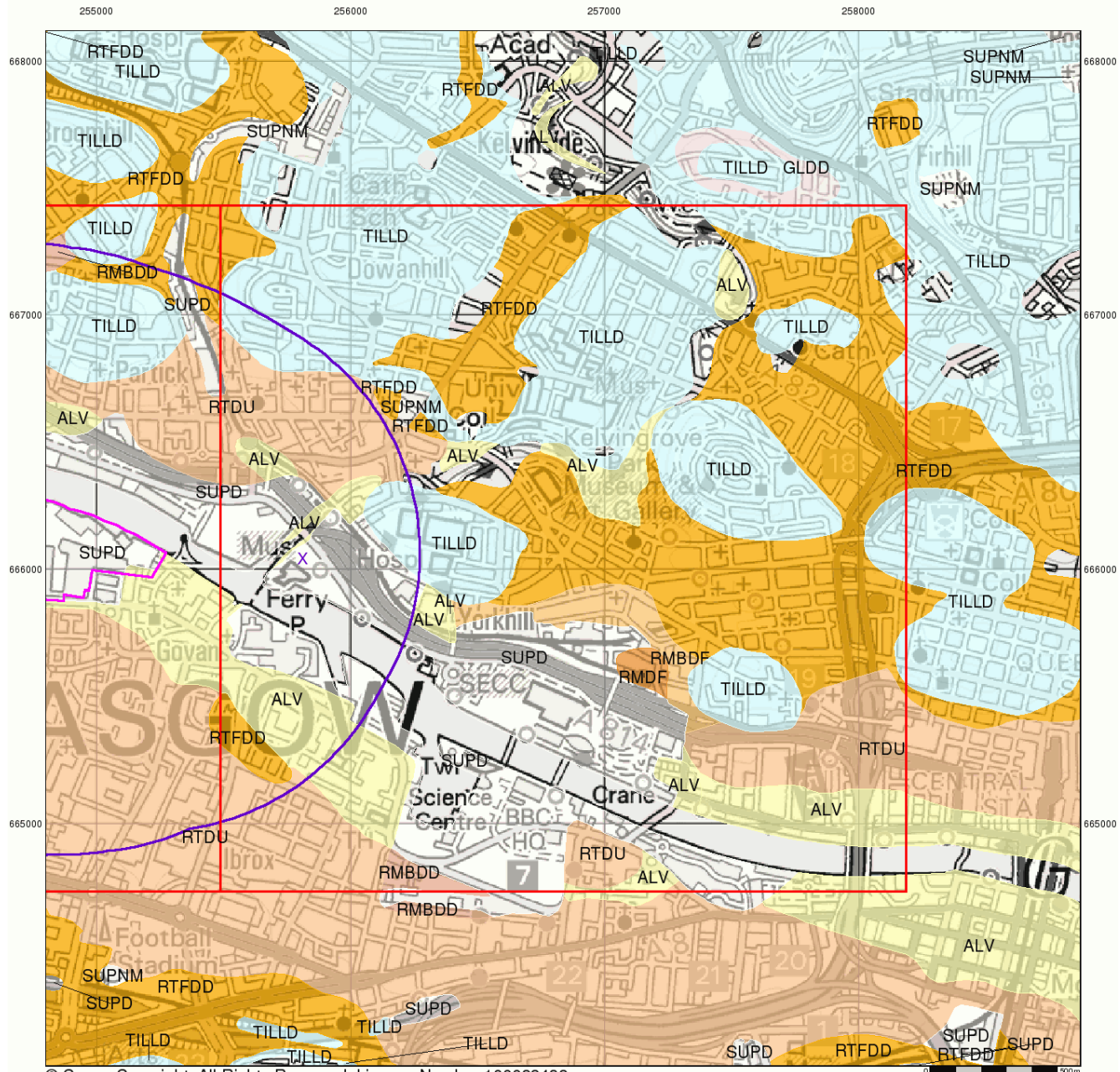
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 Customer Reference: 100107212-001
 National Grid Reference: 255810, 666040
 Slice: B
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details:

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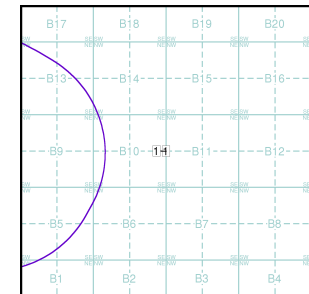
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice B



Order Details:

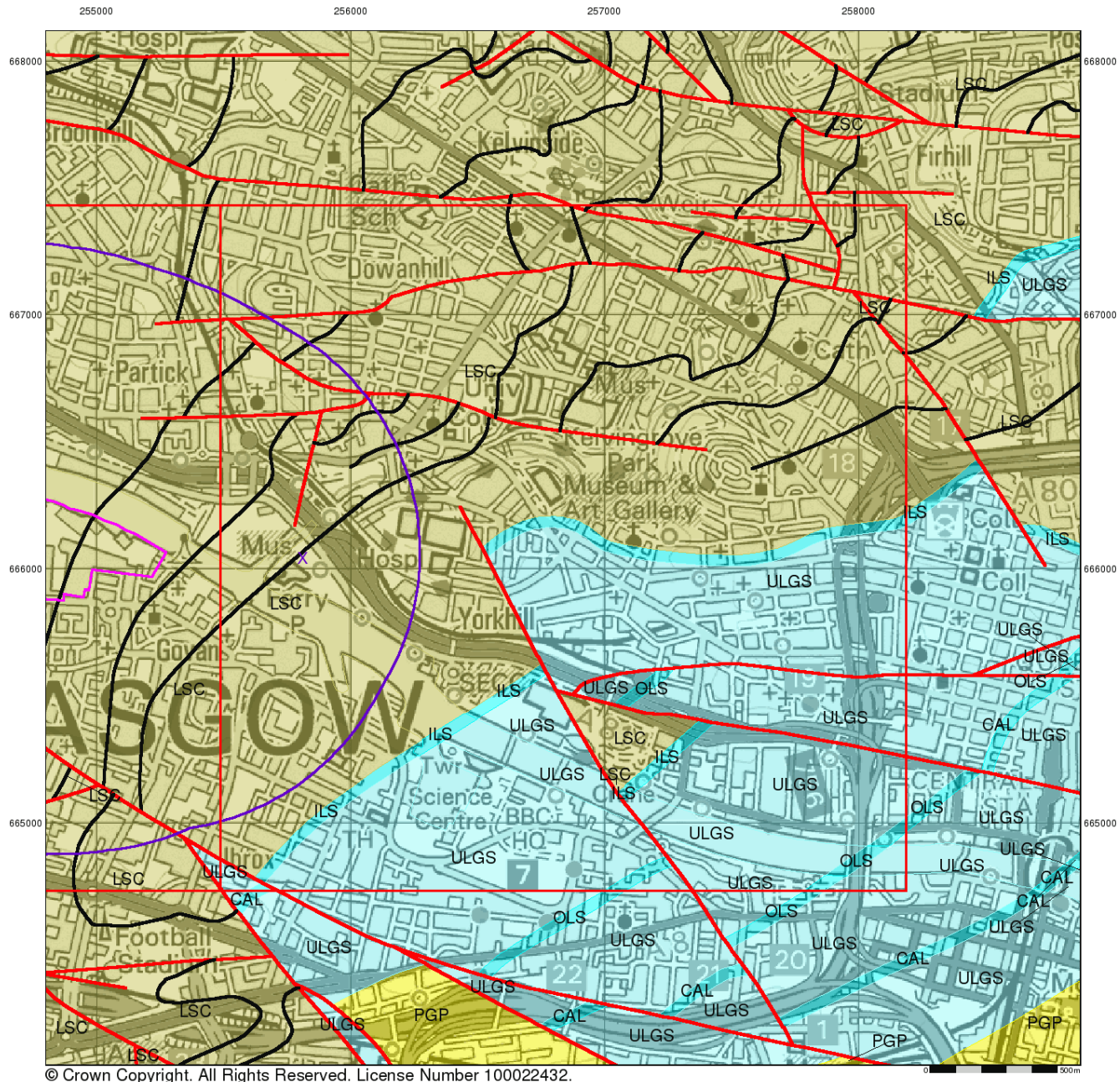
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Bedrock and Faults

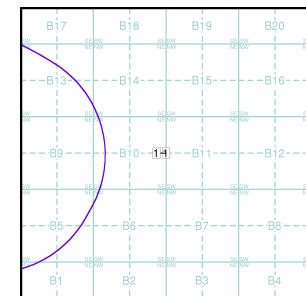
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice B



Order Details:

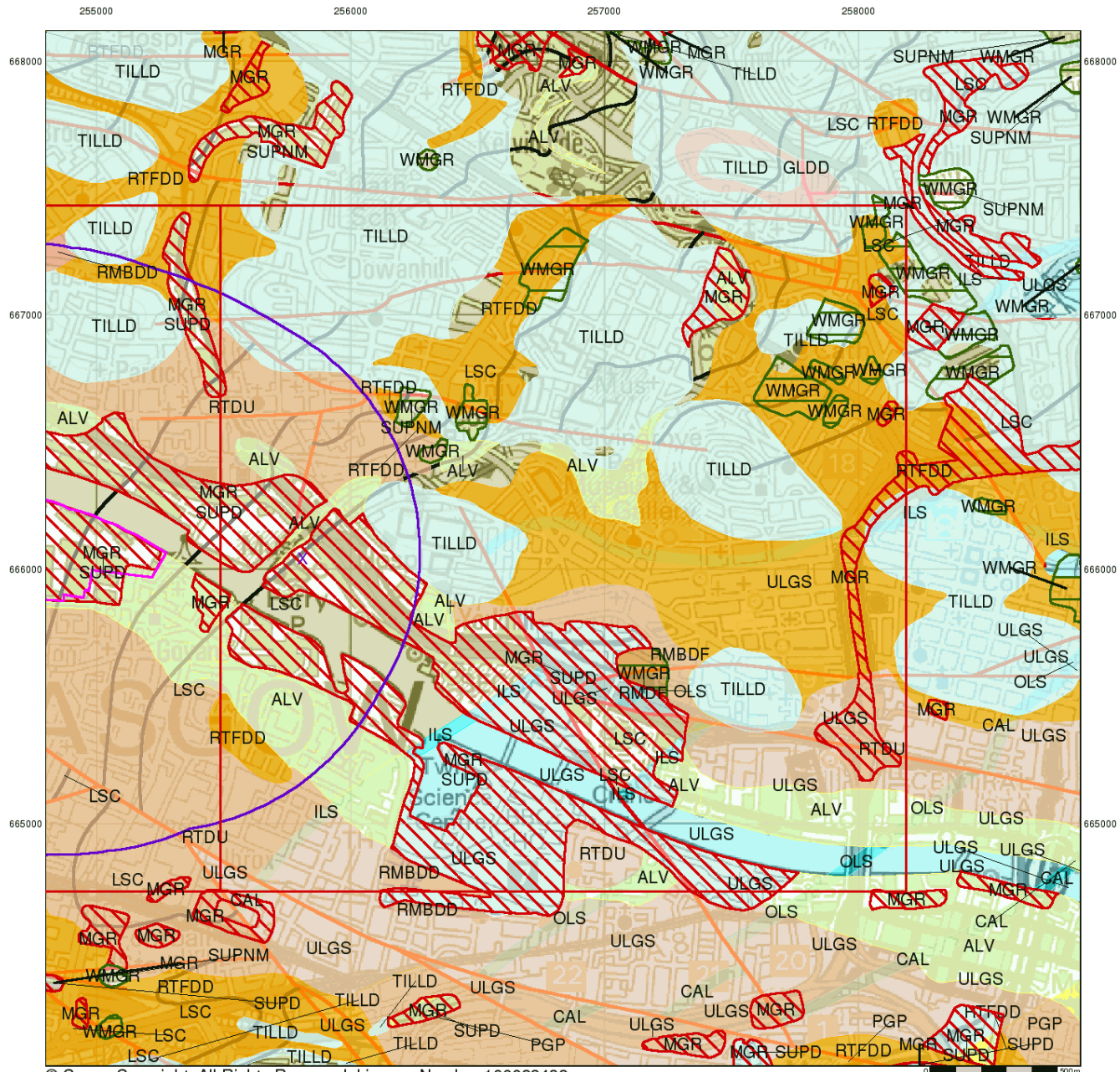
Order Number: 293036501_1_1
 Customer Reference: 100107212-001
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 Slice: B
 Site Area (Ha): 25.37
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Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

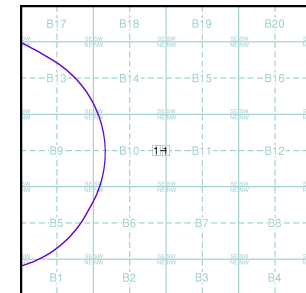
Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

Contact

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 Kingsley Dunham Centre
 Keyworth
 Nottingham
 NG12 5GG
 Telephone: 0115 936 3143
 Fax: 0115 936 3276
 email: enquiries@bgs.ac.uk
 website: www.bgs.ac.uk

Combined Geology Map - Slice B



Order Details:

Order Number: 293036501_1_1
 Customer Reference: 100107212-001
 National Grid Reference: 255810, 666040
 Slice: B
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

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Envirocheck[®] Report:

Mining and Ground Stability Datasheet

Order Details:

Order Number:

293036501_1_1

Customer Reference:

100107212-001

National Grid Reference:

255810, 666040

Slice:

B

Site Area (Ha):

25.37

Search Buffer (m):

1000

Site Details:

Site at 254780, 666140

Client Details:

Mr C Smith

Mott Macdonald

3rd Floor Caledonian Exchange

19a Canning Street

Edinburgh

EH3 8EG

Report Section and Details	Page Number
Summary	-
<p>The Summary section provides an overview of the data contained within the report, detailing the number of data set features or the existence of a data set in relation to the buffer selected.</p> <p>For ease of reference, the report is broken down into 4 sections of data; Mining and Natural Cavities Data, Historical Land Use Information (1:2,500), Historical Land Use Information (1:10,000) and Ground Stability Data (1:50,000).</p>	
Mining and Natural Cavities Data	1
<p>The Mining and Natural Cavities Data section features data sets related to the existence of mining areas and their potential hazards; and details of naturally formed cavities.</p> <p>Data sets within this section are not plotted, with the exception of BGS Recorded Mineral Sites and Potential Mining Areas which feature on the Historical Land Use Information (1:10,000) map.</p>	
Historical Land Use Information (1:2,500)	-
<p>The Historical Land Use Information (1:2,500) section contains data captured from analysis carried out by Landmark of 1:1,250 and 1:2,500 scale historical Ordnance Survey mapping, identifying areas where, historically, the land uses were potentially contaminative.</p> <p>For the purpose of this Envirocheck module, only historical data relating to mining and ground stability has been included and plotted on the corresponding Historical Land Use Information (1:2,500) map. This section also includes the Subterranean Features data set, which details various man-made and man-used underground spaces obtained from the Subterranea Britannica society.</p>	
Historical Land Use Information (1:10,000)	-
<p>The Historical Land Use (1:10,000) section covers data captured from the systematic analysis carried out by Landmark of 1:10, 560 and 1:10,000 scale historical Ordnance Survey mapping dating back to the mid-19th century, identifying potentially contaminative past industrial land uses.</p> <p>For the purpose of this Envirocheck module, only data relating to mining and ground stability has been included and plotted on the accompanying Historical Land Use Information (1:10,000) map.</p>	
Ground Stability Data (1:50,000)	2
<p>The Ground Stability (1:50,000) section includes the BGS Geosure data suite, reporting features to 250m and plotted onto 3 separate maps. Also reported is brine subsidence, brine mining and salt mining data sets, of which Brine Pumping and Salt Mining Related Features are plotted, and subsidence insurance claims and insurance investigations data, which is not plotted.</p>	
Historical Map List	4
<p>The Historical Map List section details the historical mapping that has been analysed for your site, in relation to the Historical Land Use Information sections.</p>	
Data Currency	5
Data Suppliers	6
Useful Contacts	7

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The brine subsidence data relating to the Driotwich area as provided in this report is derived from JPB studies and physical monitoring undertaken annually over more than 35 years. For more detailed interpretation contact enquiries@jpb.co.uk. JPB retain the copyright and intellectual rights to this data and accept no liability for any loss or damage, including in direct or consequential loss, arising from the use of this data.

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Report Version v53.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
Mining and Natural Cavities Data					
BGS Recorded Mineral Sites	pg 1				1
Coal Mining Affected Areas	pg 1	Yes	n/a	n/a	n/a
Man Made Mining Cavities					
Mining Instability	pg 1	Yes	n/a	n/a	n/a
Natural Cavities					
Non Coal Mining Areas of Great Britain	pg 1	Yes	Yes	n/a	n/a
Potential Mining Areas	pg 1				1
Historical Land Use Information (1:2,500)					
Extractive Industries or Potential Excavations from 1855-1909 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1893-1915 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1906-1937 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1924-1949 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1950-1980 (100m)				n/a	n/a
Subterranean Features (100m)				n/a	n/a
Historical Land Use Information (1:10,000)					
Air Shafts					
Disturbed Ground					
General Quarrying					
Heap, unknown constituents					
Mineral Railway					
Mining & quarrying general					
Mining of coal & lignite					
Quarrying of sand & clay, operation of sand & gravel pits					
Former Marshes					
Potentially Infilled Land (Non-Water)					
Potentially Infilled Land (Water)					
Ground Stability Data (1:50,000)					
CBSCB Compensation District			n/a	n/a	n/a
Brine Pumping Related Features					
Brine Subsidence Solution Area					
Potential for Collapsible Ground Stability Hazards	pg 2	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 2	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 2	Yes	Yes	n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 3	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 3	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 3	Yes	Yes	n/a	n/a
Salt Mining Related Features					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Dowanhill Location: Hillhead, Glasgow, Lanarkshire Source: British Geological Survey, National Geoscience Information Service Reference: 31968 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Limestone Coal Formation Commodity: Sandstone Positional Accuracy: Located by supplier to within 100m</p>	B13SE (NE)	987	1	256100 666600
	<p>Coal Mining Affected Areas</p> <p>Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.</p>	B9SW (SW)	0	2	255811 666042
	<p>Mining Instability</p> <p>Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied</p>	B9SW (SW)	0	3	255811 666042
	<p>Non Coal Mining Areas of Great Britain</p> <p>Risk: Rare Source: British Geological Survey, National Geoscience Information Service</p>	B9SW (SW)	0	1	255669 665812
	<p>Non Coal Mining Areas of Great Britain</p> <p>Risk: Rare Source: British Geological Survey, National Geoscience Information Service</p>	B9SW (SW)	104	1	255811 666042
2	<p>Potential Mining Areas</p> <p>Name: Ibrox Ceased Operation: 1882 Commodity: Coal; Gas; Ironstone; Blackband; Clayband Reference: Not Supplied Alternate: Nos. 1, 2, 3 Name/Mine: Custodian: R. and J.M. Hill Brown and Co. 41 West George Street, Glasgow.</p>	B5SW (S)	582	4	255778 665284

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	CBSCB Compensation District The site does not fall within the brine compensation area.				
	Brine Subsidence Solution Area The site does not fall within the brine subsidence solution area.				
3	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	(W)	0	1	255000 666042
4	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	(W)	0	1	255251 666061
5	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B5NW (SW)	75	1	255515 665509
6	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9SW (SW)	102	1	255811 666042
7	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	(W)	124	1	255000 666340
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	(W)	0	1	255000 665871
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	B9SW (SW)	0	1	255570 665862
8	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	(W)	0	1	255000 666042
9	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	(W)	0	1	255251 666061
10	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	(W)	0	1	255000 665871
11	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	B9SW (SW)	0	1	255570 665862
12	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9NW (NW)	102	1	255735 666110
13	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	(W)	124	1	255000 666340
14	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9SW (SW)	142	1	255523 665900
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	(W)	25	1	255000 665834
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	B5NW (SW)	75	1	255496 665512
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	(W)	0	1	255000 666042
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	B9SW (SW)	0	1	255679 665803
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	B9SW (SW)	102	1	255811 666042

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	(W)	124	1	255000 666340
15	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9SW (SW)	0	1	255679 665803
16	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	(W)	0	1	255000 666042
17	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9SW (SW)	102	1	255811 666042
18	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	(W)	124	1	255000 666340
19	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	(W)	0	1	255000 666042
20	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	(W)	0	1	255251 666061
21	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	(W)	0	1	255000 665871
22	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	B9SW (SW)	0	1	255570 665862
23	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B5NW (SW)	75	1	255496 665512
24	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9SW (SW)	102	1	255811 666042
25	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	(W)	124	1	255000 666340
26	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9SW (SW)	142	1	255523 665900
27	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	(W)	0	1	255000 666042
28	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9SW (SW)	0	1	255679 665803
29	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B9SW (SW)	102	1	255811 666042
30	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	(W)	124	1	255000 666340
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	(W)	25	1	255000 665834
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	B5NW (SW)	75	1	255515 665509








No Historical Land Use information available.

The following mapping has been analysed for Historical Land Use Information (1:10,000):

1:10,560	Mapsheet	Published Date
Renfrewshire	009_00	1864
Dumbartonshire	028_00	1864
Dumbartonshire	029_00	1864
Lanarkshire	006_00	1865
Lanarkshire	006_NW	1897
Lanarkshire	006_SW	1897
Renfrewshire	009_SW	1899
Dumbartonshire	026_NW	1899
Lanarkshire	006_NW	1914
Lanarkshire	006_SW	1914
Renfrewshire	009_SW	1920
Lanarkshire	006_NW	1932
Lanarkshire	006_SW	1938
Ordnance Survey Plan	NS56NE	1956
Ordnance Survey Plan	NS56SE	1956
1:10,000	Mapsheet	Published Date
Ordnance Survey Plan	NS56SE	1989
Ordnance Survey Plan	NS56NE	1994

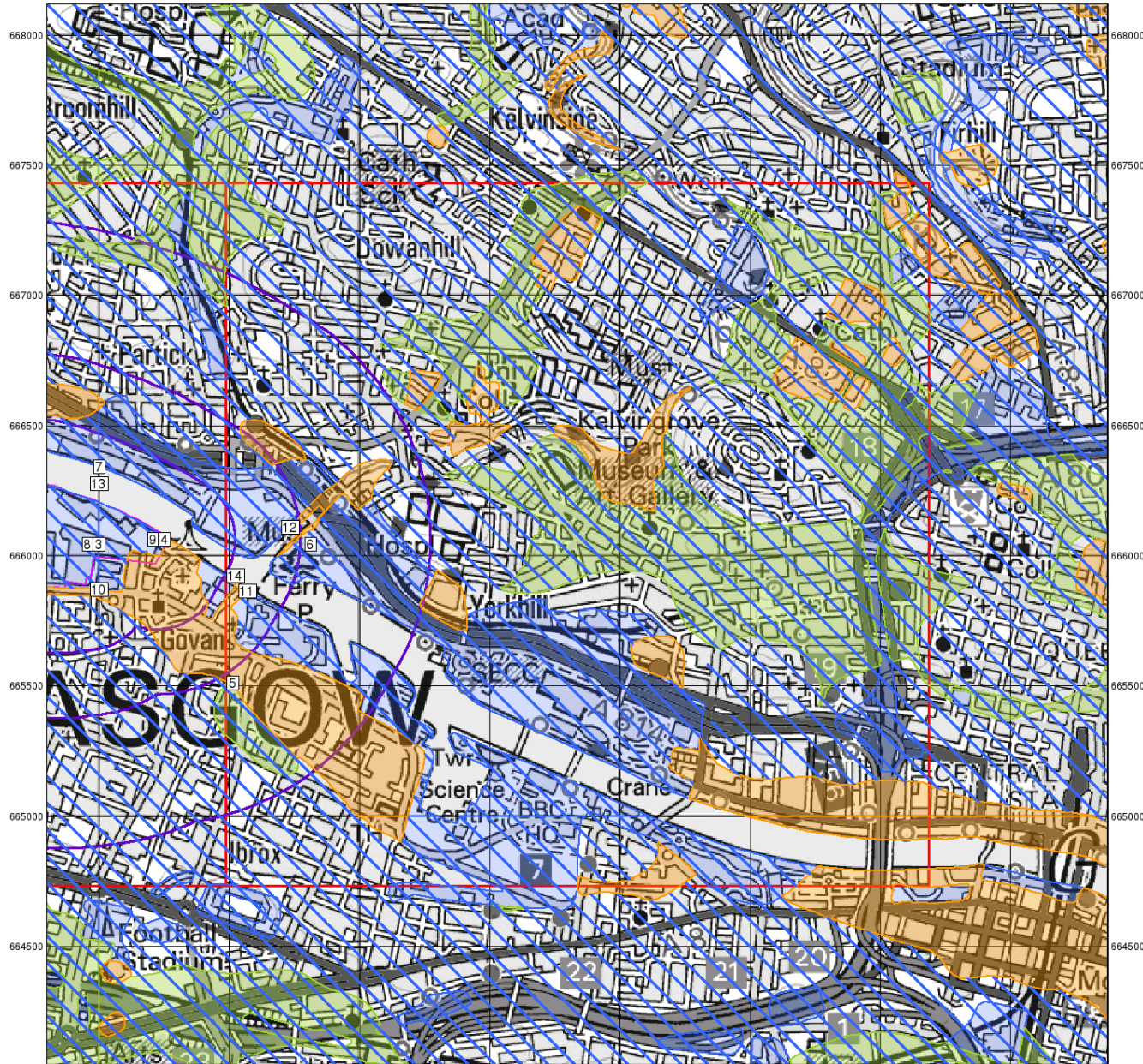
Mining and Cavities Data	Version	Update Cycle
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2021	Bi-Annually
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Man Made Mining Cavities Stantec UK Ltd	December 2021	Bi-Annually
Mining Instability Ove Arup & Partners	June 1998	Not Applicable
Natural Cavities Stantec UK Ltd	December 2021	Bi-Annually
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Historical Land Use Information (1:2,500)	Version	Update Cycle
Subterranean Features Landmark Information Group Limited	February 2020	Bi-Annually
Ground Stability Data (1:50,000)	Version	Update Cycle
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB) Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011 November 2020	As notified
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	As notified
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Brine Subsidence Solution Area Johnson Poole & Bloomer	December 2020	Annual Rolling Update

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
British Geological Survey	 British Geological Survey <small>NATURAL ENVIRONMENT RESEARCH COUNCIL</small>
The Coal Authority	 The Coal Authority
Ove Arup	
Stantec UK Ltd	
Wardell Armstrong	 wardell armstrong <i>your earth our world</i>
Johnson Poole & Bloomer	

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	The Coal Authority - Property Searches 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
3	Ove Arup & Partners Central Square, Forth Street, Newcastle upon Tyne, Tyne and Wear, NE1 3PL	Telephone: 0191 261 6080 Fax: 0191 261 7879
4	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9960 Fax: 0844 844 9951 Email: customerservice@promap.co.uk Website: www.landmarkinfo.co.uk
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

255000 255500 256000 256500 257000 257500 258000 258500



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Ground Stability Data (1:50,000)

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Potential for Compressible Ground Stability Hazards

- High
- Low
- Moderate
- Very Low

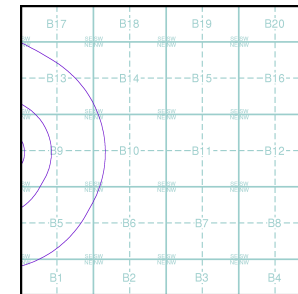
Potential for Collapsible Ground Stability Hazards

- High
- Low
- Moderate
- Very Low

Brine Pumping and Salt Mining

- | | Point | Polygon |
|-------------------------------|-------|---------|
| Brine Pumping Related Feature | | |
| Salt Mining Related Feature | | |

Mining and Ground Stability - Slice B



Order Details

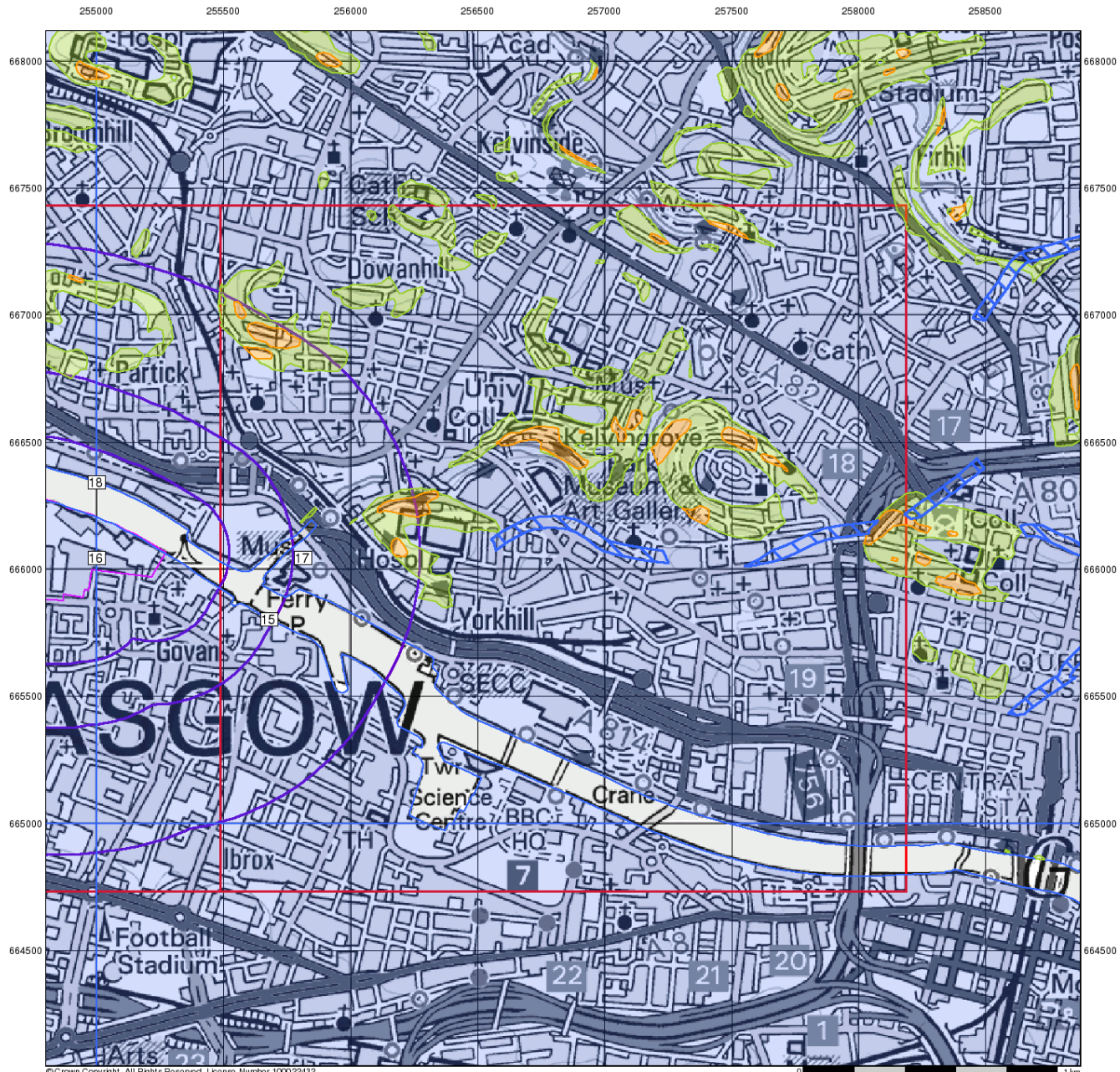
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 Customer Ref: 100107212-001
 National Grid Reference: 255810, 666040
 Slice: B
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

Site at 254780, 666140

Landmark
 INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



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Ground Stability Data (1:50,000)

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

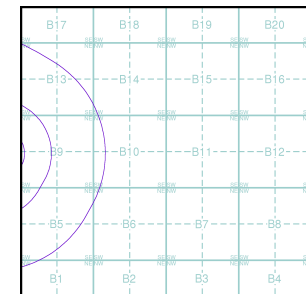
Potential for Landslide Ground Stability Hazards

- High
- Low
- Moderate
- Very Low

Potential for Ground Dissolution Stability Hazards

- High
- Low
- Moderate
- Very Low

Mining and Ground Stability - Slice B



Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 255810, 666040
 Slice: B
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

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Ground Stability Data (1:50,000)

General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point
-  Slice
-  Map ID

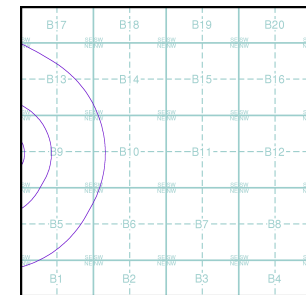
Potential for Running Sand Ground Stability Hazards

-  High
-  Low
-  Moderate
-  Very Low

Potential for Shrinking or Swelling Clay Ground Stability Hazards

-  High
-  Low
-  Moderate
-  Very Low

Mining and Ground Stability - Slice B



Order Details

Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 255810, 666040
 Slice: B
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

Site at 254780, 666140

Landmark
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 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



M M

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Historical Land Use Information (1:10,000)

General
 Specified Site Specified Buffer(s) Bearing Reference Point Map ID
 Several of Type at Location

Potentially Contaminative Industrial Uses (Past Land Uses - Mining)

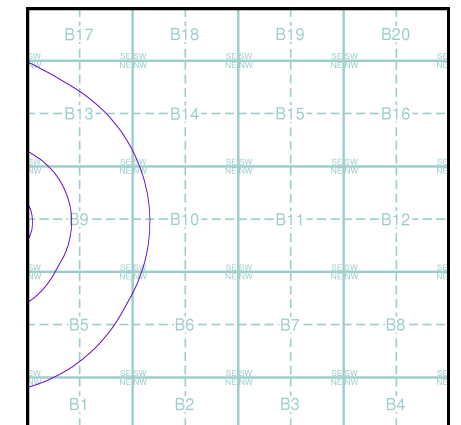
	Point	Line	Polygon
Air Shafts			
Disturbed Ground			
General Quarrying			
Heap, unknown constituents			
Mineral Railway			
Mining and Quarrying General			
Mining of Coal & Lignite			
Quarrying of Sand and Clay, Operation of Sand and Gravel Pits			

	Point	Line	Polygon
Potentially Infilled Land (Non-Water)			
Potentially Infilled Land (Water)			
Former Marsh			

Mining Data

- Potential Mining Area
- BGS Recorded Mineral Site

Mining and Ground Stability - Slice B



Order Details


Order Number: 293036501_1_1
 Customer Ref: 100107212-001
 National Grid Reference: 255810, 666040
 Slice: B
 Site Area (Ha): 25.37
 Search Buffer (m): 1000

Site Details

Site at 254780, 666140

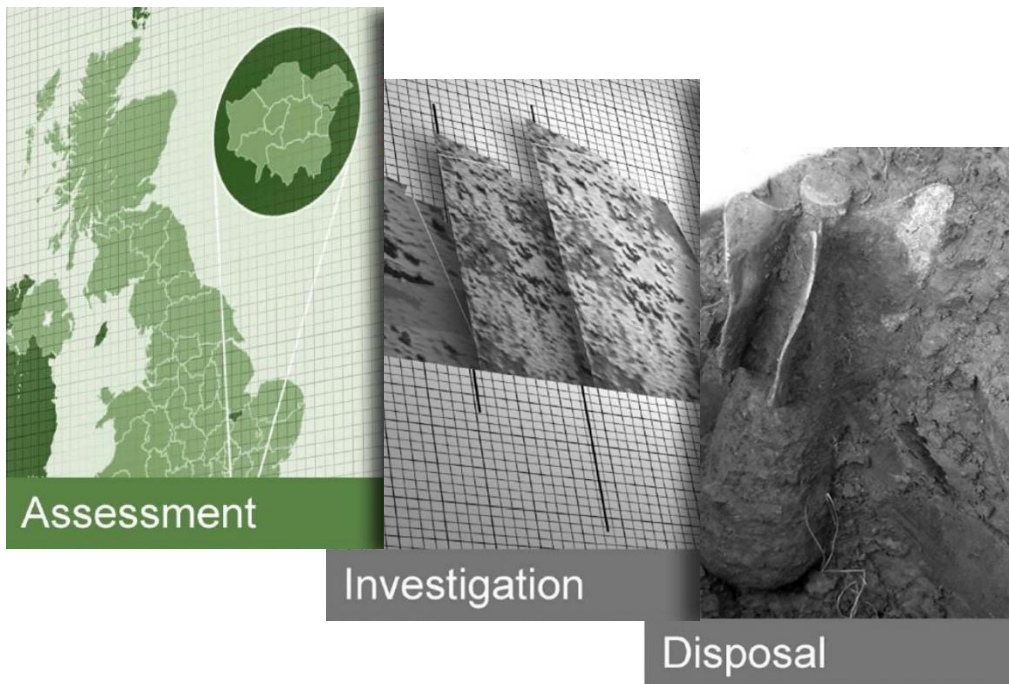
D. UXO

D.1 Pre-Desk Study Assessment

	
Pre-Desk Study Assessment	
Site:	BAE Govan
Client:	Mott MacDonald
Contact:	Callum Duke
Date:	21 st February 2021
Pre-WWI Military Activity on or Affecting the Site	A shipyard was constructed on the Site in 1864 by Fairfield Shipbuilding & Engineering Company. It built a number of commercial and naval vessels prior to WWI.
WWI Military Activity on or Affecting the Site	Fairfield Shipyard manufactured a variety of vessels for the Royal Navy (RN), including battlecruisers, destroyers and torpedo boats.
WWI Strategic Targets (within 5km of Site)	<p>The following strategic targets were located in the vicinity of the Site:</p> <ul style="list-style-type: none"> ■ Docks, wharves, and shipbuilding yards on the River Clyde. ■ Transport infrastructure and public utilities. ■ Industries important to the war effort, including munitions factories, engineering and metal works. ■ Royal Flying Corps (RFC) Renfrew.
WWI Bombing	None identified on the Site.
Interwar Military Activity on or Affecting the Site	Fairfield Shipyard continued to manufacture some naval vessels during the inter-war years.
WWII Military Activity on or Affecting the Site	Fairfield Shipyard again manufactured a variety of vessels for the RN, including destroyers and aircraft carriers.

<p>WWII Strategic Targets (within 5km of Site)</p>	<p>The following strategic targets were located in the vicinity of the Site:</p> <ul style="list-style-type: none"> ■ Docks, wharves, and shipbuilding yards on the River Clyde. ■ Transport infrastructure and public utilities. ■ Industries important to the war effort, including engineering and metal works. ■ Royal Air Force (RAF) Renfrew. ■ Military camps and training areas. ■ Anti-Aircraft (AA) and anti-invasion defences.
<p>WWII Bombing Decoys (within 5km of Site)</p>	<p>None.</p>
<p>WWII Bombing</p>	<p>During WWII the Site was located in the Large Burgh (LB) of Glasgow, which officially recorded 246No. High Explosive (HE) bombs with a bombing density of 6.3 bombs per 405 hectares (ha).</p> <p>Readily available records have been found to indicate that several HE bombs fell in close proximity to the Site.</p>
<p>Post-WWII Military Activity on or Affecting the Site</p>	<p>Fairfield Shipyard manufactured naval vessels in smaller numbers post-WWII. In 1999, the shipyard was acquired by BAE Systems to manufacture surface ships.</p>
<p>Recommendation</p>	<p>It is recommended that a detailed desk study is commissioned to assess, and potentially zone, the Unexploded Ordnance (UXO) hazard level on the Site.</p>
<p>Further information</p>	<p>For information about Zetica's detailed UXO desk studies and other UXO services, please visit our website: www.zeticauxo.com.</p> <p>Details and downloadable resources covering the most common sources of UXO hazard affecting sites in the UK can be found here.</p> <p>If you have any further queries, please don't hesitate to get in contact with us at uxo@zetica.com or 01993 886 682.</p>
<p>This summary is based on a cursory review of readily available records. Caution is advised if you plan to action work based on this summary.</p> <p>It should be noted that where a potentially significant source of UXO hazard has been identified on the Site, the requirement for a detailed desk study and risk assessment has been confirmed and no further research will be undertaken at this stage. It is possible that further in-depth research as part of a detailed UXO desk study and risk assessment may identify other potential sources of UXO hazard on the Site.</p>	

D.2 UXO Desk Study & Risk Assessment



BAE Govan - UXO Desk Study & Risk Assessment

Drafted by Ellie Chaston
Checked by Abi Newton
Authorised by Stefan Lang

Document Title UXO Desk Study & Risk Assessment
Document Ref. P11620-22-R1
Revision A
Project Location BAE Govan
Client Mott MacDonald
Date 28th April 2022

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UXO DESK STUDY & RISK ASSESSMENT

EXECUTIVE SUMMARY

Key findings: No significant sources of Unexploded Ordnance (UXO) hazard have been identified.

Key actions: Proceed with works.

UXO Hazard Assessment

No records have been found indicating that the Site was bombed and no other significant sources of UXO hazard have been identified on the Site.

Given this, it is considered that the Site has a low UXO hazard level, as shown in the following Figure, reproduced as Figure 6 in the main report.

The UXO hazard zone plan of the Site is also given in the accompanying P11620-22-R1-MAP01-A.

UXO hazard zone plan of the Site



Legend	Very Low	■	Low	■	Moderate	■
	High	■	Very High	■	Site boundary	—

The main findings of the report are summarised below.

- In 1864, Fairfield Shipyard was established, encompassing the Site. It produced both commercial and naval vessels.
- During WWI, Fairfield Shipyard manufactured a variety of vessels for the Royal Navy (RN).
- During World War Two (WWII) the main strategic targets in the vicinity of the Site included shipyards, docks, and wharves along the River Clyde, Royal Air Force (RAF) Renfrew, major transport infrastructure, public utilities, and engineering works.
- During WWII, Fairfield Shipyard produced 47No. warships for the RN, including destroyers and aircraft carriers.

- No records have been found indicating that the Site was bombed during WWII. Records indicate that the nearest High Explosive (HE) bomb fell on Fairfield Shipbuilding and Engineering works, approximately 0.1km east of the Site, on the 13th March 1941.
- After WWII, Fairfield Shipyard returned to the production of merchant ships and tankers, but continued to produce naval vessels. The shipyard is currently occupied by BAE Systems Surface Ships.

Data Confidence Level

The findings of this report were based on good corroborative evidence of the military activity and bombing on the Site.

Proposed Works

It is understood that works on the Site will comprise piling and intrusive ground investigations associated with the infilling of the existing basin and the establishment of a large shipbuilding shed on the reclaimed land.

For the purpose of this risk assessment, it is assumed that works on the Site may also include excavations.

Risk Assessment

The Table below, reproduced as Table 4 in the main report, provides a UXO risk assessment for the proposed works on the Site.

Further details on the methodology for the risk assessment are provided in Section 7.2 of the main report.



UXO risk assessment for the Site

Potential UXO Hazard	Anticipated Works	PE	PD	P = PE x PD	Likelihood	Severity	Risk Rating	UXO Risk
UXB	Shallow Excavations	1	1	1	1	5	5	Low
	Deep Excavations	1	1	1	1	5	5	Low
	Boreholes/Piling	1	1	1	1	4	4	Low
Other UXO	Shallow Excavations	1	1	1	1	4	4	Low
	Deep Excavations	1	1	1	1	4	4	Low
	Boreholes/Piling	1	1	1	1	3	3	Low
PE (Probability of Encounter), PD (Probability of Detonation), P (Overall Probability)								
Shallow Excavations defined as <1.0m below ground level (bgl.)								

Risk Mitigation Plan

The Table below, reproduced as Table 5 in the main report, summarises the UXO risk for proposed works on the Site and recommended actions.

Summary of UXO risk and mitigation recommendations

Proposed Works	UXO Risk	Recommended Mitigation
Excavations		<p>Proceed with works – if additional comfort is required to address the residual UXO hazard, a formal UXO awareness briefing can be provided.</p>
Boreholes/Piling		<p>Proceed with works</p>

In summary, no additional measures are considered essential to reduce the UXO risk on the Site to As Low As is Reasonably Practicable (ALARP).

What Do I Do Next?

If you have any comments or require further assistance, contact us via phone (01993 886682) or email (uxo@zetica.com) and we can help.

If you have requirements to identify other buried hazards (such as mapping utilities or obstructions) we can provide these surveys.

If proposed works on the Site change, or additional works are planned, contact Zetica for a re-assessment of the UXO risk and the risk mitigation requirements.

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Accompanying GIS Data

P11620-22-R1-MAP01-A (UXO Desk Study)

ABBREVIATIONS

AA	Anti-Aircraft
ALARP	As Low As Reasonably Practicable
ARP	Air Raid Precaution
AXO	Abandoned Explosive Ordnance
BAe	British Aerospace
BD	Bomb Disposal
BDO	Bomb Disposal Officer
BDU	Bomb Disposal Unit
CMD	Conventional Munitions Disposal
DCLG	Department of Communities and Local Government
EO	Explosive Ordnance
EOC	Explosive Ordnance Clearance
EOR	Explosive Ordnance Reconnaissance
ERW	Explosive Remnants of War
ESA	Explosive Substances and Articles
FFE	Free From Explosives
GEC	General Electric Company
HAA	Heavy Anti-Aircraft
HE	High Explosive
HSE	Health and Safety Executive
IB	Incendiary Bomb
IED	Improvised Explosive Device
IEDD	Improvised Explosive Device Disposal
JSEODOC	Joint Services EOD Operations Centre
LAA	Light Anti-Aircraft
MoD	Ministry of Defence
OB	Oil Bomb
PM	Parachute Mine
PUCA	Pick Up and Carry Away
RAF	Royal Air Force
RFA	Royal Field Artillery
RN	Royal Navy
SAA	Small Arms Ammunition
TEP	Time Expired Pyrotechnics
UCS	Upper Clyde Shipbuilders
USACE	United States Army Corps of Engineers
UXAA	Unexploded Anti-Aircraft
UXB	Unexploded Bomb
UXO	Unexploded Ordnance
UXPM	Unexploded Parachute Mine
WWI	World War One
WWII	World War Two

UXO DESK STUDY & RISK ASSESSMENT

Please read: Zetica has colour coded each paragraph. Paragraphs with black text on a white background are paragraphs that provide site-specific information or information specifically researched as part of this project.

Boxed paragraphs in a dark green text with a green background are paragraphs providing general information and, where appropriate, links to online resources giving further detail. These are all available at www.zeticauxo.com. If you cannot gain access to these resources, Zetica can forward them on request.

1 INTRODUCTION

1.1 Project Outline

Zetica Ltd was commissioned by Mott MacDonald to carry out a detailed Unexploded Ordnance (UXO) Desk Study and Risk Assessment for an area of approximately 6.7 hectares (ha) at BAE Govan, off Govan Road and the River Clyde in Glasgow, Scotland (the 'Site').

The aim of this report is to gain a fair and representative view of the UXO hazard for the Site and its immediate surrounding area in accordance with the Construction Industry Research and Information Association (CIRIA) C681 'Unexploded Ordnance (UXO), a Guide for the Construction Industry' and C754 'Assessment and Management of Unexploded Ordnance (UXO) Risk in the Marine Environment'.

Where appropriate, this hazard assessment includes:

- Likelihood of ordnance being present.
- Type of ordnance (size, filling, fuze mechanisms).
- Quantity of ordnance.
- Potential for live ordnance.
- Probable location.
- Ordnance condition.

It should be noted that some military activity providing a source of UXO hazard may not be recorded and therefore there cannot be any guarantee that all UXO hazards affecting the Site have been identified in this report.

1.2 Sources of Information

Zetica Ltd researched the military history of the Site and its surrounding area using a range of information sources. The main sources of information are detailed in the following sections and referenced at the end of this report.

1.2.1 Zetica Ltd Defence Related Site Records

Zetica Ltd's in-house records were consulted, including reference books and archived materials from past work in the region. Relevant documents have been cited within the bibliography of this report.

1.2.2 Zetica Ltd Bombing Density Records and Maps

Reference has been made to the Zetica Ltd bomb risk maps located on Zetica's website (<http://zeticauxo.com/downloads-and-resources/risk-maps/>)

1.2.3 Ministry of Defence and Government Records

Government departments and units within the Ministry of Defence (MoD) were approached for information of past and present military activity in the area. These included the Department of Communities and Local Government (DCLG) records of abandoned bombs.

1.2.4 Other Historical Records, Maps and Drawings

Numerous reference documents including historical maps, aerial photographs and drawings have been consulted from sources such as the National Archives, the US National Archives & Records Administration (NARA), the Imperial War Museum (IWM), the National Collection of Aerial Photography (NCAP), and the Defence of Britain Project.

The British Geological Survey (BGS) was consulted for borehole information.

1.2.5 Local Authority Records

Information was obtained from Glasgow City Council.

1.2.6 Local Record Offices and Libraries

Glasgow City Archives was consulted for records.

1.2.7 Local Historical and Other Groups

Local history groups and archaeological bodies were consulted, including Historic Environment Scotland (HES) and Fairfield Heritage Centre.

1.3 Data Confidence Level

In general, there is a high level of confidence in the researched information sources used for this report. Exceptions to this are specifically detailed in the text of the report.

2 THE SITE

2.1 Site Location

The Site is centred on Ordnance Survey National Grid Reference (OSNGR) NS 546661. It is located approximately 4.4km west of central Glasgow.

The Site comprises a shipyard basin, buildings, and hardstanding associated with BAE Govan. It is bounded to the north by the River Clyde, and to the east, south, and west by buildings and hardstanding associated with BAE Govan.

Figure 1 is a Site location map and Plate 1 is a recent aerial photograph of the Site.

Figure 1 Site location map

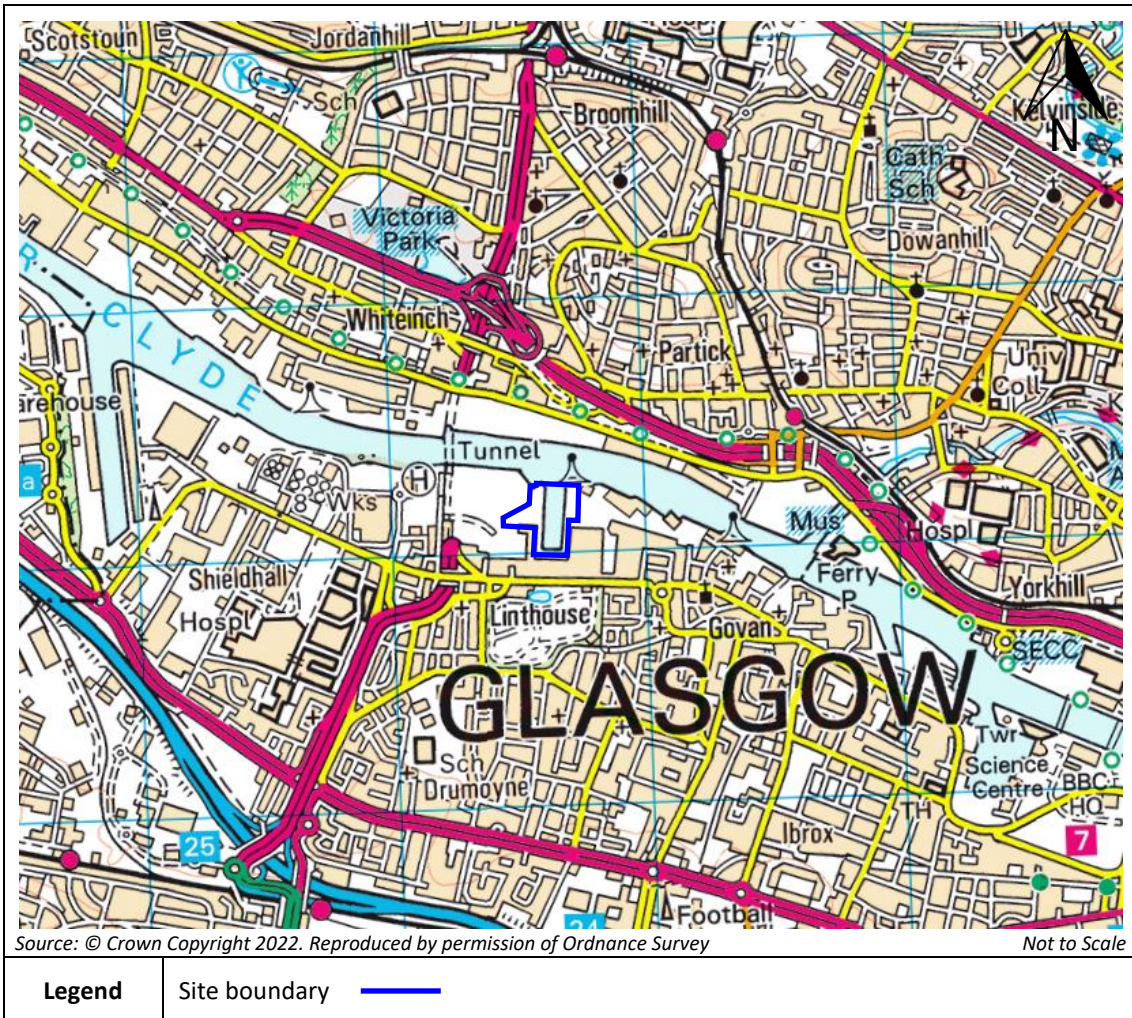


Plate 1 Recent aerial photograph of the Site



Source: Google Earth

Not to Scale

Legend	Site boundary 
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3 MILITARY ACTIVITY

The following sections outline the recorded military activity in the vicinity of the Site. The potential UXO hazard from WWI and WWII bombing is detailed in Section 4 and UXO in the marine environment in Section 5.

Each sub-section provides hyperlinks to further information on potential sources of UXO hazard. These are also available at www.zeticauxo.com. If you cannot gain access to these resources, Zetica can forward them on request.

3.1 Fairfield Shipyard

By the 19th century, numerous shipbuilding yards had been established along the River Clyde. Since 1864, the Site has been encompassed by a shipbuilding yard which produced numerous naval vessels throughout its history.

A brief history of Fairfield Shipyard is provided below.

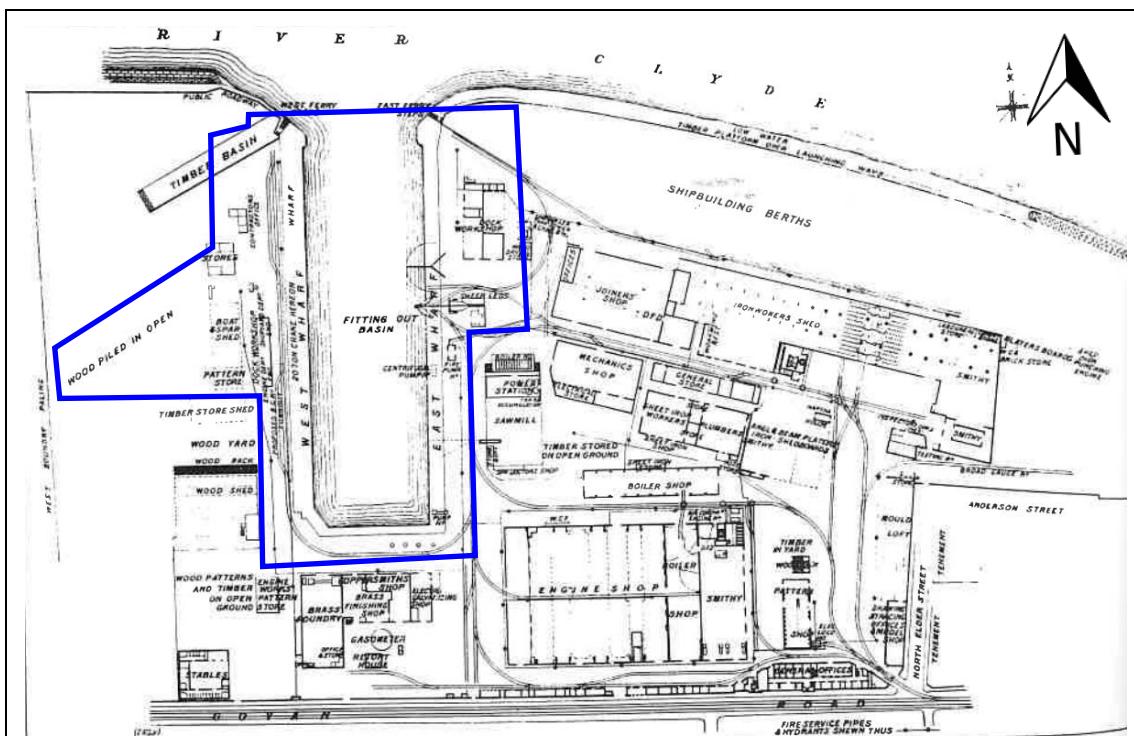
3.1.1 Pre-WWI

In 1864, John Elder & Company established a six-berth shipbuilding yard at Govan, encompassing the Site.

In 1885, John Elder & Co was incorporated as a limited company, the Fairfield Shipbuilding and Engineering Company. It was engaged in the production of commercial vessels, including transatlantic liners and steamers, and naval vessels, including troop carriers, hospital ships, and warships.

Figure 2 is a plan of Fairfield Shipyard dating from 1909. This shows that the Site comprised a fitting out basin, several stores and workshops, and a track along which the Fairfield Titan, a crane for lifting engines and boilers aboard ships, operated.

Figure 2 Plan of Fairfield Shipyard, 1909



Source: Middlemiss

Not to Scale

<p>Legend</p>	<p>Site boundary ———</p>
----------------------	---

3.1.2 WWI

During WWI, production at Fairfield Shipyard was primarily focused on the production of vessels for the Royal Navy (RN). Throughout WWI, 43No. naval vessels were produced at the shipyard, including 1No. dreadnought, and several battle cruisers, destroyers, minesweepers, and torpedo boats.

In WWI, the West Yard was established at Fairfield Shipyard, encroaching onto the western part of the Site (see Figure 3), for the production of submarines.

3.1.3 Inter-war period

After WWI, the Fairfield Shipyard continued to produce some naval vessels, but returned to predominantly merchant shipbuilding.

In 1919, the Fairfield Shipbuilding and Engineering Co. became a subsidiary of the Northumberland Shipbuilding Company.

In 1920, the West Yard was redeveloped, but its use was short-lived, and it was dismantled in 1934.

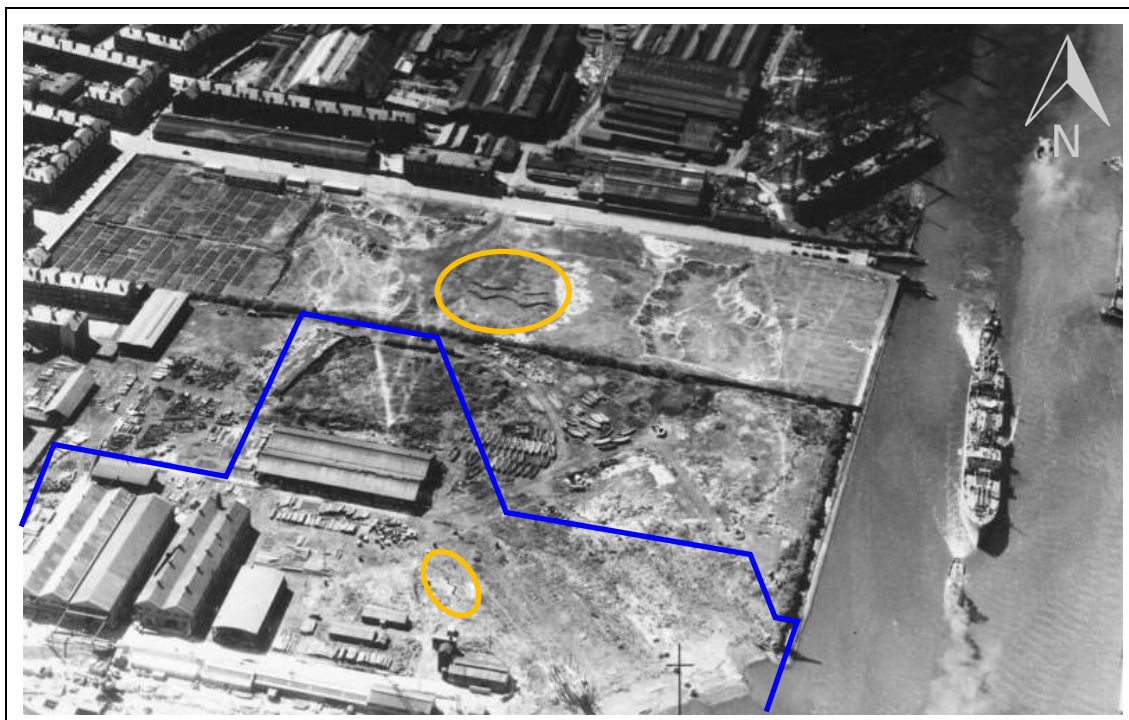
In 1935, Fairfield Shipyard was taken over by Lithgow of Port Glasgow.

3.1.4 WWII

During WWII, Fairfield Shipyard returned to the production of RN vessels. The shipyard produced 47No. warships during WWII, including 1No. battleship, 2No. aircraft carriers, 3No. cruisers, 21No. destroyers, 16No. landing craft, 2No. sloops, and 2No. transport ferries.

Plate 2 is an aerial photograph dated the 11th July 1940. 3No. trenches have been identified, 1No. of which was located on the Site. It is likely that these were air raid trenches for use by workers at Fairfield Shipyard and the adjacent Linthouse Shipyard.

Plate 2 Aerial photograph, 11th July 1940



Source: NCAP

Not to Scale

Legend	Site boundary —	Air raid trenches —
---------------	---	---

In 1944, the United States Army Corps of Engineers (USACE) used the West Yard at Fairfield Shipyard (see Figure 3) for the production of landing craft.

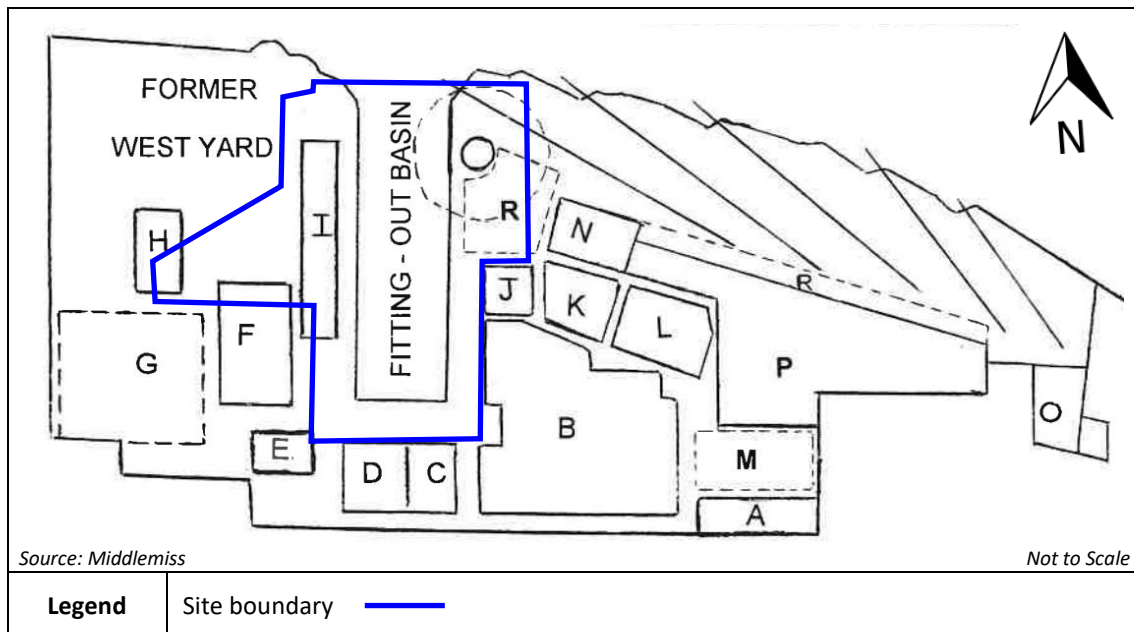
3.1.5 Post-war period

After WWII, Fairfield Shipyard returned to the production of merchant ships and tankers. It continued to produce some naval vessels, including cruisers, frigates, and missile cruisers.

In the 1950s and 1960s, Fairfield Shipyard underwent a major modernisation programme, including the establishment of concrete roadways, travelling cranes, and steelwork workshops, and was subsequently sold to a new government-backed company, Fairfield (Glasgow) Ltd.

Figure 3 is a plan of Fairfield Shipyard in the 1960s. This shows that the Site comprised a fitting-out basin, sawmill (F), canteen (H), outfitting shop (I), and assembly storage (R).

Figure 3 Plan of Fairfield Shipyard, 1960s



In February 1968, Upper Clyde Shipbuilders Ltd (UCS) was established, a shipbuilding consortium formed of 5No. shipbuilding firms, including Fairfield (Glasgow) Ltd.

In February 1971, UCS went into liquidation. The shipyards were restructured around 2No. new companies, including Govan Shipbuilders, at the Fairfield Shipyard. Steel preparation facilities at Fairfield Shipyard were expanded, and new berth cranes established.

In 1977, the shipbuilding industry was nationalised and became British Shipbuilders. By 1988, Fairfield Shipyard was privatised and sold to Kvaerner Industries. The shipyard was again modernised, including the establishment of new steelwork facilities and a Tank Assembly Shop.

In 1999, Fairfield Shipyard was purchased by General Electric Company (GEC) Marconi Marine, which merged with British Aerospace (BAe) to form BAE Systems Marine. Naval vessels were again produced at the shipyard, including destroyers and aircraft carriers. In 2009 it was renamed BAE Systems Surface Ships, which continues to produce surface ships at Fairfield Shipyard.

Potential UXO Hazard

Fairfield Shipyard was solely involved in the production and assembly of ships and vessels.

No records have been found to indicate that any munitions were stored or installed into the ships at the time they were built.

Fairfield Shipyard is not considered to provide a source of UXO hazard to the Site.

3.2 Defences

For further information on military defences, and the potential UXO hazards associated with them, follow the links below:

- [Anti-Aircraft Guns](#)
- [Anti-Invasion Defences](#)
- [Barrage Balloons](#)
- [Bombing Decoys](#)
- [Home Guard](#)
- [Mined Locations](#)
- [Mortar & Gun Emplacements](#)
- [Pillboxes](#)

No military defences have been identified on the Site. The nearest are described below.

3.2.1 Barrage Balloons

During WWII, several barrage balloon sites were established in the Glasgow area. Records indicate that the nearest barrage balloon emplacement was located in Elder Park (NS 456657), approximately 0.2km south of the Site.

Barrage balloons were widely used in Britain's defence against the Luftwaffe. The balloons were made of panels of fabric sewn or glued together and inflated using hydrogen. 6No. cables were attached to the balloon and joined to a single cable which ran to a winch used to control the balloon's height.

There was a small amount of explosive charge 150 feet (ft) from each end of the balloon cable. If a balloon was hit by an aircraft this would ignite and the cable, which had a parachute on each end, would cause the plane to crash.

Barrage balloon anchorages typically had associated accommodation nearby for the crew, as well as a Small Arms Ammunition (SAA) store.

Barrage balloons are not considered to provide a source of UXO hazard to the Site.

3.2.2 Anti-Aircraft Guns

During WWI there were no recorded Anti-Aircraft (AA) batteries within 10km of the Site.

During WWII there were 10No. Heavy AA (HAA) and ZAA batteries within 10km of the Site. The nearest was located at Moorpark (NS 510662), approximately 3.5km west of the Site. It was armed with 4No. 3.7-inch (") guns.

Potential UXO Hazard

Given the number of HAA gun batteries in the surrounding area during WWII, the potential for a UXAA shell to have fallen on the Site unnoticed, whilst unlikely, cannot be totally discounted.

3.2.3 Bombing Decoys

The nearest recorded bombing decoy was located at Douglas Muir (NS 516751), approximately 9.3km northwest of the Site.

Bombing decoys are not considered to provide a source of UXO hazard to the Site.

3.3 Military Airfields

For further information on military airfields, and the potential UXO hazards associated with them, follow the link below:

- [Military Airfields](#)

No records of any military airfields on or in close proximity to the Site have been found.

The nearest operational airfield during WWI was Royal Flying Corps (RFC) Moorpark (NS 509660), approximately 3.5km west of the Site. It was used as a test airfield for military aircraft, and after WWI resumed commercial flights.

During WWII, the airfield was requisitioned by the Royal Air Force (RAF) and became known as RAF Renfrew. It initially served as a satellite airfield for RAF Abbotsinch, approximately 5.6km west of the Site. It later became the main assembly point for American aircraft transported into Glasgow Docks, in addition to serving as a repair facility.

After WWII, it became the main civil airfield for Glasgow before its closure in 1966.

Military airfields are not considered to provide a source of UXO hazard to the Site.

3.4 Aircraft Crashes

For further information on military aircraft crashes, and the potential UXO hazards associated with them, follow the link below:

- [Aircraft Crashes](#)

No records of any aircraft crashes on or in close proximity to the Site have been found.

3.5 Explosives Factories, Munitions Depots and Disposal Areas

For further information on explosives factories, munitions depots and disposal areas, and the potential UXO hazards associated with them, follow the links below:

- [Explosives Factories](#)
- [Munitions Depots](#)
- [Munitions Disposal Areas](#)

No records of any explosives factories, munitions depots or munitions disposal areas on or in close proximity to the Site have been found.

3.6 Firing Ranges and Military Training Areas

For further information on firing ranges and military training areas, and the potential UXO hazards associated with them, follow the links below:

- [Artillery Ranges](#)
- [Bombing Ranges](#)
- [Military Training Areas](#)
- [Small Arms Ranges](#)

No records of any firing ranges or military training areas on or in close proximity to the Site have been found.

3.7 Other Military Establishments

No other military establishments have been identified on the Site. The nearest is described below.

3.7.1 Garmouth Street Drill Hall

By 1914, a drill hall had been established on the corner of Garmouth Street and Elder Street, approximately 0.4km southeast of the Site. It was used by the 5th City of Glasgow (Howitzer) Battery, 4th Lowland (Howitzer) Brigade, Royal Field Artillery (RFA).

During WWII, the drill hall continued in use by the Lanarkshire Artillery Volunteers. It was equipped with an indoor rifle range.

After WWII, the drill hall was demolished.

Garmouth Street Drill Hall is not considered to provide a source of UXO hazard to the Site.

4 BOMBING

4.1 WWI Bombing

For further information on WWI bombing in the UK, and the potential UXO hazard associated with it, see Appendix 2.1. Alternatively, use the following link.

- [WWI Bombing](#)

No records have been found indicating that the Site was bombed during WWI.

4.2 WWII Bombing

For further information on WWII bombing in the UK, and the potential UXO hazard associated with it, see Appendix 2.2. Alternatively, use the following link.

- [WWII Bombing](#)

No records have been found indicating that the Site was bombed during WWII. Details of WWII bombing in the vicinity of the Site are provided in the following sections.

4.2.1 Bombing in Glasgow

From 1939 Scotland was subjected to reconnaissance flights by the Luftwaffe which was building up a photographic record of potential targets.

The extensive shipyards and industrial works situated along the River Clyde, on and in the vicinity of the Site, made the Glasgow region an important target. Raids on the city began in July 1940 and continued until 1942.

The heaviest bombing in the region occurred on the 13th and 14th March 1941, when over 650No. High Explosive (HE) bombs and 105,000No. Incendiary Bombs (IBs) fell on Clydebank and its surrounding districts. 528No. fatalities were recorded and over 4,000No. houses were completely destroyed. Some bombing overspill affected districts in Glasgow.

Bombing densities were lower towards central Glasgow and most of the bombing was concentrated along the course of the River Clyde, which was an ideal navigational aid for the Luftwaffe.

4.2.2 Strategic Targets

The Site was located in an area which contained numerous potential strategic targets, including shipyards, docks, and wharves along the River Clyde, RAF Renfrew, major transport infrastructure, public utilities, and engineering works.

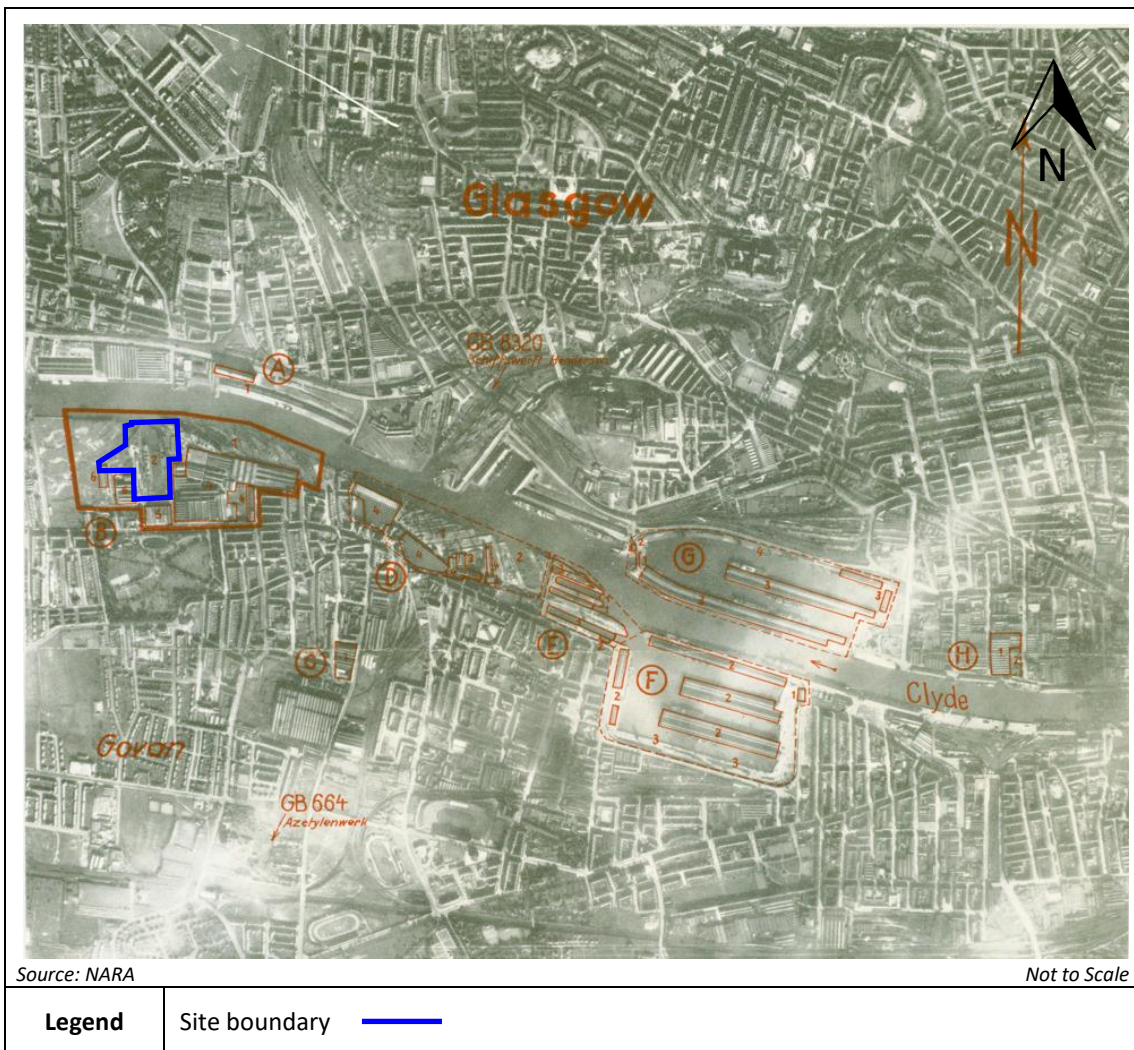
Plate 3 is a Luftwaffe target photograph of Glasgow dated the 2nd October 1939.

Several targets are identified, as summarised in Table 1. This includes Fairfield Shipyard, encompassing the Site (see Section 3.1).

Table 1 Luftwaffe targets in the vicinity of the Site

Target No.	Target
A	Curle, Barclay & Co. works
B	Fairfield Shipyard
C	Thermotank Ltd
D	Harland & Wolff Shipyard
E	Dry Docks
F	Princess Dock
G	Queens Dock
H	Harland & Wolff works
GB 664	Acetylene Plant
GB 8320	Henderson Shipyard

Plate 3 Luftwaffe target photograph of Glasgow, 2nd October 1939



4.2.3 Bombing Densities and Incidents

Table 2 gives details of the overall bombing statistics recorded for the Local Authority Districts of the Site (highlighted by bold text) and surrounding districts. These were categorised as Rural Districts (RD), Urban Districts (UD), Municipal or Metropolitan Boroughs (MB), County Boroughs (CB), Counties of the City (CC), Large Burghs (LB) and Small Burghs (SB). WWII bomb density levels are defined below:

<5 bombs per 405ha is a Very Low regional bombing density.

5-15 bombs per 405ha is Low.

15-50 bombs per 405ha is Moderate.

50-250 bombs per 405ha is High.

>250 bombs per 405ha is Very High.

Table 2 Bombing statistics

Area	Bombs Recorded				Bombs per 405ha (1000 acres)
	High Explosive	Parachute Mines	Other	Total	
Glasgow CC	213	30	3	246	6.2
Clydebank LB	348	27	0	375	170.8
Renfrew SB	76	4	2	82	36.5

Note that Table 2 excludes the figures for IBs. Discrepancies between this list and other records, such as bomb clearance records, demonstrate that this data is likely to under-represent actual bombing.

Details of the nearest recorded bombing incidents to the Site are given in the following section.

18th September 1940

Several HE bombs and IBs fell on Merkland Street and Beith Street, approximately 0.9km east-northeast of the Site.

13th March 1941

The 'Clydebank Blitz' took place, lasting from the evening of the 13th until the morning of the 15th March 1941.

During these raids, at least 1,370No. HE bombs and 96No. Parachute Mines (PMs) fell on Clydebank and the surrounding area. 224No. Unexploded Bombs (UXBs) were reported during the 'Clydebank Blitz', 130No. of which were subsequently discredited or self-detonated.

The nearest recorded incidents during the 'Clydebank Blitz' are detailed below.

2No. Parachute Mines (PMs) fell on the Fairfield Shipbuilding and Engineering works, approximately 0.1km east of the Site. 1No. was recorded as an Unexploded PM (UXPM).

1No. PM fell on the corner of Govan Road and Moss Road, approximately 0.5km west-southwest of the Site.

1No. HE bomb and several IBs fell on the Linthouse Shipbuilding and Engineering works, approximately 0.5km west of the Site.

1No. HE bomb fell on the Barclay, Curle & Co Shipyard, approximately 0.8km northwest of the Site.

14th March 1941

2No. HE bombs fell on the Shieldhall sewage works, approximately 0.8km west of the Site. 1No. of these was recorded as an Unexploded Bomb (UXB).

1No. HE bomb fell on Shieldhall Wharf, approximately 1km west-northwest of the Site.

7th April 1941

1No. HE bomb fell on the Govan Shipbuilding Yard, near Water Row, approximately 0.8km east-southeast of the Site.

1No. HE bomb fell on the Govan Shipbuilding Yard, near Govan Road, approximately 0.8km east-southeast of the Site.

Date unknown

1No. HE bomb fell on Meadowside Granary, approximately 0.5km east-northeast of the Site. It was recorded as UXB.

1No. HE bomb fell in the River Clyde between Govan Wharf and Meadowside Ferry, approximately 0.6km east of the Site. It was recorded as UXB and subsequently abandoned.

3No. HE bombs fell in the River Clyde at Govan Cross Ferry, between approximately 0.9km and 1km east of the Site. They were recorded as UXB and subsequently abandoned.

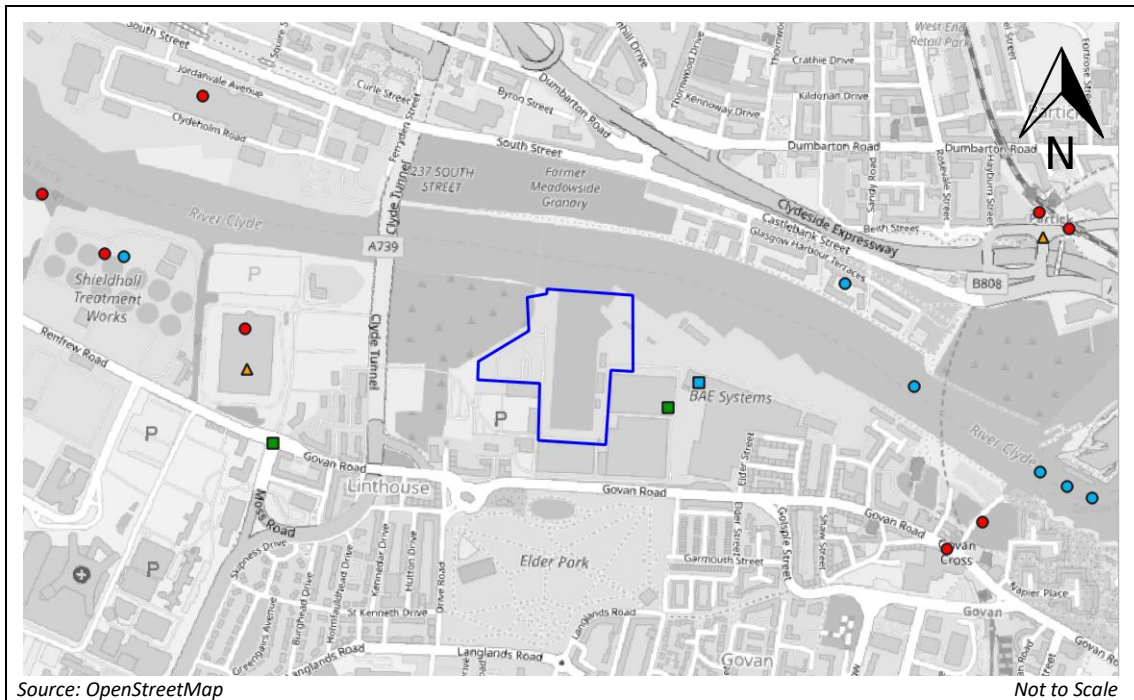
It should be noted that during WWII, many UXB were mapped and subsequently removed as and when conditions and demands on Bomb Disposal teams allowed. Their removal was not always accurately recorded and sometimes records were later destroyed. In practice, most UXB were probably removed and only a much smaller number were actually registered as officially abandoned bombs.

Figure 4 is a map showing the approximate location of recorded bomb impacts in the immediate vicinity of the Site. IBs shown are indicative of larger numbers of similar devices that fell within the given area.

The map has been compiled from a number of different sources, including air raid incident reports, historical aerial photographs and bomb census maps.

The bomb map is also given in the accompanying P11620-22-R1-MAP01-A.

Figure 4 Compiled bomb impact map for the vicinity of the Site



Source: OpenStreetMap

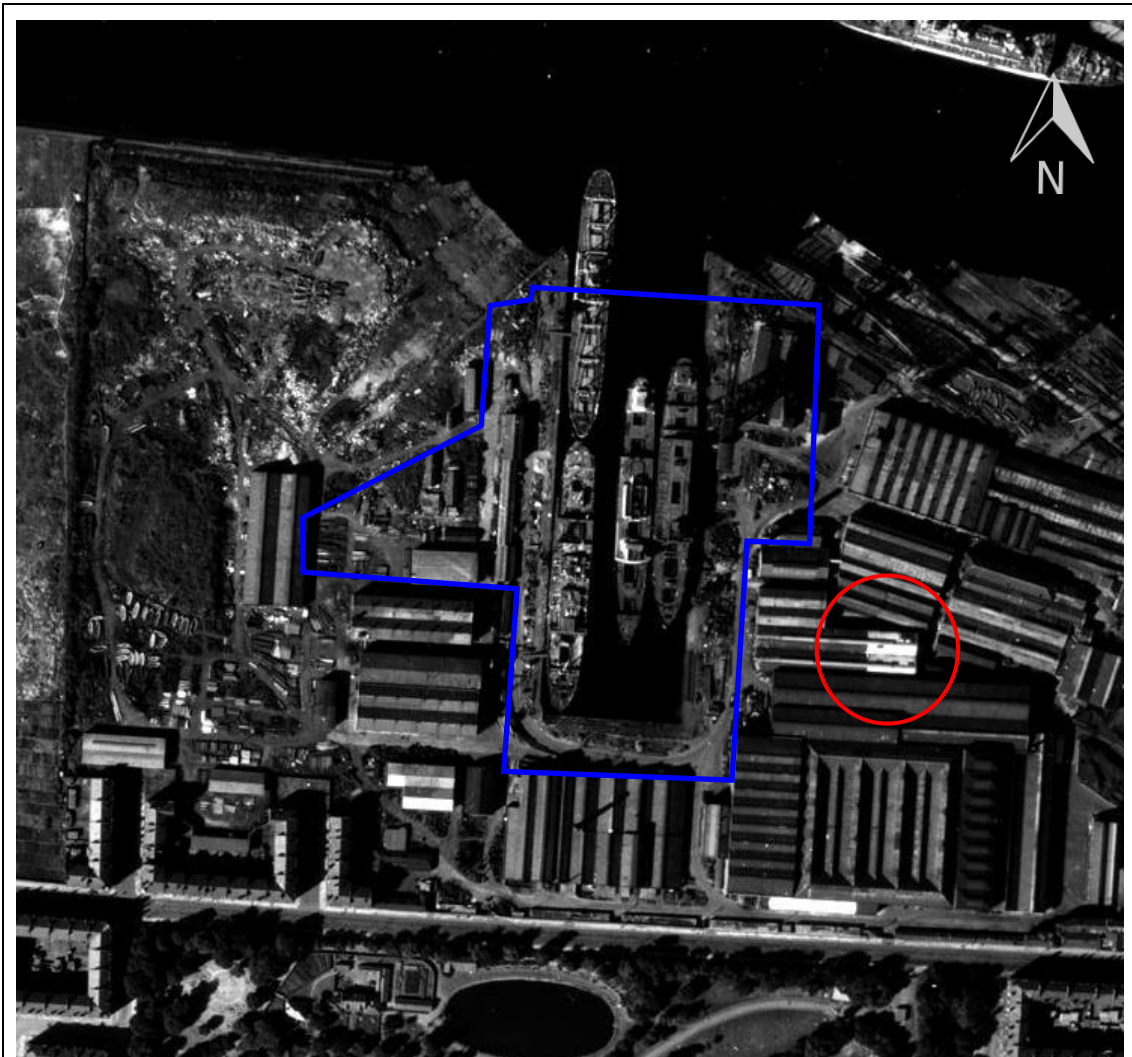
Not to Scale

Legend	Site boundary	HE bomb	UXB
	IBs	PM	UXPM

Plate 4 is an aerial photograph dated the 24th August 1947. No bomb damage has been identified on the Site.

Some repaired damage can be seen to the east of the Site, resulting from an incident on the 13th March 1941.

Plate 4 Aerial photograph, 24th August 1947



Source: NCAP

Not to Scale

Legend	Site boundary	Possible bomb damage
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Potential UXO Hazard

No records have been found indicating that the Site was bombed and no bomb damage has been identified on the Site on historical aerial photography.

WWII bombing is not considered to provide a source of UXO hazard to the Site.

4.2.4 Geology and Bomb Penetration Depths

It is important to consider the geological materials present at the time that a bomb was dropped in order to establish its maximum penetration depth.

Data provided by the Client, in addition to British Geological Survey (BGS) 1:50,000 Sheet 30E Glasgow (Solid & Drift) and BGS borehole records from on and near the Site have been consulted to get an indicative overview of the Site geology.

The geology of the parts of the landwards parts of the Site, comprising Made Ground, is understood to consist of Made Ground, over superficial deposits of silt, sand, and gravel, over Glacial Till, overlying the Limestone Coal Formation.

Table 3 provides an estimate of average maximum bomb penetration depths for the landward parts of the Site comprising Made Ground, assuming WWII ground conditions of 4m of Made Ground (modelled as gravel), over 18m of silt, sand, and gravel, over 7m of stiff to very stiff clay, overlying more than 20m of weak rock.

Table 3 Estimated average maximum bomb penetration depths

Estimated average bomb penetration depths for anticipated geology		
Bomb Weight	50kg	2.5m
	250kg	3.5m
	500kg	6.0m

For bombs falling in the marine environment, penetration depths would vary greatly depending on the weight and speed of the bomb, the angle of penetration, and the water depth.

5 UXO IN THE FLUVIAL AND MARINE ENVIRONMENT

The following sections outline the recorded military activity in marine environment in the vicinity of the Site. The potential UXO hazard from WWI and WWII bombing is detailed in Section 4 and from onshore military activity in Section 3.

Each sub-section provides generalised background information about particular sources of UXO hazard shaded in green, with hyperlinks to further information. These are also available at www.zeticauxo.com. If you cannot gain access to these resources, Zetica can forward them on request.

Both wartime and peace time military and naval activities provide numerous sources of UXO within the fluvial and marine environments. The principal sources of UXO hazards are from ordnance disposal at sea, WWII aerial laid mines and bombing, mines laid as beach and riverbank defences, crashed aircraft and wrecks containing ordnance.

Clearance certification for UXO within a fluvial or marine environment may be valid only for a limited period as storms, floods, tides and general current movement can cause UXO to migrate into an area that may have been cleared of UXO only hours before. This also makes it very difficult to accurately predict where UXO may be found.

UXO is most likely to be concentrated on and immediately around the principal sources of the UXO hazard. These are typically ordnance disposal sites at sea, WWII mines, marine ranges and wrecks containing ordnance.

Potential sources of UXO hazard in the marine environment in the vicinity of the Site have been identified in the Sections above, including UXBs and AA defences.

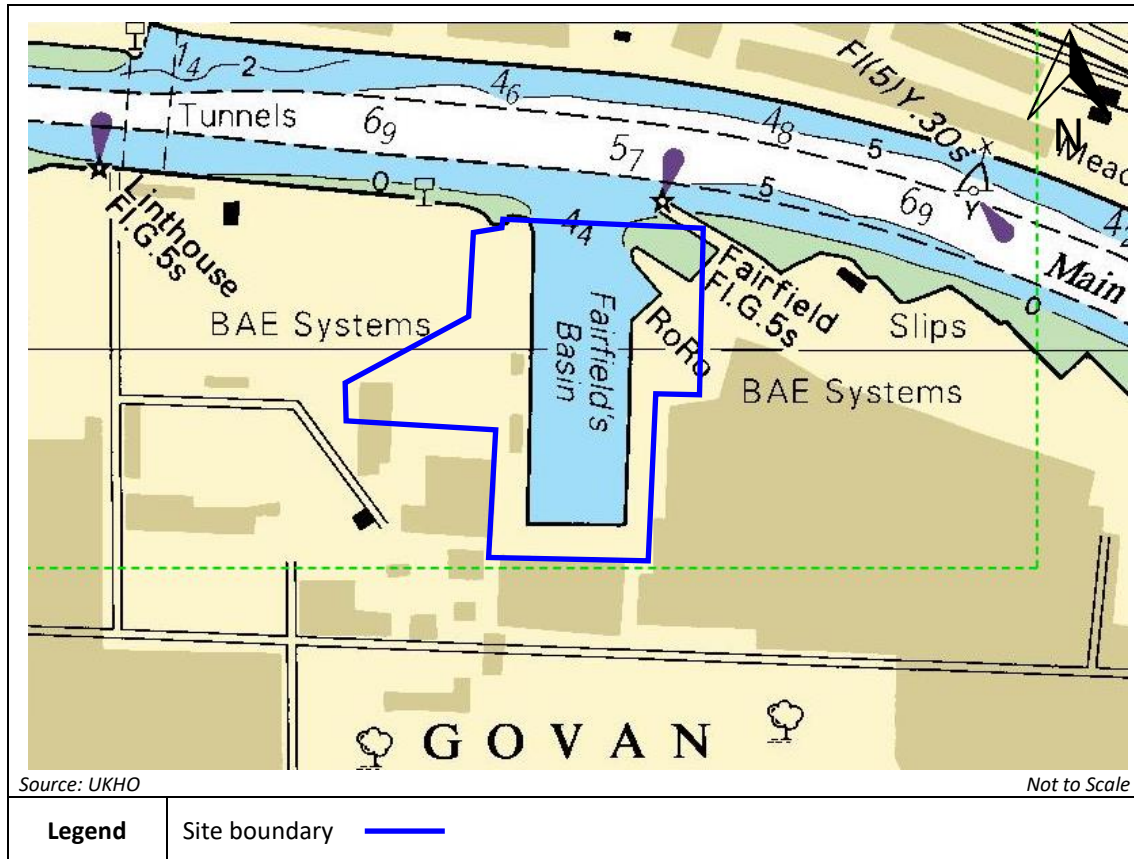
Other sources of potential UXO hazard in the marine environment are described below.

5.1 Wrecks Containing UXO

No records have been found to indicate that any wreck containing UXO is located on or in close proximity to the Site.

Figure 5 is an extract from the Admiralty Chart of the River Clyde showing wrecks and underwater obstructions. No wrecks have been identified in the vicinity of the Site.

Figure 5 Extract of Admiralty Chart for the vicinity of the Site



Wrecks containing UXO are not considered to provide a source of UXO hazard to the Site.

5.2 UXO Migration in the Marine Environment

Given the tidal currents and sediment movement patterns in the River Clyde, and the regular maintenance dredging of the River Clyde, including the basin on the Site, it is considered that larger UXO (such as air-dropped bombs), too heavy for the tides and near shore currents to move, are unlikely to be transported onto the Site but rather would be exposed by scour around them and then be left proud of the sediments.

In such cases, the UXO are unlikely to move from source unless disturbed by dredging activities and exposed.

Buoyant and semi-buoyant UXO (as may be the case with some marine mines), smaller, lighter items of UXO (such as small or medium calibre shells), and UXO with neutral buoyancy could move by saltation or roll as bed load particles during ebb or flood tides, or high wave energy storm conditions.

The potential migration of UXO onto the Site forms part of the low background risk of encountering UXO on any similar marine site in the UK.

6 EXPLOSIVE ORDNANCE CLEARANCE ACTIVITIES

Official UK bombing statistics have been compiled from both British and German sources. There were differences in the way the figures were originally reported and collated which has led to discrepancies in the summary data.

Based on data from 1939 to 1945, War Office statistics indicate that 200,195No. HE bombs exploded within Great Britain. Additionally, 25,195No. HE bombs (representing 11%) were recorded as UXBs. However, records from the Royal Engineers who were responsible for bomb disposal at the time indicate that as of 27th February 1946 upwards of 45,000No. UXBs were disposed of.

On average 8.5% of UXBs later self-exploded. In some cases the bombs had delayed action fuzes or were never intended to explode, their purpose being to cause inconvenience and fear. Given the discrepancy in records and the fact that UXBs are still being found unexpectedly, it is clear that the original figures are understated and provide only an approximation of the number of potential UXBs in the UK.

War Office statistics also show that between October 1940 and May 1941 most of the UXBs (93%) were either 50kg or 250kg. It should be noted that details of the recovery and the size of the UXB were not always accurately reported.

The larger WWII UXBs are often difficult to recover due to both penetration depths and the presence of two or more fuzes, combined with more sensitive fillings of explosive mixtures including Amatol and Trialen.

6.1 Abandoned Bombs

For further information on abandoned bombs, and the potential UXO hazard associated with them, follow the link below:

- [Abandoned Bombs](#)

No records have been found indicating that any officially abandoned bombs are located on the Site.

6.2 EOC Tasks

Zetica holds no records of post-WWII EOC tasks having taken place on the Site. The nearest is described below.

27th November 2002

1No. 50kg UXB was found at Meadowside Granary, approximately 0.5km east-northeast of the Site. It was made safe and removed.

7 UXO HAZARD ASSESSMENT

7.1 UXO Hazard Level

The definitions for the levels of UXO hazard are provided below.

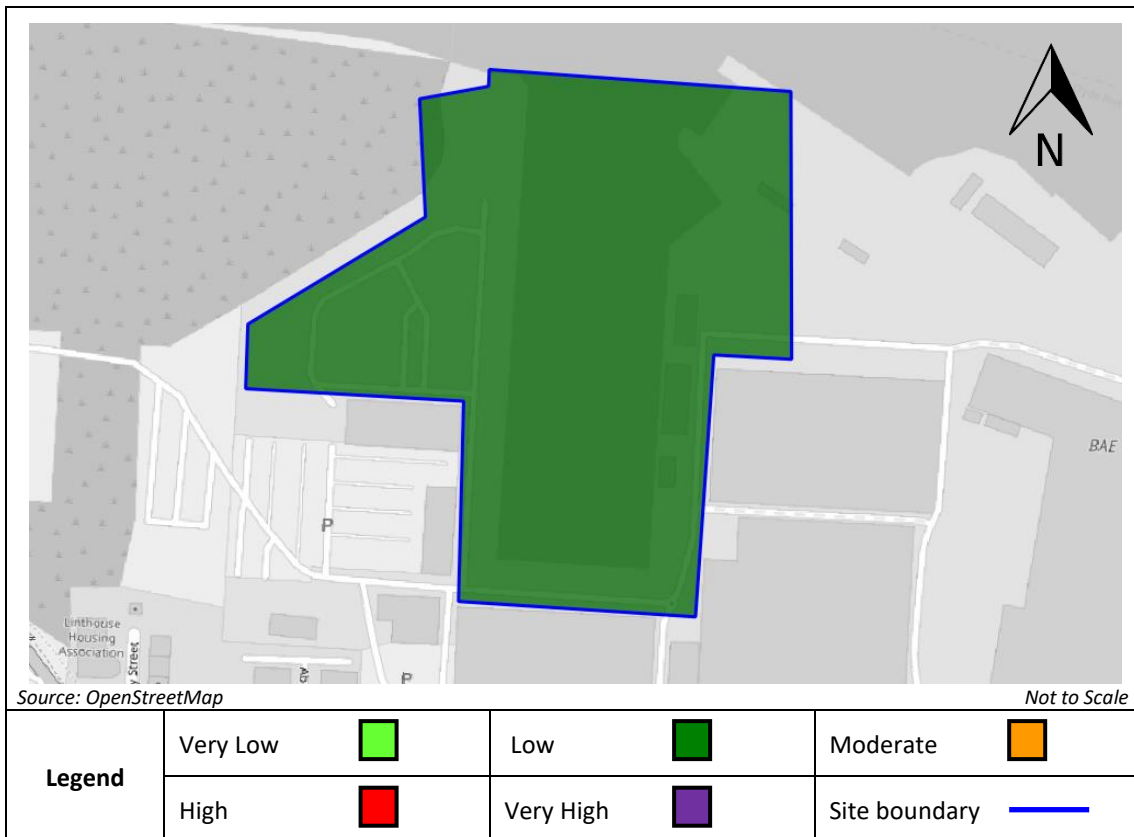
Definitions of UXO Hazard Level for a Site	
Hazard Level	Definition
Very Low	There is positive evidence that UXO is not present, e.g. through physical constraints or removal.
Low	There is no positive evidence that UXO is present, but its occurrence cannot be totally discounted.
Moderate	There is positive evidence that ordnance was present or that other uncharted ordnance may be present as UXO.
High	There is positive evidence that UXO is present.
Very High	As high, but requires immediate or special attention due to the potential hazard.

No records have been found indicating that the Site was bombed and no other significant sources of UXO hazard have been identified on the Site.

Given this, it is considered that the Site has a low UXO hazard level, as shown in Figure 6.

The UXO hazard zone plan of the Site is also given in the accompanying P11620-22-R1-MAP01-A.

Figure 6 UXO hazard zone plan of the Site



8 UXO RISK ASSESSMENT

8.1 Proposed Works

It is understood that works on the Site will comprise piling and intrusive ground investigations associated with the infilling of the existing basin and the establishment of a large shipbuilding shed on the reclaimed land.

For the purpose of this risk assessment, it is assumed that works on the Site may also include excavations.

8.2 Risk Assessment Methodology

A UXO risk assessment has been undertaken for the proposed works, taking into consideration the identified UXO hazard.

Firstly, the probability of encountering UXO (PE) has been considered and rated for the different construction techniques, as detailed below.

Probability of Encounter (PE)	Rating
Frequent, highly likely, almost certain.	5
Probable, more likely to happen than not.	4
Occasional, increased chance or probability.	3
Remote, unlikely to happen but could.	2
Improbable, highly unlikely.	1
Impossible	0

Secondly, the probability of detonating a UXO (PD) has been considered and rated for the different construction techniques, as detailed below.

Probability of Detonation (PD)	Rating
Frequent, highly likely, almost certain.	5
Probable, more likely to happen than not.	4
Occasional, increased chance or probability.	3
Remote, unlikely to happen but could.	2
Improbable, highly unlikely.	1
Impossible	0

Next, the probability of encountering and detonating the UXO (PE x PD) have been used to generate an overall likelihood rating (P).

P = PE x PD	LIKELIHOOD of Encounter and Detonation	Rating
21 to 25	Frequent, highly likely, almost certain.	5
16 to 20	Probable, more likely to happen than not.	4
6 to 15	Occasional, increased chance or probability.	3
2 to 5	Remote, unlikely to happen but could.	2
1	Improbable, highly unlikely.	1
0	Impossible	0

P ranges from 25, a certainty of UXO being encountered and detonated on the Site by engineering activity, to 0, a certainty that UXO does not occur on the Site and will not be detonated by engineering activity.

The likelihood of encountering and detonating UXO during site works is multiplied by the severity of such an event occurring (P x S), in order to provide a risk level using the following matrix.

Severity (S)	Rating
Multiple fatalities	5
Major injury, long term health issues, single fatality.	4
Minor injury, short term health issues, no fatalities.	3
First aid case but no lost time or ill health.	2
Minor injuries, no first aid.	1
No injuries.	0

UXO Risk Matrix							
		SEVERITY (S)					
		5	4	3	2	1	0
LIKELIHOOD (P)	5	25	20	15	10	5	0
	4	20	16	12	8	4	0
	3	15	12	9	6	3	0
	2	10	8	6	4	2	0
	1	5	4	3	2	1	0
	0	0	0	0	0	0	0

8.3 UXO Risk Level

The UXO risk assessment for proposed works on the Site is given in Table 4.

Table 4 UXO risk assessment for the Site

Potential UXO Hazard	Anticipated Works	PE	PD	P = PE x PD	Likelihood	Severity	Risk Rating	UXO Risk
UXB	Shallow Excavations	1	1	1	1	5	5	Low
	Deep Excavations	1	1	1	1	5	5	Low
	Boreholes/Piling	1	1	1	1	4	4	Low
Other UXO	Shallow Excavations	1	1	1	1	4	4	Low
	Deep Excavations	1	1	1	1	4	4	Low
	Boreholes/Piling	1	1	1	1	3	3	Low

PE (Probability of Encounter), PD (Probability of Detonation), P (Overall Probability)
 Shallow Excavations defined as <1.0m below ground level (bgl.)

8 RISK MITIGATION PLAN



Key findings: No significant sources of UXO hazard have been identified.

Key actions: Proceed with works.

8.1 UXO Risk Summary

Table 5 summarises the UXO risk for proposed works on the Site and recommended actions.

Table 5 Summary of UXO risk and mitigation recommendations

Proposed Works	UXO Risk	Recommended Mitigation
Excavations		Proceed with works – if additional comfort is required to address the residual UXO hazard, a formal UXO awareness briefing can be provided.
Boreholes/Piling		Proceed with works

In summary, no additional measures are considered essential to reduce the UXO risk on the Site to As Low As is Reasonably Practicable (ALARP).

8.2 Risk Mitigation Techniques

Should you wish to provide staff involved in excavations with increased awareness regarding the potential (albeit low) for UXO encounter, this can be done through a formal briefing.

8.2.1 UXO Awareness Briefing

Typically ~1hour in duration, these briefings will be expected to provide site workers with:-

- Background to the potential UXO hazards that could be encountered.
- Awareness of how the UXO hazard could present a risk.
- Knowledge of what to do in the event that a suspect item is encountered.

The briefing is to be provided along with back-up materials such as UXO awareness posters, emergency contact numbers and other background information to assist site workers in becoming familiar with what potential UXO can look like.

The materials can also be used by key staff to pass on the relevant points of the induction to others who visit or work on the Site.

By providing the UXO awareness briefing, it ensures that in the unlikely event that UXO is encountered:-

- All site staff take appropriate action.
- A support mechanism and points of contact are established.
- The likelihood of harm to people or property is reduced.
- Significant delays to site work are prevented.

8.3 What Do I Do Next?

If you have any comments or require further assistance, contact us via phone (01993 886682) or email (uxo@zetica.com) and we can help.

If you have requirements to identify other buried hazards (such as mapping utilities or obstructions) we can provide these surveys.

If proposed works on the Site change, or additional works are planned, contact Zetica for a re-assessment of the UXO risk and the risk mitigation requirements.

APPENDICES

Appendix 1 Anticipated Ordnance Types

The probability of encountering UXO on the Site is considered to be low. As with any similar site in the UK, there is always a background risk of finding ordnance and potential types to be encountered are detailed below. For a more comprehensive set of ordnance data sheets, see <http://zeticauxo.com/downloads-and-resources/ordnance-data-sheets/>.

Information Data Sheet

Category Small Arms Ammunition
Type Various



Description Small Arms Ammunition (SAA) is one of the more recognisable categories of ordnance which is primarily designed for anti-personnel use. SAA include items such as bullets, generally up to a calibre (diameter) of 20mm.

Generally small arms ordnance has a relatively low risk as UXO, although the larger calibre categories may have the same detonation risk as larger high explosive ordnance.

SAA is often associated with discarded ammunition boxes around firing practice ranges and training areas and is often found scattered across former military airfields as a result of aircraft crashes and localised disposal



Information Data Sheet

Category Bomb (Luftwaffe)
Type Sprengbombe-Cylindrisch (SC) 50kg

Variants 8

Body Dimensions 762 x 200mm (30" x 7.9")

Weight 55kg (122lbs)

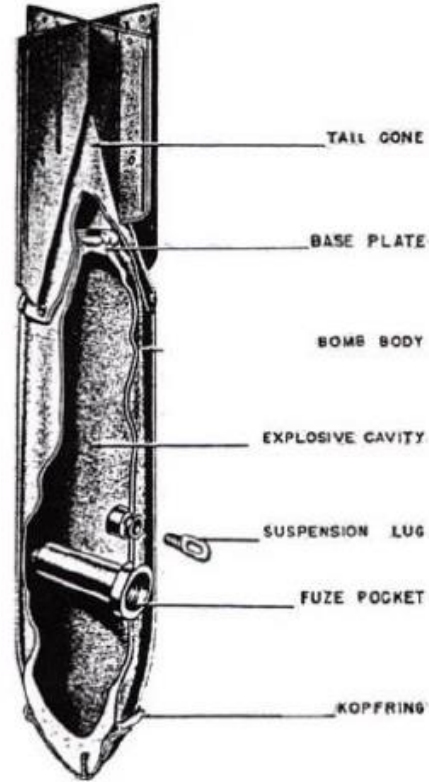
Charge Weight 25kg (54lbs)

Fuze Single electric impact fuze. Some have short time delay

Composition Sheet steel

Description Thick nose welded to a steel body. Nose may be attached to Kopfring (a triangular section steel ring) or spike. Suspension bolt in eye/body and sheet metal tail attached to body with rivets/screws. Originally painted green-grey with a yellow stripe on the tail. Cast TNT, Amatol or Trialen filling.

Function Designed to maximise shock waves through air, water and earth and for general demolition. Used against easily damageable targets, including roads, aircraft hangars, rolling stock and small buildings. Spike bombs/ 'Stabo' (SC 50 with spikes attached to nose) were used against rail lines and country roads, with Kopfring used against naval targets.



Information Data Sheet

Category Bomb
Type Sprengbombe-Cylindrisch (SC) 250kg

Variants 8

Body Dimensions 1194mm x 368mm (47" x 14.5")

Weight 249-264 kg (548-582lbs)

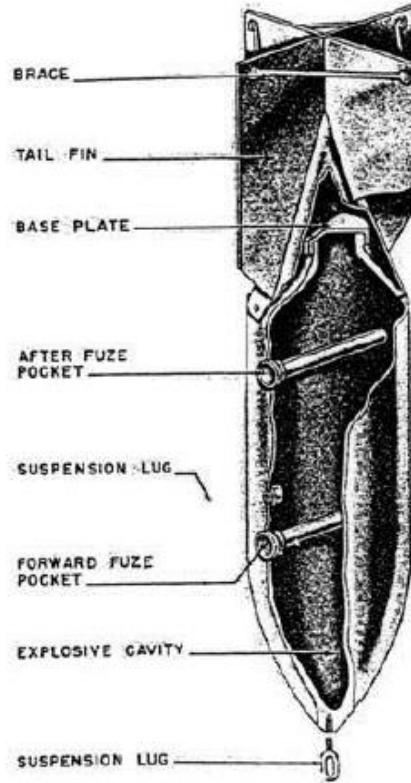
Charge Weight 130-145 kg (287-320lbs)

Fuze Electric impact fuze/electric clockwork time fuze & electric anti-disturbance fuze

Composition Sheet steel with stays

Description Thick nose welded to steel body. Nose may be attached to Kopfring (triangular section steel ring) or spike. Sheet metal tail attached to body with rivets/ screws. Suspension eye bolt in the nose/body. Originally painted green-grey with a yellow stripe on the tail. TNT; amatol; TNT and aluminium powder, naphthalene, ammonium nitrate and wax/ wood meal filling.

Function Designed to maximise shock waves through air, water and earth and general demolition. Used against railway installations, large buildings, ammunition depots and below-ground installations (to 8m). Spike bombs/ 'Stabo' (SC 50 with spikes attached to nose) used against rail lines and country roads.



Information Data Sheet

Category Bomb
Type Sprengbombe-Cylindrisch (SC) 500kg

Variants -

Body Dimensions 1414-1486mm x 470mm (55.7-58.5' x 18.5')

Weight 500kg (1,100lbs)

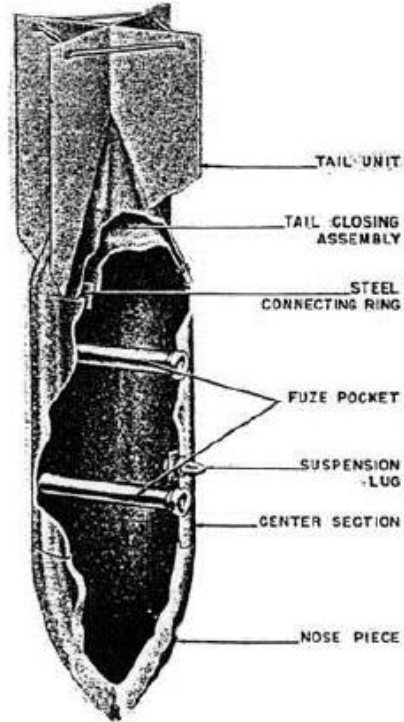
Charge Weight 220kg (484lbs)

Fuze Electric impact fuze/electric clockwork time fuze & electric anti-disturbance fuze.

Composition Sheet steel with stays or drum

Description Thick nose welded to steel body. Nose may be attached to Kopfring (triangular section steel ring). Tail either steel sheet or drum-shaped. Suspension band. Originally painted green-grey/ buff (some later versions sky blue) with yellow stripe on tail. Filled with amatol, TNT or trialen.

Function Designed to maximise shock waves through air, water and earth and for general demolition. Used against railway property, large buildings, shipping and below-ground installations.



Information Data Sheet

Category Bomb
Type Sprengbombe-Cylindrisch (SC) 1,000kg (HERMANN)

Variants 3

Body Dimensions 1742-1905mm x 648-660mm (68.6-75" x 25.5-26")

Weight 1,000-1,088kg (2,204-2,398lbs)

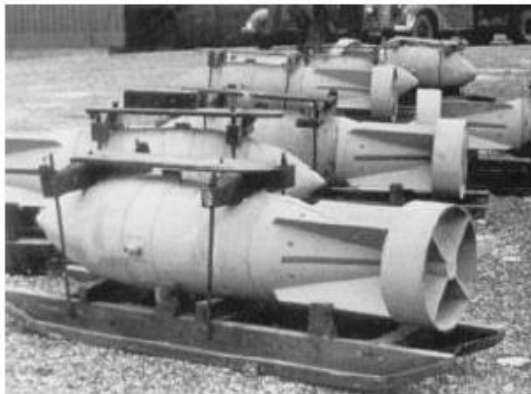
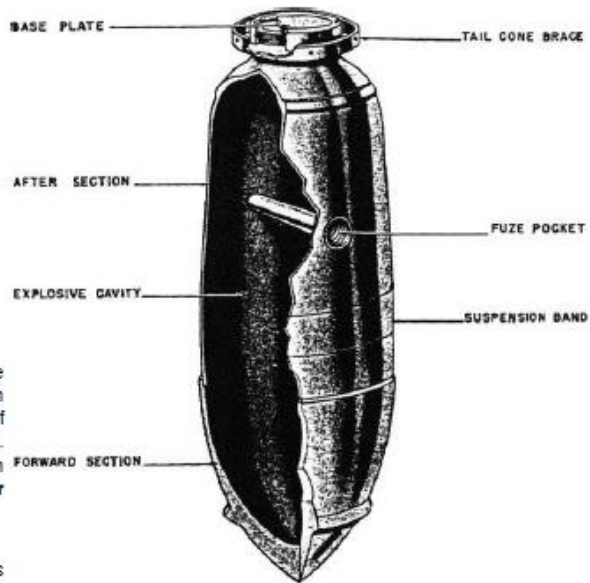
Charge Weight 529-619kg (1,166-1,364lbs)

Fuze Electric impact fuze/ electric clockwork time fuze & electric anti-disturbance fuze

Composition Magnesium alloy with drum

Description Thick nose welded to steel body. Nose attached to Kopfring (triangular section steel ring). Drum-shaped tail made of magnesium alloy. Suspension band. Originally painted sky-blue. Filled with amatol, TNT/aluminium/wood meal or trialen.

Function Designed to maximise shock waves through air, water and earth and for general demolition.



Information Data Sheet

Category Projectile
Type 3.7" Anti-Aircraft Shell

Variants 6

Body Dimensions 94mm x 360mm (3.7 x 14.7")

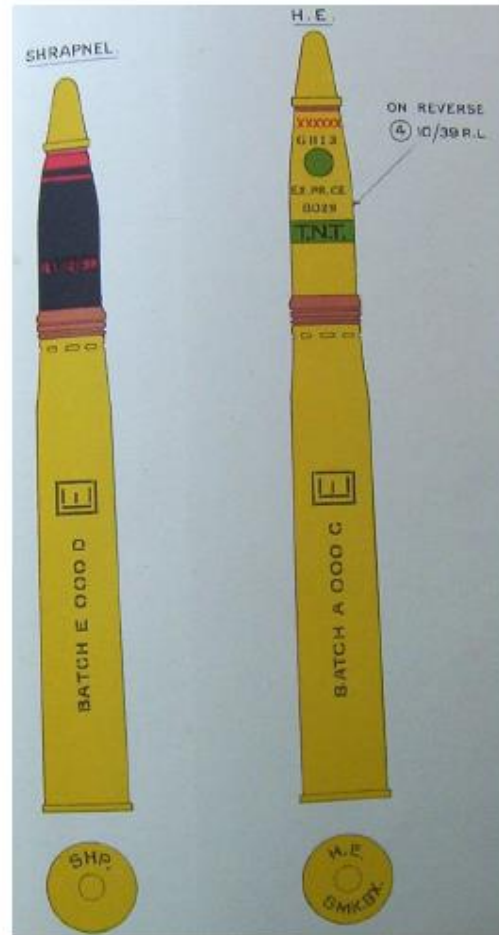
Weight 12.7kg (28lb)

Fuze Mechanical time fuze

Composition Cast steel

Description Brass cartridge case. Square-based shell with tapered nose, filled with Amatol, TNT or RDX/TNT. MK6 had forward centring bands and a wider driving band.

Function Used as a defence against enemy aircraft, fired from fixed batteries and mobile mountings. Could fire approximately 20 rounds per minute with a maximum ceiling of 41,000ft and horizontal range of 20,600 yards.



Information Data Sheet

Category Projectile
Type 4.5" Shell (Mark II – Anti-Aircraft)

Variants -

Body Dimensions 114mm x 566mm (4.5" x 21.9")

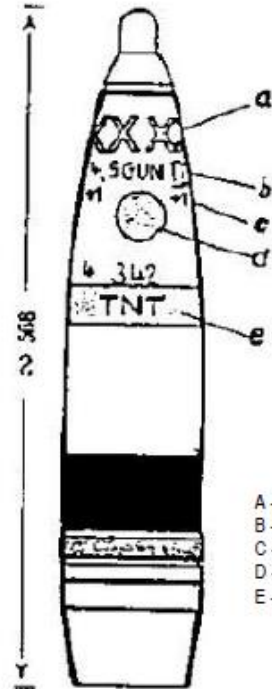
Weight 24.9kg (55lb)

Fuze Mechanical time fuze

Composition Cast steel

Description Square-based, tapered-nosed shell filled with TNT or Amatol. Steel casing, rotating band of either copper or gilding metal located 3.5" in front of the base end with single groove.

Function Used as field artillery and adapted for use in anti-aircraft defence from fixed batteries. Rate of fire of 8 rounds per minute, maximum ceiling of 44,000ft and horizontal range of 22,800 yards.



Appendix 2 Sources of UXO Hazard

The sections below provide background information on the potential sources of UXO hazard (albeit low) affecting the Site. For a more comprehensive set of UXO information sheets, see <http://zeticauxo.com/downloads-and-resources/uxo-information-sheets/>.

Appendix 2.1 WWI Bombing

It is not generally realised that during World War One (WWI) significant bombing took place across some areas of the UK. An estimated 9,000No. German bombs were dropped on Britain during the course of 51No. airship and 52No. aircraft raids. It was the first time that strategic aerial bombardment had been used. More than 1,400No. people were killed during these raids.

Most air raids were carried out on London and Southeast England. Areas along the East Coast were also targeted regularly due to their proximity to the European continent. Bombing raids further inland were rare and West England and Wales were out of reach for German aircraft of the time.

Aerial bombing during WWI initially relied on visual aiming, with bombsights not developed until later in the war. The inaccuracy inherent in this method meant that bombs often fell some way from their intended targets.

The first recorded raid against England occurred on the 21st December 1914 when 2No. high explosive bombs fell near the Admiralty Pier at Dover. Zeppelin raids intensified during 1915 and 1916, with aircraft raids becoming more frequent after 1917. The last raid of WWI took place on the 19th May 1918, when 38 Gotha and 3 Giant aircraft bombed London and surrounding districts, dropping a total of more than 2,500lbs of bombs.



The potential of coming across an Unexploded Bomb (UXB) from WWI is far less likely than a WWII UXB given the lower bombing densities during raids in the Great War.

Some areas which were subjected to sustained bombing raids, such as parts of London and coastal towns, recorded a higher number of UXB. In these areas, where there has been no significant development for the last century, the potential of a UXB remaining from WWI cannot be totally discounted.

Appendix 2.2 WWII Bombing

Bombing raids began in the summer of 1940 and continued until the end of WWII. Bombing densities generally increased towards major cities or strategic targets such as docks, harbours, industrial premises, power stations and airfields. In addition to London, industrial cities and ports, including Birmingham, Coventry, Southampton, Liverpool, Hull and Glasgow, were heavily targeted, as well as seaside towns such as Eastbourne and cathedral cities such as Canterbury.

The German bombing campaign saw the extensive use of both High Explosive (HE) bombs and Incendiary Bombs (IBs). The most common HE bombs were the 50kg and 250kg bombs, although 500kg were also used to a lesser extent. More rarely 1,000kg, 1,400kg and 1,800kg bombs were dropped.

The HE bombs tended to contain about half of their weight in explosives and were fitted with one or sometimes two fuzes. Not all HE bombs were intended to explode on impact. Some contained timing mechanisms where detonation could occur more than 70 hours after impact.

Incendiary devices ranged from small 1kg thermite filled, magnesium bodied Incendiary Bombs (IBs) to a 250kg 'Oil Bomb' (OB) and a 500kg 'C300' IB. In some cases the IBs were fitted with a bursting charge. This exploded after the bomb had been alight for a few minutes causing burning debris to be scattered over a greater area. The C300 bombs were similar in appearance to 500kg HE bombs, although their design was sufficiently different to warrant a specially trained unit of the Royal Engineers to deal with their disposal.



Anti-Personnel (AP) bombs and Parachute Mines (PMs) were also deployed. 2No. types of anti-personnel bombs were in common use, the 2kg and the 12kg bomb. The 2kg bomb could inflict injury across an area up to 150m away from the impact. PMs (which were up to 4m in length) could be detonated either magnetically or by noise/vibration.

Anti-shipping parachute mines were commonly dropped over navigable rivers, dockland areas and coastlines. The Royal Navy was responsible for ensuring that the bombs were made safe. Removal and disposal was still the responsibility of the Bomb Disposal Unit of the Royal Engineers.

In 1944, the Germans introduced new weapons; the V1, a 'flying bomb' and guided missile, and the V2, a ballistic missile rocket that travelled at such speed that no one could see or hear its approach. London was the main target for these attacks.

WWII bomb targeting was inaccurate, especially in the first year of the war. A typical bomb load of 50kg HE bombs mixed with IBs which was aimed at a specific location might not just miss the intended target but fall some considerable distance away.



It is understood that the local Civil Defence authorities in urban areas had a comprehensive system for reporting bomb incidents and dealing with any Unexploded Bombs (UXB) or other UXO. In more rural areas, fewer bombing raids occurred. It is known that Air Raid Precaution (ARP) records under-represent the number and frequency of bombs falling in rural and coastal areas. Bombs were either released over targets or as part of 'tip and run' raids where bomber crews would drop their bombs to avoid anti-aircraft fire or Allied fighter aircraft on the route to and from other strategic targets. Bombs dropped as a result of poor targeting or 'tip and run' raids on rural and coastal areas often went unrecorded or entered as 'fell in open country' or 'fell in the sea'. The Luftwaffe are thought to have dropped approximately 75,000 tons of bombs on Britain throughout the Second World War and an estimated 11% of all bombs dropped during the war failed to detonate.

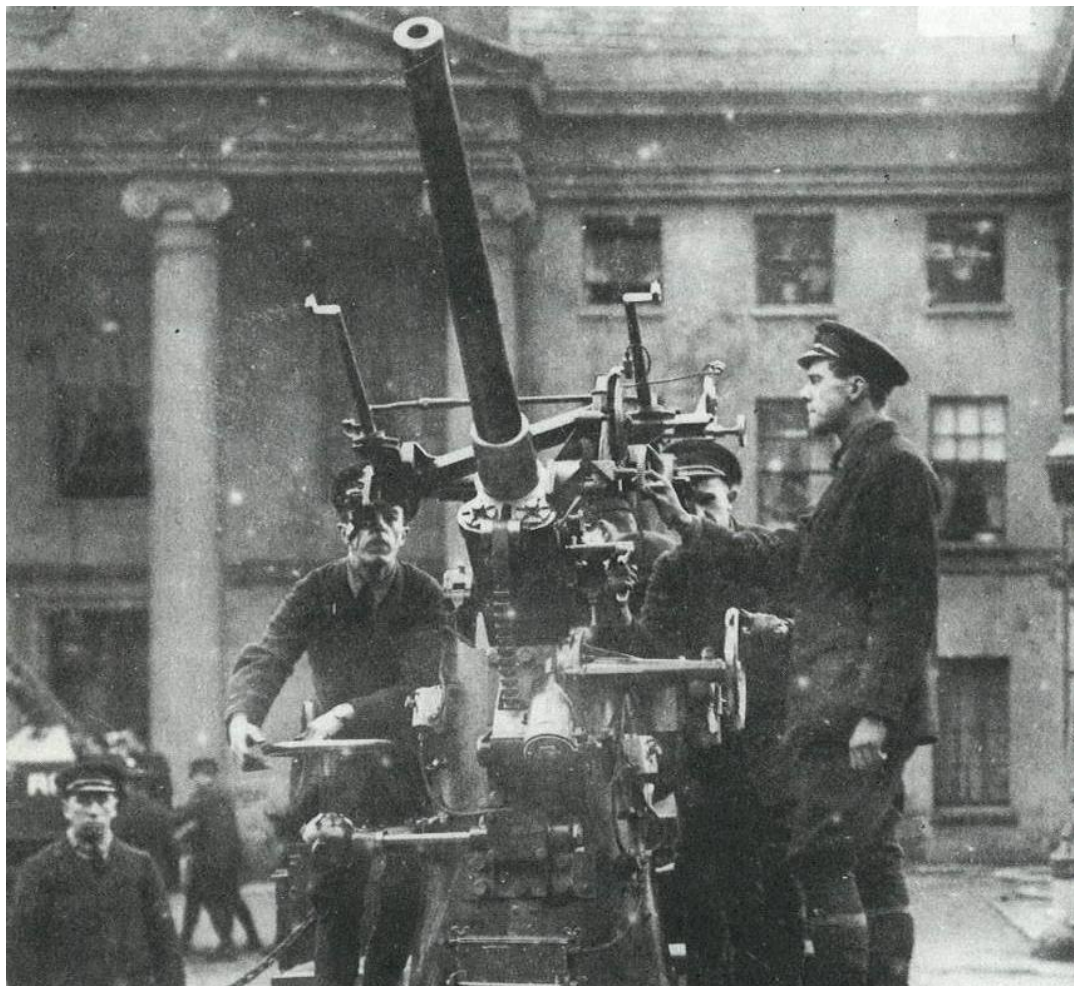
The potential for a UXB hazard to exist on a site depends on a variety of factors. Were there strategic targets in the surrounding area? Was the site bombed? Could a UXB impact have been missed? Even in rural areas, the potential for UXB cannot be totally discounted and therefore it is essential that detailed local bombing records are obtained when assessing the UXB hazard on any site.

Appendix 2.3 Anti-Aircraft Guns

As aerial bombardment first began during WWI, Anti-Aircraft (AA) gun batteries were established and gradually established throughout much of England to counter German bombing raids. By June 1916, there were approximately 271 No. AA guns and 258 No. searchlight installations defending London alone.

Common AA defences during WWI included 3-inch, 75 millimetre, 6-pounder and 1-pounder guns. Many of these guns were mobile, being mounted on lorry chassis. They were driven about following the course of an airship and fired from any area of open land.

During WWI, Unexploded AA (UXAA) shells, could land up to 13km from the firing point, although more typically fell within 10km.



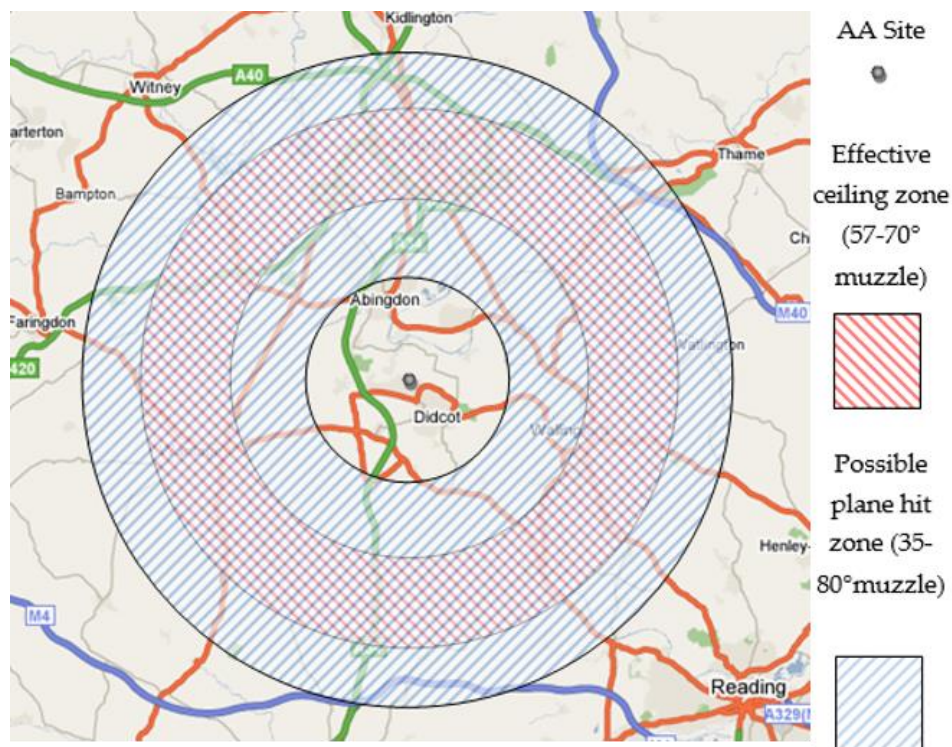
AA gun batteries were used extensively during WWII to counter the threat posed by enemy aircraft. In many instances, AA shells caused damage to Allied territory and in some areas caused significant numbers of civilian fatalities.

During WWII, AA shells could land up to 27km from the firing point, although more typically fell within 15km. These could be distributed over a wide area.

3 No. types of AA batteries existed:

- **Heavy Anti-Aircraft (HAA)** batteries of large guns (typically 3.7", 4.5" and 5.25" calibre) designed to engage high flying bomber aircraft. These tended to be relatively permanent gun emplacements.
- **Light Anti-Aircraft (LAA)** weaponry, designed to counter low flying aircraft. These were often mobile and were moved periodically to new locations around strategic targets such as airfields. They typically fired 40mm shells and machine gun ammunition.
- **Rocket batteries (ZAA)** firing 3" or 3.7" AA rockets with a maximum altitude of 5,800m and a ground range of 9km were typically permanent emplacements.

Unexploded AA (UXAA) shells were a common occurrence during WWII. As the figure below demonstrates, shells were unlikely to fall in the immediate vicinity of a gun battery but in the surrounding area. This would be dependent upon the angle of fire and the flight height of the attacking aircraft.



AA batteries were deliberately targeted by the Luftwaffe and therefore areas surrounding a gun battery may have a greater risk of UXB being present.

Munitions stores were also established around AA batteries. These stored the shells for the batteries and small arms ammunition for troops manning the position. Such stores were typically removed at the end of WWII, although some disposal may have occurred in the immediate vicinity of the gun battery.

Appendix 3 Recent UXO Finds

UXO finds in the UK are a regular occurrence, although they almost never result in an accidental detonation.

It is still important to note that explosives rarely lose effectiveness with age. In some instances, mechanisms such as fuzes and gaines can become more sensitive and more prone to detonation, regardless of whether the device has been submersed in water or embedded in silt, clay or similar materials.

The effects of an accidental UXO detonation are usually extremely fast, often catastrophic and invariably traumatic to any personnel involved. Such occurrences are largely restricted to current theatres of war and overseas minefields, with occasional events in mainland Europe.

Zetica, and other commercial EOD companies, uncover and make safe thousands of items of UXO each year, though details are rarely made public knowledge.

Publicly-recorded discoveries do also occur regularly, as demonstrated by the list of recent significant UXO finds in the UK below. To keep up to date with the latest UXO finds, visit <http://zeticauxo.com/news/>.

On the 3rd February 2020, a 500kg German UXB was found on a building site in Soho, London. It was removed by an EOD team.

On the 18th April 2020, a 500lb British UXB was discovered by a farmer near Drayton in Oxfordshire. The area had been used as an RAF practice bombing range during WWII and after an in-situ disposal was completed the item was found to have contained no explosives.

On the 4th May 2020, a UXB was discovered by builders at Kings Hill on the former RAF West Malling airfield, the fourth found since 2017. It was destroyed in a controlled explosion.

On the 1st December 2020, a research vessel discovered an unexploded marine mine containing 350kg of explosives in Wemyss Bay in the Firth of Clyde. RN divers investigated the item and destroyed it.

On the 4th February, 2No. anti-tank mines were discovered on Slapton Sands in Devon. They had been uncovered by recent storms and were destroyed.

On the 26th February 2021, a 1,000kg German “Hermann” UXB was discovered by builders at Exeter University campus (see plate below). It was investigated and detonated in-situ following the evacuation of nearby properties and University halls of residence.



On the 29th March 2021, 1No. 250lb UXB was discovered on the seabed near Hinkley Point C harbour, Bristol. A maritime exclusion was imposed while the item was investigated and then destroyed in a controlled explosion.

On the 10th May 2021, 1No. Anti-Aircraft shell dating from WWII was found by a member of the public in Horsham, Surrey. It was destroyed in-situ by a bomb disposal unit.

On the 17th May 2021, 1No. Sea Wolf missile was brought onboard a fishing vessel near Brixham in Devon. A Royal Navy EOC team destroyed the missile in a controlled explosion.

On the 1st June 2021, a cache of approximately 100No. hand grenades dating from WWII were found in a Nottinghamshire forest, a possible relic from nearby wartime camps. They were destroyed.

On the 23rd July 2021, 1No. 18lb artillery shell dating from WWI was discovered in a private garden in Bloxham, Oxfordshire. It was transported to a nearby field where it was destroyed in a controlled explosion.

On the 24th July 2021, 1No. 500lb British UXB was uncovered during construction works in Goole, East Yorkshire. Reports indicated that the UXB had been jettisoned by a Lancaster bomber aircraft prior to crashing nearby in WWII. The item was investigated and destroyed.

On the 18th August 2021, 1No. UXB was found by construction workers on a Site in Earl Sterndale, Derbyshire. Upon inspection the UXB was deemed to be dangerous and a controlled detonation was undertaken.

On the 10th September 2021, EOD teams destroyed 25No. mortars which had been washed up onto beaches around Nairn and Ardersier in Morayshire. These beaches had been used during WWII for training prior to the D-Day landings in Normandy.

On the 18th October, 1No. 18.5lb artillery shell was discovered during the clearing-out of a farmyard barn near Aberfeldy in Perthshire. The shell dated from WWI and was removed.

On the 12th November 2021, 1No. unexploded artillery shell was found on a housing development site in Wrexham, Wales. It was destroyed in controlled explosion.

On the 15th December 2021, approximately 200No. artillery shells were discovered at a construction site located within the former Royal Ordnance Factory at Swynnerton in Staffordshire. The shells were removed and destroyed.

On the 15th December 2021, 1No. apparent UXB was snagged by a fishing trawler off the Norfolk Coast and then detonated, causing significant damage to the vessel. Upon further investigation, it was concluded that the UXB had been dropped in the water during WWII.

On the 2nd January 2022, 1No. heavily deteriorated 105mm artillery shell was discovered by dogwalkers on a beach in Cumbria. This may have originated on one of the several offshore ranges which have been operational along the nearby coastline since WWII.

Between the 24th and 27th January 2022, 5No. empty artillery shells were uncovered at a construction site in Manchester. These were likely linked to a shell-production factory which had been active on the site during WWII.

On the 17th February 2022, 1No. WWI-era Mk1 Mills hand grenade was found in the River Frome in Dorset by magnet fishermen. This was the third grenade to be pulled from the same stretch of the river over the past year. It was inspected by local police and destroyed.

Appendix 4 Glossary and Definitions

Abandoned Explosive Ordnance (AXO)	Abandoned Explosive Ordnance is explosive ordnance that has not been used during an armed conflict, that has been left behind or disposed of by a party to an armed conflict, and which is no longer under control of that party. Abandoned explosive ordnance may or may not have been primed, fuzed, armed or otherwise prepared for use.
Close Combat Munitions	Items of ordnance thrown, propelled or placed during land warfare, to include grenades, mortars, projectiles, rockets and land mines.
Demil	Derived from the term 'Demilitarisation', it refers to the break down and the recycling or disposal of ordnance components.
Detonation	The high-speed chemical breakdown of an energetic material producing heat, pressure, flame and a shock wave.
Device	This term is used for any component, sub-assembly or completed ordnance, which may or may not have an explosive risk. It can apply to detonators, primers, gaines, fuzes, shells or bombs.
Explosive	The term explosive refers to compounds forming energetic materials that under certain conditions chemically react, rapidly producing gas, heat and pressure. Obviously, these are extremely dangerous and should only be handled by qualified professionals.
Explosive Ordnance (EO)	Explosive Ordnance is all munitions containing explosives, nuclear fission or fusion materials and biological and chemical agents. This includes bombs and warheads, guided and ballistic missiles, artillery, mortar, rocket, small arms ammunition, mines, torpedoes, depth charges, pyrotechnics, cluster bombs & dispensers, cartridge & propellant actuated devices, electro-explosive devices, clandestine & improvised explosive devices, and all similar or related items or components explosive in nature.
Explosive Ordnance Clearance (EOC)	Explosive Ordnance Clearance is a term used to describe the operation of ordnance detection, investigation, identification and removal, with EOD being a separate operation.
Explosive Ordnance Disposal (EOD)	Explosive Ordnance Disposal is the detection, identification, on-site evaluation, rendering safe, recovery and final disposal of unexploded explosive ordnance.
Explosive Ordnance Reconnaissance (EOR)	Explosive Ordnance Reconnaissance is the detection, identification and on-site evaluation of unexploded explosive ordnance before Explosive Ordnance Disposal.
Explosive Remnants of War (ERW)	Explosive Remnants of War are Unexploded Ordnance (UXO) and Abandoned Explosive Ordnance (AXO), excluding landmines.

Explosive Substances and Articles (ESA)	<p>Explosive substances are solid or liquid substances (or a mixture of substances), which are either:</p> <ul style="list-style-type: none"> • capable by chemical reaction in itself of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. • designed to produce an effect by heat, light, sound, gas or smoke, or a combination of these as a result of a non-detonative, self-sustaining, exothermic reaction. <p>Explosive article is an article containing one or more explosive substances.</p>
Fuze	<p>A fuze is the part of an explosive device that initiates the main explosive charge to function. In common usage, the word fuze is used indiscriminately, but when being specific (and in particular in a military context), fuze is used to mean a more complicated device, such as a device within military ordnance.</p>
Gain	<p>Small explosive charge that is sometimes placed between the detonator and the main charge to ensure ignition.</p>
Geophysical survey	<p>A geophysical survey is essentially a range of methods that can be used to detect objects or identify ground conditions without the need for intrusive methods (such as excavation or drilling). This is particularly suited to ordnance as disturbance of ordnance items is to be avoided where ever possible.</p>
Gold line	<p>This is the estimated limit of blast damage from an explosive storage magazine. It usually means that development within this zone is restricted.</p>
High Explosive	<p>Secondary explosives (commonly known as High Explosives (HE)) make up the main charge or filling of an ordnance device. They are usually less sensitive than primary explosives. Examples of secondary explosives are: Nitro glycerine (NG), Trinitrotoluene (TNT), AMATOL (Ammonia nitrate + TNT), Gunpowder (GP), and Cyclotrimethylenetrinitramine (RDX).</p>
Munition	<p>Munition is the complete device charged with explosives, propellants, pyrotechnics, initiating composition, or nuclear, biological or chemical material for use in military operations, including demolitions. This includes those munitions that have been suitably modified for use in training, ceremonial or non-operational purposes. These fall into three distinct categories:-</p> <ul style="list-style-type: none"> • inert - contain no explosives whatsoever. • live - contain explosives and have not been fired. • blind - have fired but failed to function as intended.

Primary Explosive	Primary explosives are usually extremely sensitive to friction, heat, and pressure. These are used to initiate less sensitive explosives. Examples of primary explosives are: Lead Azide, Lead Styphnate, and Mercury Fulminate. Primary explosive are commonly found in detonators.
Propellants	Propellants provide ordnance with the ability to travel in a controlled manner and deliver the ordnance to a predetermined target. Propellants burn rapidly producing gas, pressure and flame. Although usually in solid form they can be produced in liquid form. Examples of propellants are: Ballistite often found in a flake form and Cordite used in small arms ammunition.
Pyrotechnic	A pyrotechnic is an explosive article or substance designed to produce an effect by heat, light, sound, gas or smoke, or a combination of any of these, as a result of non-detonative, self-sustaining, exothermic chemical reactions.
Small Arms Ammunition (SAA)	SAA includes projectiles around 12mm or less in calibre and no longer than approximately 100mm. They are fired from a variety of weapons, including rifles, pistols, shotguns and machine guns.
Unexploded Anti-Aircraft (UXAA) Shell	UXAA shells are army ordnance commonly containing HE, though they can also contain pyrotechnic compounds that produce smoke. Most commonly, these were 3.7" and 4.5" HE shells, although they ranged from 2" to 5.25" calibre.
Unexploded Bomb (UXB)	UXB is a common term for unexploded air-dropped munitions.
Unexploded Ordnance (UXO)	UXO is explosive ordnance that has been either primed, fuzed, armed or prepared for use and has been subsequently fired, dropped, launched, projected or placed in such a manner as to present a hazard to operations, persons or objects and remains unexploded either by malfunction or design.
V1	The Vergeltungswaffe-1, V-1, also designated Fieseler Fi 103/FZG-76, known colloquially in English as the Flying Bomb, Buzz Bomb or Doodlebug, was the first guided missile used in WWII and the forerunner of today's cruise missile.
V2	The Vergeltungswaffe 2 (V-2) ('Reprisal Weapon 2') was the first ballistic missile. It was used by the German Army primarily against Belgian and British targets during the later stages of WWII. The V-2 was the first man-made object launched into space, during test flights that reached an altitude of 189km (117 miles) in 1944.

Appendix 5 Bibliography

- Bulloch G, Steeds J E, Green K, Sainsbury M G, Brockwell J S & Slade N J, Land Contamination: Technical Guidance on Special Sites: MoD Land
- Bulloch G, Steeds J E, Green K, Sainsbury M G, Brockwell J S, & Slade N J, R&D Technical Report P5-042/TR/03, Land Contamination: Technical Guidance on Special Sites: Explosives Manufacturing & Processing Sites
- CIRIA, Unexploded Ordnance (UXO), a Guide for the Construction Industry, 2009
- Clarke N J, Luftwaffe Target Reconnaissance, German aerial Photography 1939-1942, 1996
- Clarke N J, Adolf's British Holiday Snaps: Luftwaffe Aerial Reconnaissance Photographs of England, Scotland and Wales, 2012
- Cocroft W D, Dangerous Energy, 2000
- Cocroft W D, Thomas R J, Cold War, 2003
- Department of the Environment, Sampling Strategies for Contaminated Land, Department of the Environment: Contaminated Land Research Report, CLR Report No. 4, 1994.
- Dobinson C S, Fields of Deception, Britain's Bombing Decoys of World War II, 2000
- Dobinson C S, AA Command, 2001
- Fegan T, The Baby Killers, 2002
- Johnston I, Fairfield: A brief history of Glasgow's most famous shipyard, 2021
- Johnston I, Fairfield: A timeline of Glasgow's most famous shipyard, 2021
- Macleod J, River of Fire: The Clydebank Blitz, 2010
- Middlemiss N L, British Shipbuilding Yards, Volume 2: Clydeside, 1994
- Morris J, German Air Raids on Britain 1914-1918, 1993
- Osborne B D, Glasgow: A City at War, 2005
- Osborne B D & Armstrong R, The Clyde at War, 2001
- Price A, Blitz on Britain 1939-45, 2000
- Ramsey W, The Blitz Then and Now, Vol 1, 1987
- Ramsey W, The Blitz Then and Now, Vol 2, 1988
- Ramsey W, The Blitz Then and Now, Vol 3, 1990
- RCAHMS, Scotland from the Air 1939-1949, Volume 1, 1999
- RCAHMS, Scotland from the Air 1939-1949, Volume 3, 2004
- Redfern N I, Twentieth Century Fortifications in the United Kingdom Volume I, Introduction & Sources. Council for British Archaeology, 1998
- Redfern N I, Twentieth Century Fortifications in the United Kingdom Volume IV, Site Gazetteer: Scotland (i). Council for British Archaeology, 1998
- Redfern N I, Twentieth Century Fortifications in the United Kingdom Volume V, Site Gazetteer: Scotland (ii). Council for British Archaeology, 1998
- Zetica, ZeticaUXO Handbook: a guide to dealing with UXO during construction, 2018

Established for over 30 years, Zetica's services include

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- ☑ Pipeline & cable route surveys
- ☑ Intrusive ground investigations

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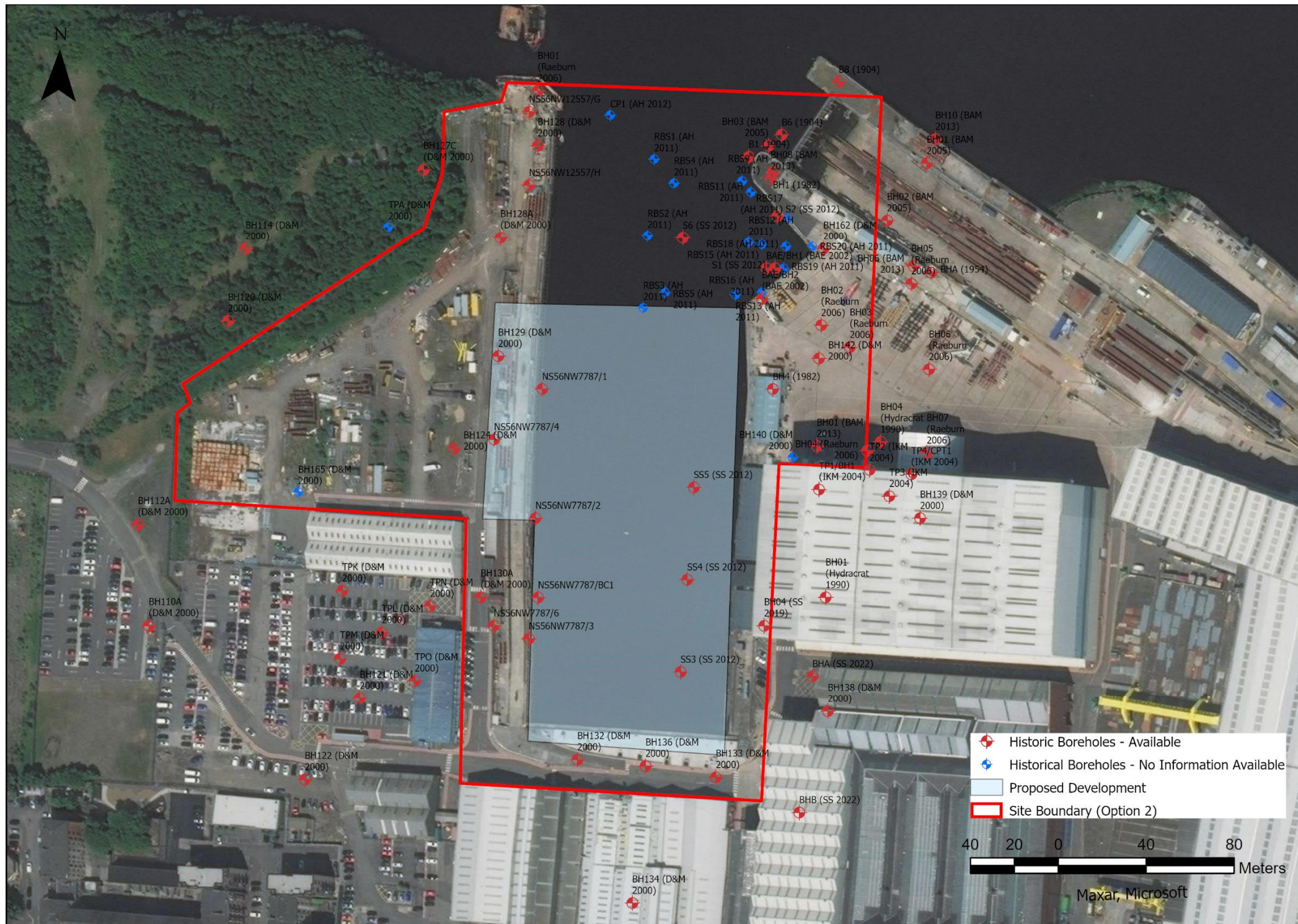




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E. Historical Ground Investigations Summary

Figure E.1: Plan of Historical Exploratory Hole Locations



Source: Mott MacDonald, 2022

Table E.1: Summary of Historical Ground Investigation Information

Location ID	Consultant	Date	Type	Ground Level (m OD)	Final Depth (m)	Depth to Rockhead (m bgl)	In-situ Tests	Soil Testing	Rock Testing	Installation Response Zone (m bgl)	Water Level Readings	Gas Level Readings	Soil Contamination Testing	Water Contamination Testing
Onshore - West of Wet Basin														
NS56NW1 2557/G	Holst Soil Engineering Ltd	26/07/1974	CP	5	24	23.5	SPTs	Classification & strength testing	-	-	-	-	-	-
NS56NW1 2557/H	Holst Soil Engineering Ltd	3/08/1974	CP	5	25	24.9	SPTs	Classification & strength testing	-	-	-	-	-	-
NS56NW7 787/3	-	17/04/1975	CP+RC	5 ¹	32.55	25.55	SPTs	Classification Tests	-	-	-	-	-	-
NS56NW7 787/1	-	06/05/1975	CP+RC	5 ¹	25.41	23.06	SPTs	-	-	-	-	-	-	-
NS56NW7 787/BC1	-	06/06/1975	CP	5 ¹	6	Not encountered	SPTs	-	-	-	-	-	-	-
NS56NW7 787/4	-	08/06/1975	CP	5 ¹	25.25	-	SPTs	-	-	-	-	-	-	-
NS56NW7 787/2	-	08/05/1975	CP+RC	5 ¹	30.2	25.8	SPTs	-	-	-	-	-	-	-
NS56W77 87/6	-	10/06/1975	CP+RC	5 ¹	36.5	33.3	SPTs	-	-	-	-	-	-	-
BH110	Dames & Moore	11/04/2000	CP	9.38	11.0	Not encountered	-	-	-	-	-	-	-	-
BH112A	Dames & Moore	02/05/2000	WS	9.39	5.0	Not encountered	-	-	-	-	-	-	-	-
BH120	Dames & Moore	05/05/2000	CP	11.4	11.0	Not encountered	-	-	-	-	-	-	-	-
BH121	Dames & Moore	19/04/2000	CP	8.92	8.0	Not encountered	-	-	-	-	-	-	-	-
BH122	Dames & Moore	02/05/2000	WS	9.03	5.0	Not encountered	-	-	-	-	-	-	-	-
BH124	Dames & Moore	06/05/2000	WS	8.48	5.5	Not encountered	-	-	-	-	-	-	-	-
BH127C	Dames & Moore	26/04/2000	CP	12.33	9.35	Not encountered	-	-	-	-	-	-	-	-
BH128	Dames & Moore	08/05/2000	CP	4.91	2.4	Not encountered	-	-	-	-	-	-	-	-
BH128A	Dames & Moore	09/05/2000	CP	4.91	10.0	Not encountered	-	-	-	-	-	-	-	-
BH129	Dames & Moore	08/05/2000	CP	7.20	10.0	Not encountered	-	-	-	-	-	-	-	-
BH130A	Dames & Moore	10/05/2000	CP	7.87	10.0	Not encountered.	-	-	-	-	-	-	-	-
TPK	Dames & Moore	09/05/2000	TP	8.34	2.5	Not encountered	-	-	-	-	-	-	-	-
TPL	Dames & Moore	09/05/2000	TP	8.61	3.0	Not encountered	-	-	-	-	-	-	-	-
TPM	Dames & Moore	09/05/2000	TP	8.82	3.0	Not encountered	-	-	-	-	-	-	-	-
TPN	Dames & Moore	09/05/2000	TP	8.02	3.0	Not encountered	-	-	-	-	-	-	-	-
TPO	Dames & Moore	09/05/2000	TP	8.93	3.2	Not encountered	-	-	-	-	-	-	-	-
BH01	Raeburn Drilling and Geotechnical Ltd	28/07/2006	CP+RO +RC	4.8 ¹	28.0	25	SPTs	Classification Testing Chemical Testing	Point Load UCS	-	-	-	-	-
Offshore -Within Wet Basin														
S1	Structural Soils	06/03/2012	VC	-6.4	2.0	Not encountered	-	PSD	-	-	-	-	Y	-
S2	Structural Soils	06/03/2012	VC	-6.4	1.8	Not encountered	-	PSD	-	-	-	-	Y	-
S6	Structural Soils	06/03/2012	VC	-7.9	3.1	Not encountered	-	PSD	-	-	-	-	Y	-
SS3	Structural Soils	05/03/2012	VC	-5.9	5.0	Not encountered	-	-	-	-	-	-	Y	-
SS4	Structural Soils	06/03/2012	VC	-6.4	4.4	Not encountered	-	-	-	-	-	-	Y	-
SS5	Structural Soils	06/03/2012	VC	-7.9	4.0	Not encountered	-	-	-	-	-	-	Y	-
Onshore – South of Wet Basin														
BH132	Dames & Moore	18/04/2000	CP	6.37	9.0	Not encountered	-	-	-	-	-	-	-	-

Location ID	Consultant	Date	Type	Ground Level (m OD)	Final Depth (m)	Depth to Rockhead (m bgl)	In-situ Tests	Soil Testing	Rock Testing	Installation Response Zone (m bgl)	Water Level Readings	Gas Level Readings	Soil Contamination Testing	Water Contamination Testing
BH 133	Dames & Moore	14/04/2000	CP	6.33	9	Not encountered	-	-	-	-	-	-	-	-
BH134	Dames & Moore	13/05/2000	WS	6.61	4.5	Not encountered	-	-	-	-	-	-	-	-
BH136	Dames & Moore	06/05/2020	CP	6.42	20.5	Not encountered	-	-	-	-	-	-	-	-
Onshore – East of Basin														
B 1	Fairfield Shipbuilding & Engineering Co.	1904	-	-0.25 ¹	24.7	22.73	-	-	-	-	-	-	-	-
B 6	Fairfield Shipbuilding & Engineering Co.	1904	-	-0.83 ¹	24.38	Not encountered	-	-	-	-	-	-	-	-
B 8	Fairfield Shipbuilding & Engineering Co.	1904	-	-1.23 ¹	21.6	20.4	-	-	-	-	-	-	-	-
BH 1	Babtie Shaw & Morton	Feb/March 1982	CP	4.63 ¹	16.6	15.9	SPTs	-	-	-	-	-	-	-
BH 4	Babtie Shaw & Morton	Feb/March 1982	CP	5.03 ¹	18.3	17.8	SPTs	-	-	-	-	-	-	-
BH A	Babtie Shaw & Morton	1954	CP	4.83 ¹	17.8	17.3	-	-	-	-	-	-	-	-
BH01	Hydracrat Ltd	12/03/1990	CP	5.5 ¹	35.85	30.3	-	-	Point Load Strength	-	-	-	-	-
BH04	Hydracrat Ltd	19/03/1990	CP	5.03 ¹	39.8	30.5	-	-	Point Load Strength	-	-	-	-	-
BH 138	Dames & Moore	12/05/2000	WS	6.58	5.0	Not encountered	-	-	-	-	-	-	-	-
BH139	Dames & Moore	26/04/2000	CP	5.33	8.0	Not encountered	-	-	-	-	-	-	-	-
BH 142	Dames & Moore	15/05/2000	WS	4.7	3.8	Not encountered	-	-	-	-	-	-	-	Y
BH 162	Dames & Moore	10/05/2000	CP	4.9	9.0	Not encountered	-	-	-	-	-	-	-	Y
BAE BH1	BAE Systems	31/10/2002	CP	4.9 ¹	11.0	Not encountered	-	-	-	-	-	-	-	-
BAE BH2	BAE Systems	01/11/2002	CP	4.9 ¹	11.0	Not encountered	-	-	-	-	-	-	-	-
TP1/BH1	IKM Consulting Ltd	04/11/2003	CP	5.1 ¹	27.8	Not encountered	SPTs	Classification Testing Chemical Testing PSD	-	1.0 – 10.0	2	-	Y	Y
TP2	IKM Consulting Ltd	20/10/2003	TP	5.1 ¹	3.5	Not encountered	-	-	-	-	-	-	Y	-
TP3	IKM Consulting Ltd	21/10/2003	TP	5.1 ¹	2.6	Not encountered	-	-	-	-	-	-	Y	-
TP4	IKM Consulting Ltd	20/10/2003	TP	5.1 ¹	2.2	Not encountered	-	-	-	-	-	-	Y	-
BH 01	BAM Ritches	02/06/2005	CP+RC	2.5 ¹	38.6	20.5	SPTs	Classification Testing PSD	Moisture Content Density UCS Point Load	-	-	-	-	-
BH 02	BAM Ritches	30/05/2005	CP+RC	2.5 ¹	40.9	15.3	SPTs	Classification Testing PSD	Moisture Content Density UCS Point Load	-	-	-	-	-
BH 03	BAM Ritches	08/06/2005	CP+RC	-1.17 ¹	30.3	25.5	SPTs	Classification Testing PSD Chemical Testing	Moisture Content Density UCS Point Load	-	-	-	Y	-

Location ID	Consultant	Date	Type	Ground Level (m OD)	Final Depth (m)	Depth to Rockhead (m bgl)	In-situ Tests	Soil Testing	Rock Testing	Installation Response Zone (m bgl)	Water Level Readings	Gas Level Readings	Soil Contamination Testing	Water Contamination Testing
BH 02	Raeburn Drilling and Geotechnical Ltd	26/07/2006	CP+RO +RC	4.9 ¹	40.0	36	SPTs	Classification Testing	Point Load UCS	-	-	-	-	-
BH 03	Raeburn Drilling and Geotechnical Ltd	03/07/2006	CP+RO +RC	4.9 ¹	57.0	38	SPTs	Classification Testing Chemical Testing	Point Load UCS	-	-	-	Y	-
BH 04	Raeburn Drilling and Geotechnical Ltd	03/07/2006	CP+RO +RC	5.0 ¹	39.2	36.2	SPTs	Classification Testing Chemical Testing	Point Load	1.0-11.0	2	2	Y	Y
BH 05	Raeburn Drilling and Geotechnical Ltd	10/07/2006	CP+RC	4.9 ¹	29.0	25.7	SPTs	Classification Testing Strength Chemical Testing	Point Load	-	-	-	Y	-
BH 06	Raeburn Drilling and Geotechnical Ltd	08/07/2006	CP+RO +RC	4.9 ¹	36.0	31.6	SPTs	Classification Testing Strength Chemical Testing	Point Load	1.0-11.0	2	2	Y	Y
BH 07	Raeburn Drilling and Geotechnical Ltd	03/07/2006	CP+RO +RC	5.1 ¹	43.0	39.9	SPTs	Classification Testing Chemical Testing	Point Load UCS	-	-	-	Y	-
BH 01	BAM Ritches	21/11/2013	CP+RC	5.07	40.2	34.2	SPTs	Classification Testing	Moisture Density Point Load	1.0-10.0	1	1	Y	-
BH06	Bam Ritches	15/11/2013	CP+RC	4.67	27.3	21.3	SPTs	Classification Testing Chemical Testing	Moisture Density Tensile Strength Point Load	-	-	-	Y	-
BH 08	BAM Ritches	20/11/2013	CP	4.67	4.1	Not encountered	SPTs	-	-	-	-	-	-	-
BH 10	BAM Ritches	04/11/2013	CP+RC	4.84	22.9	17.2	SPTs	Chemical Testing Strength	Point Load Porosity	-	-	-	Y	-
BH04	Structural Soils	05/03/2019	CP+RC	4.91	31	Not encountered	-	-	-	6.0-10.0	6	-	-	-
BH A	Structural Soils	09/07/2021	CP+RC	5.84	36.5	30.1	SPTs	PSD Chemical Testing	-	3.0-9.0	16	-	Y	Y
BH B	Structural Soils	07/07/2021	CP+RC	6.71	20	Not encountered	SPTs	Classification Testing PSD	-	-	-	-	Y	-

TP = Trail Pit, CP = Cable Percussion, RC – Rotary Core, RO – Rotary Openhole, WS = Window Sample, VC = Vibrocore
¹Ground Level estimated from available topographical plans

F. Borehole Logs

F.1 BGS Borehole Records

BOREHOLE RECORD SHEET

LOCATION ... GOVAN WEST WHARF ... WATER LEVELS ... See Table No. 1 ... INITIAL ... FINAL ...
 JOB No. ... BOREHOLE No. 3 (cont'd 2) ... DATE COMMENCED 17. 4. 75 ...
 SURFACE LEVEL ... DIAMETER 200 & 150mm ... DATE COMPLETED 30. 5. 75 ...

DESCRIPTION	Log	Thickness (Metres)	Depth (Metres)	Soil Symbol	Samples	n (blows)	w (%)	d (lb cu ft) (kg/m ³)	c (lb cu ft) (kg/m ³)	φ (deg.)	LL (%)	PL (%)	PI (%)	C.B.R. (%)
Brought forward Medium dense, greyish brown, medium SAND with some fine gravel, coarse sand and fine sand.			15.00		D									
					D									
					D									
					D									
					D									
					D									
					D									
					D									
					D									
					D									
					D									
	Stiff dark grey, very sandy silty CLAY with cobbles, and coarse to fine gravel and numerous partings of fine sand.		12.30	27.30		D								
					D									
					D									
					D									
					D									
					D									
					D									
					D									
					D									
					D									
Penetratively weathered and badly broken, grey-black sandy SILTSTONE, with clay infilling joints.		1.90	29.20		D									
					D									
					D									
					D									
					D									
					D									
	0.35	29.55		D										
				D										
				D										

REMARKS: Continued by rotary core drilling.

SYMBOLS: n—Standard Penetration test w—Natural moisture content d—Natural bulk density c—Apparent cohesion φ—Angle of internal friction
 LL—Liquid Limit PL—Plastic Limit PI—Plasticity Index U—Undisturbed Sample D—Disturbed Sample B—Bulk Sample C.B.R.—California Bearing Ratio

BOREHOLE RECORD SHEET

LOCATION ... GOVAN WEST WHARF WATER LEVELS See Table No. 1 INITIAL FINAL
 JOB No. 382/AS BOREHOLE No. 4 (cont'd 1) DATE COMMENCED 8.6.75
 SURFACE LEVEL DIAMETER 200 & 150mm DATE COMPLETED 23.6.75

DESCRIPTION	Lap	Thickness (Metres)	Depth (Metres)	Soil Symbol	Samples	w (blows)	w (%)	s (lb cu ft)	c (lb cu ft)	ρ' (deg.)	LL (%)	PL (%)	PI (%)	C.B.R. (%)
Brought forward			6.00		D									
Greyish brown, medium SAND with some fine gravel, coarse sand and occasional traces of coarse sandstone gravel.					14.50									
		10.50	16.50		D									
					16.00									
COBBLES and coarse GRAVEL fragments of off white, fine grained sandstone.		1.25	17.75		D									
Greyish brown, coarse to medium SAND with occasional cobbles and coarse gravel and traces of grey boulder clay.					17.50									
					D									
		5.75	23.50		21.50									
Off white medium to fine grained SANDSTONE with traces of grey boulder clay.					D									
					23.00									
		8.75	25.25		D									
					24.50									

'RUNNING' CONDITIONS

REMARKS:

Unable to penetrate further by SHELL and AUGER drilling methods.

SYMBOLS: s—Standard Penetration test w—Natural moisture content ρ' —Natural bulk density c —Apparent cohesion α —Angle of internal friction
 LL—Liquid Limit PL—Plastic Limit PI—Plasticity Index U—Undisturbed Sample D—Disturbed Sample B—Bulk Sample C.B.R.—California Bearing Ratio

BOREHOLE RECORD SHEET

LOCATION ... GOYAN WEST WHARF WATER LEVELS ... see Table No. 1 ... INITIAL FINAL
 JOB No. ... 382/AS BOREHOLE No. ... DC 1 DATE COMMENCED ... 6. 6. 75
 SURFACE LEVEL DIAMETER ... 150mm DATE COMPLETED ... 6. 6. 75

DESCRIPTION	Lag	Thickness (Metres)	Depth (Metres)	Soil Symbol	Samples	σ (blows)	w (%)	ρ (Bulk ρ) kg/m ³	c (Bulk ρ) kg/m ³	ϕ (deg)	L.L. (%)	P.L. (%)	P.I. (%)	C.B.R. (%)
MADE GROUND														
a) COBBLE SETS		0.15	0.15											
b) ASH		0.05	0.20											
c) CONCRETE		0.30	0.50											
d) Medium dense, ASH, SLAG and coarse SAND fill material.					D									
					1.00									
					D									
					2.50	15								
					D	3, 15								
					4.00	15								
					D	5, 15								
		5.30	5.80		5.50									
SAND		0.20	6.00											

REMARKS:

Continued by Dutch Cone Penetration

SYMBOLS: σ —Standard Penetration test w —Natural moisture content ρ —Natural bulk density c —Apparent cohesion ϕ —Angle of internal friction
 L.L.—Liquid Limit P.L.—Plastic Limit P.I.—Plasticity Index U—Undisturbed Sample D—Disturbed Sample S—Bulk Sample C.B.R.—California Bearing Ratio

Holst Soil Engineering Limited

BOREHOLE LOG

 Borehole No. G

Contract No. SI 1894/F 2944

Location Glasgow Govan Shipyard

Client Babbie, Shaw and Morton

Method of Boring Percussion

 Diameter of Borehole 0.20m 6" L to 18.00m
 0.15m 6" to 24.00m

Sheet 1 of 3

Chainage

Ground Level 5.00m

Date 26.7.74 - 2.8.74

Description of Strata	Legend	Depth below G.L.(m)	Thickness of Strata(m)	Type of Sample	c KN/sq.m	φ deg	m.c. %	γ Kg/cum	N
MADE GROUND: Cobbles, clay, bricks, sand, stones, wood	x	1.00	1.00						
Soft, dark brown silty CLAY, with traces of gravel	x x	1.90	0.90						
Loose, dark brown fine to coarse grained gravelly SAND	x x x	2.70	0.60	2.50	7	31	8.4	1770	
Loose, dark brown, coarse grained SAND and GRAVEL	x x x	3.80	1.10	4.00					5
Soft, light grey laminated sandy SILT	x x x	4.50		4.50					7
Soft, dark grey - brown cotted sandy SILT	x x x	6.00	2.20	6.00					8
Soft dark grey silty, very fine grained SAND	x x x	6.50	0.50						
	x x x	7.50		7.50	28	34	20.9	1950	
Medium dense, becoming very dense with depth, buff grey - brown fine grained SAND	x x x	9.00	2.50						

Log Continued

Type of Sample

- Undisturbed Sample φ Angle of Friction
- Disturbed Sample m.c. Moisture Content
- △ Water Sample γ Bulk Density
- I Penetration Test N S.P.T. Value
- c Apparent Cohesion

Remarks (Observations of Ground Water etc)

Water seepage observed at 9.00m
 Water continually added to borehole during drilling
 Piezometer installed at 13.90m

Water levels are subject to seasonal or tidal variations and should not be taken as constant

Holst Soil Engineering Limited

 Borehole No. **G**

BOREHOLE LOG

 Contract No. SI 1894/F 2944

 Location Glasgow Govan Shipyard

 Client Babbie, Shaw and Norton

 Method of Boring Percussion

 Diameter of Borehole 0.20m G.L. to 18.00m
0.15m 18.00m to 24.00m

 Sheet 2 of 3

Chainage _____

 Ground Level 5.00m

 Date 26.7.74 - 2.8.74.

Description of Strata	Legend	Depth below G.L.(m)	Thickness of Strata(m)	Type of Sample	c KN/sq.m	ϕ deg	m.c. %	γ Kg/cum	N
Medium dense, becoming very dense with depth, dark grey brown, fine grained SAND				10.50					20
				12.00					31
				14.00					73
Very stiff, dark brown black silty very sandy, very stoney CLAY		15.90	6.90	16.00					61
				17.60					91
Very stiff, black silty, sandy stoney CLAY with lenses of dark grey, coarse grained SAND, GRAVEL COBBLES and PEBBLES.				17.50					
				19.00					
		20.20	2.60						

Type of Sample
 Undisturbed Sample ϕ Angle of Friction
 Disturbed Sample m.c. Moisture Content
 Water Sample γ Bulk Density
 Penetration Test N S.P.T. Value
 c Apparent Cohesion

Remarks (Observations of Ground Water etc)

Water levels are subject to seasonal or tidal variations etc. should not be taken as constant

Holst Soil Engineering Limited

BOREHOLE LOG

 Borehole No. G

 Contract No. SI 1894/F 2944
 Location Glasgow Govan Shipyard
 Client Babbie Shaw and Horton
 Method of Boring Percussion
 Diameter of Borehole 0.20m G.L. to 18.00
0.15m 18.00m to 24.00m

 Sheet 3 of 3
 Chainage _____
 Ground Level 5.00
 Date 26.7.74 - 2.8.74

Description of Strata	Legend	Depth below G.L.(m)	Thickness of Strata(m)	Type of Sample	c KN/sq.m	φ deg	m.c. %	γ Kg/cum	N
Very stiff, black very sandy stoney CLAY with lenses of fine grained black/grey SAND	[Symbol]			20.00 20.50					26
				22.00 23.00	No Recovery				33
Very hard, light grey, laminated, fine grained micaceous quartzitic weathered SANDSTONE	[Symbol]	23.55	3.20	23.00 23.70	No Recovery				60 for 0.13m
		24.00	0.50						

Type of Sample
 Undisturbed Sample φ Angle of Friction
 Disturbed Sample m.c. Moisture Content
 Water Sample γ Bulk Density
 Penetration Test N S.P.T. Value
 Apparent Cohesion

Remarks (Observations of Ground Water etc)

Water levels are subject to seasonal tidal variations and should not be taken as constant

Holst Soil Engineering Limited

BOREHOLE LOG

 Borehole No. **199 H**

 Contract No. SI 1894/F 2544
 Location Glasgow Govan Shipyard
 Client Bobbie Shaw and Horton
 Method of Boring Percussion
 Diameter of Borehole 0.20m G.L. to 15.00m
0.15m 15.00 to 25.00m

 Sheet 1 of 3
 Chainage _____
 Ground Level 5.00
 Date 3 - 9 - 87

Description of Strata	Legend	Depth below G.L.(m)	Thickness of Strata(m)	Type of Sample	c KN/sq.m	φ deg	m.c. %	γ Kg/cum	N
MADE GROUND: Clay, ash, brick, stones, Sand, Wood, Pipe remains									
Loose dark brown fine to coarse grained sand with traces of gravel	(Symbol: dots and dashes)	3.00	3.00	3.00 └─┘					9
Soft, dark grey/brown sandy SILT	(Symbol: dots)	4.40	1.40	4.50 └─┘	40	32	24.2	1910	
	(Symbol: dots and crosses)			6.00 └─┘					8
	(Symbol: dots and crosses)			7.50 └─┘					6
	(Symbol: dots and crosses)			8.00 └─┘					8
Medium dense light brown fine to coarse grained SAND. Log Continued	(Symbol: dots and crosses)	9.50	5.10	9.50 └─┘					23

Type of Sample
 Undisturbed Sample φ Angle of Friction
 Disturbed Sample m.c. Moisture Content
 Δ Water Sample γ Bulk Density
 I Penetration Test N S.P.T. Value
 c Apparent Cohesion

Remarks (Observations of Ground Water etc)
 Water continually added to borehole during drilling
 Seepage observed approximately at 9.50m
 Piezometer installed at 5.60m
 Water levels are subject to seasonal or tidal variations and should not be taken as constant

Holst Soil Engineering Limited

Borehole No. H

BOREHOLE LOG

Contract No. SI 1895/E 2944

Location Glasgow Govan Shipyard

Client Babbie, Shaw and Norton

Method of Boring Percussion

Diameter of Borehole 0.20m i.l. to 15.00m

0.15 15.00 to 25.00m

Sheet 2 of 3

Chainage

Ground Level 5.00

Date 3 - 9.8.74

Description of Strata	Legend	Depth below G.L.(m)	Thickness of Strata(m)	Type of Sample	c KN/sq.m	ϕ deg	m.c. %	γ Kg/cum	N
Medium dense, becoming very dense with depth, light brown, fine grained SAND				11.00					30
				12.50					35
				14.00					35
		15.70	6.20	15.50					35
Dense, dark grey coarse grained SAND GRAVEL, and black silty, very sandy CLAY				17.00					78
Driving boulder		18.00	2.30						
Very stiff, black very sandy, very stony CLAY with lenses of dark grey coarse grained SAND GRAVEL and COBBLES		19.00	1.00	19.50					
									75 for 0.15m

Log Continued

Undisturbed Sample ϕ Angle of Friction
 Disturbed Sample m.c. Moisture Content
 Water Sample γ Bulk Density
 Penetration Test N S.P.T. Value
 Apparent Cohesion

Remarks (Observations of Ground Water etc)

Water levels are subject to seasonal or tidal variations and should not be taken as constant



Holst Soil Engineering Limited

BOREHOLE LOG

Borehole No. H

Contract No. Sl 1894/F 1944
 Location Glasgow Govan Shipyard
 Client Babbie, Shaw and Norton
 Method of Boring Percussion
 Diameter of Borehole 0.20m S.L. to 15.00m
0.15 15.00 to 25.00m

Sheet 3 of 3
 Chainage _____
 Ground Level 5.00
 Date 3 - 9 8,74

Description of Strata	Legend	Depth below G.L.(m)	Thickness of Strata(m)	Type of Sample	c KN/sq.m	φ deg	m.c. %	γ Kg/cum	N
Very stiff, black, very sandy, very stoney CLAY with lenses of dark grey coarse gravel SAND, GRAVEL and PEBBLES				□	No recovery				
		22.00						34	
Very hard, light to dark grey, micaceous, quartzitic SANDSTONE									
		23.50					41		
		24.90 25.00	5.90						

Type of Sample
 Undisturbed Sample φ Angle of Friction
 Disturbed Sample m.c. Moisture Content
 Water Sample γ Bulk Density
 Penetration Test N S.P.T. Value
 Apparent Cohesion

Remarks (Observations of Ground Water etc)

Water levels are subject to seasonal or tidal variations and should not be taken as constant

BOREHOLE RECORD SHEET

LOCATION COVAN WEST WHARF WATER LEVELS See Table No. 1 INITIAL FINAL
 JOB No. 382/AS BOREHOLE No. 6 DATE COMMENCED 10.6.75
 SURFACE LEVEL DIAMETER 200 & 150 mm DATE COMPLETED 26.6.75

DESCRIPTION	Lag	Thickness (Metres)	Depth (Metres)	Soil Symbol	Samples	n (blows)	w (%)	s (lb./cu.ft.) kg./m ³	s (lb./cu.ft.) kg./m ³	μ (deg.)	LL (%)	PL (%)	PI (%)	C.B.R. (%)
MADE GROUND														
a) COBBLE SETS		0.15	0.15											
b) Loose, CONCRETE, BRICKS, ASH, SLAG and sandy CLAY with gravel.		1.05	1.20		D	8								
Soft to firm, greenish brown, laminated SILT with numerous bands of reddish brown, silty clay.					0.15-1.20	1.15								
					D									
					1.50-2.00									
					U									
					2.00-2.45									
		1.30	2.50		D									
Soft, dark brown, sandy silty CLAY with traces of fine gravel.		0.50	3.00		2.50-3.00	6								
Slightly mottled brown, silty fine SAND					D	3.15								
		1.50	4.50		3.50-4.00									
					D									
Medium dense, medium to fine GRAVEL, and dark brown, coarse to medium SAND, with some coarse gravel.					4.50	18								
					D	4.65								
					6.00	16								
		2.20	6.70		D	6.15								
Greyish brown, slightly silty medium to fine SAND with traces of fine gravel.		2.10	8.80		D									
Greyish brown, coarse to medium SAND, with traces of fine gravel, and occasional coarse to medium gravel.					D									
					7.50									
					D									
					9.00									
					D									
					10.50									

"RUNNING" CONDITIONS

REMARKS:

SYMBOLS: s—Standard Penetration test w—Natural moisture content s—Natural bulk density c—Apparent cohesion ϕ —Angle of internal friction
 LL—Liquid Limit PL—Plastic Limit PI—Plasticity Index U—Undisturbed Sample D—Disturbed Sample B—Soil Sample C.B.R.—Tensile Bearing Ratio

BOREHOLE RECORD SHEET

British Geological Survey

British Geological Survey

British Geological Survey

LOCATION GOVAN WEST WHARF WATER LEVELS See Table No. 1 INITIAL FINAL
 JOB No. 382/AS BOREHOLE No. 6 (cont'd 1) DATE COMMENCED 10. 6. 75
 SURFACE LEVEL DIAMETER 200 & 150mm DATE COMPLETED 26. 6. 75

DESCRIPTION	Log	Thickness (Metres)	Depth (Metres)	Soil Symbol	Samples	n (Mows)	w (%)	S (lb./cu.ft.) kg./m ³	S (lb./cu.ft.) kg./m ³	σ (diag.)	LL (%)	PL (%)	PI (%)	C.B.R. (%)
Brought forward			8.80											
Greyish brown, coarse to medium SAND with traces of fine gravel and occasional coarse to medium gravel.					D									
					12.00									
					D									
					13.50									
					D									
					15.00									
					D									
					16.50									
					D									
					18.00									
					D									
					19.50									
					D									
					21.90									
					D									
				22.50										
				D										
				24.00										
				D										
				25.50										
				D										
				27.00										

British Geological Survey

British Geological Survey

British Geological Survey

REMARKS:

SYMBOLS: n—Standard Penetration test w—Natural moisture content S—Natural bulk density σ—Apparent cohesion α—Angle of internal friction
 LL—Liquid Limit PL—Plastic Limit PI—Plasticity Index U—Undisturbed Sample D—Disturbed Sample S—Bulk Sample C.B.R.—California Bearing Ratio

BOREHOLE RECORD SHEET

LOCATION DOVAN WEST WHARF WATER LEVELS see table No. 1 INITIAL FINAL
 JOB No. 882/AS BOREHOLE No. 6 (cont'd 2) DATE COMMENCED 10. 6. 75
 SURFACE LEVEL DIAMETER 200 & 150mm DATE COMPLETED 26. 6. 75

DESCRIPTION	Lep.	Thickness (Metres)	Depth (Metres)	Soil Symbol	Samples	n (blows)	w (%)	s (D.O.M.R.) kg/m ³	c (D.O.M.R.) kg/m ³	σ (ppg.)	LL (%)	PL (%)	PI (%)	C.B.R. (%)
Brought forward			8.80		D									
Greyish brown, coarse to medium SAND with traces of fine gravel and occasional coarse to medium gravel.					D									
					D									
					30.00									
					D									
					31.50									
					D									
		24.50	33.30		D									
Possible ROCK (drillers description)		0.20	33.50		33.30									

REMARKS:

Continued by rotary core drilling.

SYMBOLS: n—Standard Penetration test w—Natural moisture content s—Natural bulk density σ—Apparent cohesion α—Angle of internal friction
 LL—Liquid Limit PL—Plastic Limit PI—Plasticity Index U—Undisturbed Sample D—Disturbed Sample B—Bulk Sample C.B.R.—California Bearing Ratio

BOREHOLE RECORD SHEET

LOCATION ... GOVAN WEST WHARF

WATER LEVELS ... See table No. 1. INITIAL

FINAL

JOB No. ... 352/AS

BOREHOLE No. ... 1

DATE COMMENCED ... 6. 5. 75

SURFACE LEVEL

DIAMETER

200 & 150mm

DATE COMPLETED ... 16. 5. 75

DESCRIPTION	Log	Thickness (Metres)	Depth (Metres)	Soil Symbol	Samples	n (blows)	w (%)	s (% kg/m ³)	c (% kg/m ²)	ϕ (deg.)	LL (%)	PL (%)	PI (%)	C.B.R. (%)
MADE GROUND a) COBBLES b) CONCRETE c) Very loose ASH, SLAG and coarse to fine SAND fill material, with wood and pieces of brick.		0.15	0.15		D									
		0.55	0.70		D									
					D									
					D	1								
					D	1.65								
					D									
					D	2								
					D	3.15								
		3.60	4.30		D									
					D	2								
Soft, greenish brown, laminated SILT, with thin bands of reddish brown silty clay and partings of coarse sand and fine gravel.					D	4.65								
					D									
					D	3								
					D	6.15								
Light brown, medium SAND with some fine sand.		2.60	6.90		D									
					D	5								
					D	7.65								
					D	8.50								

REMARKS:

SYMBOLS: n—Standard Penetration test s—Natural moisture content S—Natural bulk density c—Apparent cohesion α —Angle of internal friction
 LL—Liquid Limit PL—Plastic Limit PI—Plasticity Index U—Undisturbed Sample D—Disturbed Sample S—Bulk Sample C.B.R.—California Bearing Ratio

BOREHOLE RECORD SHEET

LOCATION ... GOVAN WEST WHARF.

WATER LEVELS ... See Table No 1. INITIAL

FINAL

JOB No. ... 382/AS. BOREHOLE No. ... 1 (cont'd 1)

DATE COMMENCED ... 6. 5. 75

SURFACE LEVEL ... DIAMETER ... 200 & 150mm

DATE COMPLETED ... 16. 5. 75

DESCRIPTION	Log	Thickness (Metres)	Depth (Metres)	Soil Symbol	Samples	w (%)	w _p (%)	e (lb. cu. ft. / kg. / m ³)	e _p (lb. cu. ft. / kg. / m ³)	c (kg. / m ³)	LL (%)	PL (%)	P.I. (%)	C.B.R. (%)
Brought forward Light brown, medium SAND with some fine sand.			6.90		D									
					D									
					9.50									
					D									
					10.50									
					D									
					11.50									
					D									
					12.50									
					D									
					13.50									
					D									
					14.50									
					D									
				15.50										
				D										
				16.50										
				D										
				17.50										
				D										
				18.50										
				D										
				19.50										
				D										
		12.55	19.45											
Firm to stiff, dark grey, sandy BOULDER CLAY with bands of medium dense, greyish brown, medium sand and coarse gravel.														

REMARKS:

SYMBOLS: s—Standard Penetration test w—Natural moisture content e—Natural bulk density c—Apparent cohesion α—Angle of internal friction
 LL—Liquid Limit PL—Plastic Limit P.I.—Plasticity Index U—Undisturbed Sample D—Disturbed Sample B—Bulk Sample C.B.R.—California Bearing Ratio

BOREHOLE RECORD SHEET

LOCATION ... COVAN WEST WHARF WATER LEVELS ... See Table No. 1 INITIAL FINAL
 JOB No. ... 382/AS BOREHOLE No. ... 1 (cont'd 2) DATE COMMENCED ... 6. 5. 75
 SURFACE LEVEL DIAMETER ... 200 & 150mm DATE COMPLETED ... 16. 5. 75

DESCRIPTION	Lap	Thickness (Metres)	Depth (Metres)	Soil Symbol	Samples	n (blows)	w (%)	s (kg/cm ³)	e (kg/cm ³)	σ (deg.)	L.L. (%)	P.L. (%)	P.I. (%)	C.B.R. (%)
Brought forward			19.45		D									
Firm to stiff, dark grey, sandy BOULDER CLAY with bands of medium dense, greyish brown, medium sand and coarse gravel.		2.95	22.40		D	18								
					D	21.15								
Hard ROCK or BOULDER (driller's description)		0.66	23.06											

REMARKS:

Continued by rotary core drilling.

—Standard Penetration test v—Natural moisture content s—Natural bulk density e—Apparent cohesion σ—Angle of internal friction
 L.L.—Liquid Limit P.L.—Plastic Limit P.I.—Plasticity Index U—Undisturbed Sample D—Disturbed Sample B—Bulk Sample C.B.R.—California Bearing Ratio

BOREHOLE RECORD SHEET

LOCATION GOVAN WEST WHARF DATE COMMENCED 20. 5. 75
 JOB No. 382/AS BOREHOLE No. 1 (cont'd) 3 DATE COMPLETED 22. 5. 75
 SURFACE LEVEL _____ DIAMETER 60mm AIR/WATER OBSERVATIONS Full water return.

DESCRIPTION	LOG	Thickness (Metres)	Depth (Metres)	Level	Percentage Core recovery		Maximum Core Length (Metres)	Minimum Core Length (Metres)	R.Q.D. (%)	Unconfined Compressive Strength MPa ¹
					Total	Split				
<u>Brought forward from SOILS JOURNALS</u>			<u>23.06</u>							<u>77</u>
<u>Fresh, thinlly laminated, off white, fine grained, slightly micaceous, strong SANDSTONE. (recovery over basal 0.50m is 10% - unable to break off core)</u>		<u>2.35</u>	<u>25.41</u>		<u>60</u>	<u>40</u>	<u>0.07</u>	<u>0.005</u>	<u>0</u>	<u>23.06-23.20</u>

BOREHOLE RECORD SHEET

LOCATION GOVAN WEST WHARF. WATER LEVELS See Table No 1 INITIAL FINAL

JOB No. 382/AS BOREHOLE No. 2 DATE COMMENCED 8. 5. 75

SURFACE LEVEL DIAMETER 200 & 1.50mm DATE COMPLETED 10. 6. 75

DESCRIPTION	Leq.	Thickness (Metres)	Depth (Metres)	Soil Symbol	Sample	n (blows)	w (%)	S (D.C.U.) kg/m ³	C (S.A.O.P.I.) kn/m ²	ϕ' (deg.)	LL (%)	P.L. (%)	P.I. (%)	C.B.R. (%)	
MADE GROUND a) CONCRETE and COBBLE SETS b) Medium dense, ASH, SLAG, SANDSTONE, BRICK and WOOD.		0.45	0.45		D										
					0.70 D										
					1.50 D										
					2.30 D										
					3.50 D										
					3.80 D										
		4.05	4.50		4.50 D										
	Light brown, medium SAND with some fine sand					5.33 D									
						6.46 D									
						6.85 D									
					7.63 D										
					8.20 D										

REMARKS:

SYMBOLS: s—Standard Penetration test n—Natural moisture content S—Natural bulk density c—Apparent cohesion α —Angle of Internal Friction
 LL—Liquid Limit P.L.—Plastic Limit P.I.—Plasticity Index U—Undisturbed Sample D—Disturbed Sample B—Bulk Sample C.B.R.—California Bearing Ratio

BOREHOLE RECORD SHEET

LOCATION ... GOVAN WEST WHARF.....

WATER LEVELS see Table No. 1 INITIAL FINAL

JOB No. 382/AS..... BOREHOLE No. 2 (cont'd.).....

DATE COMMENCED 8. 5. 75.....

SURFACE LEVEL DIAMETER 200 & 150mm.....

DATE COMPLETED 10. 6. 75.....

DESCRIPTION	Lag	Thickness (Metres)	Depth (Metres)	Soil Symbol	Samples	n (blows)	w (%)	s (lb./cu.ft.) (kg./m ³)	c (lb./sq.ft.) (kg./m ²)	ϕ' (deg.)	LL (%)	PL (%)	PI (%)	C.B.R. (%)
Brought forward			4.50		D									
Light brown, medium SAND with some fine sand.					8.70	50								
					D									
		6.10	10.60		10.00	9.35								
Greyish brown, coarse to medium SAND with occasional cobbles, coarse to medium gravel and traces of grey boulder clay.					D									
					11.50									
					D									
					13.00									
					D									
					14.50									
					D									
					16.00									
					D									
					17.50									
					D									
		9.40	20.00		19.00									
Greyish brown coarse to medium SAND.					D									
					20.50									
					D									
					21.50									
					D									
					23.00									
					D									
		8.50	23.50		23.50									
					D									

REMARKS:

SYMBOLS: n—Standard Penetration test w—Natural moisture content s—Natural bulk density c—Apparent cohesion ϕ' —Angle of internal friction
 LL—Liquid Limit PL—Plastic Limit PI—Plasticity Index U—Undisturbed Sample D—Disturbed Sample B—Bulk Sample C.B.R.—California Bearing Ratio

BOREHOLE RECORD SHEET

LOCATION GOVAN WEST WHARF WATER LEVELS See Table No 1 INITIAL FINAL

JOB No. 382/AS BOREHOLE No. 2 (cont'd 2) DATE COMMENCED 8. 5. 75

SURFACE LEVEL DIAMETER 200 & 150mm DATE COMPLETED 10. 6. 75

DESCRIPTION	Lag	Thickness (Metres)	Depth (Metres)	Soil Symbol	Samples	ρ (Moist)	w (%)	ρ (Bulk ρ) kg/cm ³	c (Coef. of adhesion)	ϕ (deg.)	LL (%)	PL (%)	PI (%)	C.B.R. (%)
Brought forward COBBLES and coarse GRAVEL, with greyish brown medium sand, and some fine gravel and traces of grey boulder clay.			23.50		D									
					24.90									
					D									
					24.50									
					D									
Penetratively weathered, light grey, slightly micaceous medium to fine grained SANDSTONE.		2.30	25.80		25.00									
		0.40	26.20		D									
					25.80									

REMARKS:

Continued by rotary core drilling.

SYMBOLS: ρ —Standard Penetration test w —Natural moisture content ρ —Natural bulk density c —Apparent cohesion ϕ —Angle of internal friction
 LL—Liquid Limit PL—Plastic Limit PI—Plasticity Index U—Undisturbed Sample D—Disturbed Sample ρ —Bulk Sample C.B.R.—California Bearing Ratio

BOREHOLE RECORD SHEET

LOCATION GOVAN WEST WHARF WATER LEVELS See table No. 1 INITIAL FINAL
 JOB No. 382/AS BOREHOLE No. 3 DATE COMMENCED 17. 4. 75
 SURFACE LEVEL DIAMETER 200 & 150mm DATE COMPLETED 30. 5. 75

DESCRIPTION	Leg.	Thickness (Metres)	Depth (Metres)	Soil Symbol	Samples	ρ (g/cm ³)	w (%)	$\frac{e}{(1+e)}$ (D.S.P.R.)	$\frac{e}{(1+e)}$ (D.S.P.R.)	$\frac{e}{(1+e)}$ (D.S.P.R.)	ϕ (deg.)	LL (%)	PL (%)	PI (%)	C.B.R. (%)
MADE GROUND a) COBBLE SETS. b) CONCRETE c) Loose to medium dense, ASH, SLAG, coarse to medium SAND, BRICK, WOOD and sandy CLAY fill material.		0.20	0.20												
		0.35	0.55												
					D										
					0.70 D	12									
					1.50 D	0.85									
					2.30 D	12									
					3.00 D	2.45									
					3.80 D	9									
					4.50 D	3.95									
					5.30 D	7									
		5.1%	5.70			5.45									
	Loose, greenish brown, laminated SILT with bands of reddish brown, silty clay and partings of coarse to fine sand and fine gravel.				D										
					6.00 D	6									
					6.80 D	6.95									
				7.30 D	5										
		2.80	8.50		4.45										

REMARKS:

SYMBOLS: ρ —Standard Penetration test w —Natural moisture content ρ —Natural bulk density c —Apparent cohesion α —Angle of Internal Friction
 LL—Liquid Limit PL—Plastic Limit PI—Plasticity Index U—Undisturbed Sample D—Disturbed Sample B—Soft Sample C.B.R.—California Bearing Ratio

BOREHOLE RECORD SHEET

LOCATION QOVAN WEST WHARF WATER LEVELS See Table No. 1 INITIAL FINAL

JOB No. 3E2/AS BOREHOLE No. 3 (cont'd 1) DATE COMMENCED 17.4.75

SURFACE LEVEL DIAMETER 200 & 150mm DATE COMPLETED 30.5.75

DESCRIPTION	Leg.	Thickness (Metres)	Depth (Metres)	Soil Symbol	Samples	n (blows)	w (%)	s (lb cu ft / kg / m ³)	c (lb ac ft / kn / m ²)	ϕ (deg.)	LL (%)	PL (%)	PI (%)	C.B.R. (%)
<u>B brought forward</u> Medium dense, light brown, medium to fine SAND.			8.50		D									
					8.50 D	12								
					9.00 D	8.95								
					9.80 D									
					10.30 D	14								
					11.00 D	10.45								
					11.80 D	16								
					12.50 D	11.95								
					13.30 D	17								
					13.45 D	13.45								
Medium dense, greyish brown, medium SAND with some fine gravel, coarse sand and fine sand.		6.50	15.00		15.30 D	16								
					16.15 D	16.15								
					16.70 D	15								
					17.65 D	17.65								
					18.30 D	21								
					19.15									

REMARKS:

SYMBOLS: s—Standard Penetration test w—Natural moisture content s—Natural bulk density c—Apparent cohesion α —Angle of internal friction
 LL—Liquid Limit PL—Plastic Limit PI—Plasticity Index U—Undisturbed Sample D—Disturbed Sample B—Bulk Sample C.B.R.—California Bearing Ratio

F.2 Historical Investigation Boreholes

Status
Final
03/08/2005



BOREHOLE LOG

Borehole No
01
Sheet 1 of 5

BAE Govan No 1 Slipway

Client: BAE Systems Marine Limited

Job No: 0839

Consultant: Arch Henderson & Partners

Date Started	02/06/2005	Initial Boring Diameter	200mm	Coordinates	E
Date Complete	10/06/2005	Initial Core Diameter	76mm		H
Hole Type	CP+RC	Rotary Casing Type	PW	Ground Level	-
Equipment	3.0T Danda/Boart	Core Barrel	412DT	Plunge	90°
		Core Bit	Fast Cut	Scale	1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Installation
						Test	Result			
MADE GROUND: Very string grey concrete with occasional 20mm dia reinforcing bars.		0.50		B 0.50-1.00						
MADE GROUND: Very dense dark grey slightly sandy very clayey sub angular to angular and sub rounded to rounded fine to coarse gravel and stone. Sand is fine to coarse (Driller notes: cobbles).		1.00		D 1.20-1.65 B 1.20-1.50 B 1.50-2.00		S	3			
MADE GROUND: Very loose dark grey mottled brown silty very sandy sub angular and sub rounded fine to coarse gravel. Sand is fine to coarse.		1.50								
Uncompact brown sandy SILT with occasional sub angular fine gravel and occasional pockets of clay. Sand is fine.				U 2.00-2.45	4					
				DNR 2.45 B 2.50-3.00						
				D 3.00-3.45 B 3.00-4.00		S	0			
				D 4.00-4.45 B 4.00-5.00		S	2			
				D 5.00-5.45 B 5.00-6.00		S	1			
Very loose brown silty fine SAND, locally with pockets of silt.		6.00		D 6.00-6.45 B 6.00-7.00		S	1			
				D 7.50		S	0			

Continued next sheet

U	Undisturbed U100 Sample		Core Run	S	Standard Penetration Test	CP	Cable Percussion
P	Piston Sample	TCR	Total Core Recovery	C	Cone Penetration Test	RO	Rotary Open Hole
TW	Thin Wall Sample	SCR	Solid Core Recovery	32	N for full 300mm penetration	RC	Rotary Cored
D	Small Disturbed Sample	RQD	Rock Quality Designation	/175	For given penetration (mm)		
B	Bulk Disturbed Sample	FI	Fracture Index	/25#	Seating blows only (mm)		
LB	Large Bulk Disturbed Sample	NI	Non Intact	NP	No Penetration		
W	Water Sample	U*	Blows to drive U100 /U86	PR	Pressuremeter Test		Stotted Pipe
G	Gas Sample	NA	Not Applicable	K	Permeability Test (m/s)		Piezometer Tip
C	Core	J	Amber Jar Sample	IV	Insitu Vane Test		Grout
NR	No Recovery	V	Vial Sample	L	Packer Test (Lugeons)		Sand Filter
							Bentonite Seal
							Gravel Filter
							Concretes

Status

Final

03/08/2005



BOREHOLE LOG

Borehole No

01

Sheet 2 of 5

BAE Govan No 1 Slipway

Client: BAE Systems Marine Limited

Job No: 0839

Consultant: Arch Henderson & Partners

Date Started	02/06/2005	Initial Boring Diameter	200mm	Coordinates:	E
Date Complete	10/06/2005	Initial Core Diameter	76mm		N
Hole Type	CP+RC	Rotary Casing Type	PW	Ground Level:	-
Equipment	3.0T Dando/Boart	Core Barrel	412DT	Plunge:	90 °
		Core Bit	Fast Cut	Scale:	1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Installation	
						Test	Result				
Very loose brown silty fine SAND, locally with pockets of silt. ... at 13.00m, traces of coal				B 8.50							
				D 9.00-9.45	S	0					
				B 10.00							
				D 10.50-10.95	S	2					
				B 11.50							
				D 12.00-12.45	S	1					
				B 13.00							
				D 13.20-13.95	S	2					
				B 14.50							
				D 15.00-15.45	S	4					

Continued next sheet

U	Undisturbed U100 Sample		Core Run	S	Standard Penetration Test	CP	Cable Percussion
P	Piston Sample	TCR	Total Core Recovery	C	Cone Penetration Test	RO	Rotary Open Hole
TW	Thin Wall Sample	SCR	Solid Core Recovery	32	N for full 300mm penetration	RC	Rotary Cored
D	Small Disturbed Sample	RQD	Rock Quality Designation	/175	For given penetration (mm)		
B	Bulk Disturbed Sample	FI	Fracture Index	/25#	Seating blows only (mm)		
LB	Large Bulk Disturbed Sample	NI	Non Intact	NP	No Penetration		
W	Water Sample	U'	Blows to drive U100 /U26	PR	Pressuremeter Test		
G	Gas Sample	NA	Not Applicable	K	Permeability Test (m/s)		
C	Core	J	Amber Jar Sample	IV	Insitu Vane Test		
NR	No Recovery	V	Vial Sample	L	Packer Test (Lugeons)		

	Slotted Pipe		Sand Filter
	Piezometer Tip		Bentonite Seal
	Grout		Gravel Filter
	Concrete		

Status

Final

03/08/2005



BOREHOLE LOG

Borehole No

01

Sheet 5 of 5

BAE Govan No 1 Slipway

Client: BAE Systems Marine Limited

Job No: 0839

Consultant: Arch Henderson & Partners

Date Started	02/06/2005	Initial Boring Diameter	200mm	Coordinates:	E
Date Complete	10/06/2005	Initial Core Diameter	76mm		N
Hole Type:	CP+RC	Rotary Casing Type	PW	Ground Level:	-
Equipment	3.0T Dando/Boart	Core Barrel:	412DT	Plunge:	90°
		Core Bit	Fast Cut	Scale:	1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Instat -ation
						Test	Result			
31.60m - 31.68m : SILTSTONE, fresh.									16	
31.68m - 33.85m : Moderately weak, thinly laminated black fine grained MUDSTONE with abundant marine brachiopod shells (Rhynchinella and productus) becoming less abundant with depth. Detail 32.00m - 32.00m : . . . from 32.10m to 32.15m, 32.40m to 32.45m and 33.17m to 33.24m, strong limey mudstone bands, closely spaced horizontal fractures smooth and undulating. . . . from 32.10m to 32.15m, 32.40m to 32.45m and 33.17m to 33.24m, strong limey mudstone bands, closely spaced horizontal fractures smooth and undulating.		33.85		32.60-35.60				100 (97) 71	NI	
Strong thinly bedded brown fine grained SANDSTONE. Grey fossil burrows in basal 10cm, fresh. Horizontal fracture smooth and tight.		34.18							3	
Strong ripple laminated brown fine and medium grained SANDSTONE, frequent thin micaceous laminae, fresh. Medium and closely spaced sub horizontal fractures smooth and undulating.		35.10		35.60-38.60				100 (100) 75	17	
Strong medium bedded light brown fine and medium grained SANDSTONE. Thin micaceous laminations from 35.90m, fresh. Medium spaced horizontal fractures smooth and tight.		36.00								
Strong medium bedded brown fine and medium grained SANDSTONE, fresh.		36.50								
Strong thinly laminated brown and light brown fine grained SANDSTONE. Frequent micaceous laminae, fresh. Close to medium spaced horizontal fractures, smooth and undulating occasionally with light brown silty sand infills.		38.60							10	
End of Borehole at 38.60 m										

U	Undisturbed U100 Sample	■	Core Run	S	Standard Penetration Test	CP	Cable Percussion
P	Piston Sample	TCR	Total Core Recovery	C	Cone Penetration Test	RO	Rotary Open Hole
TW	Thin Wall Sample	SCR	Solid Core Recovery	32	N for full 300mm penetration	RC	Rotary Cored
D	Small Disturbed Sample	RQD	Rock Quality Designation	/175	For given penetration (mm)		
B	Bulk Disturbed Sample	FI	Fracture Index	/25#	Sealing blows only (mm)		
LB	Large Bulk Disturbed Sample	NI	Non Intact	NP	No Penetration		
W	Water Sample	U*	Blows to drive U100 /U86	PR	Pressuremeter Test		
G	Gas Sample	NA	Not Applicable	K	Permeability Test (m/s)		
C	Core	J	Amber Jar Sample	IV	In Situ Vane Test		
NR	No Recovery	V	Vial Sample	L	Packer Test (Lugeons)		
						Installation	
						▨	Slotted Pipe
						▩	Piezometer Tip
						▧	Grout
						▩	Concrete
						▨	Sand Filter
						■	Bentonite Seal
						▩	Gravel Filter

Status

Final
03/08/2005



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BOREHOLE LOG

Borehole No

01

Information

BAE Govan No 1 Slipway

Client:

BAE Systems Marine Limited

Job No: 0839

Consultant:

Arch Henderson & Partners

Date Started: 02/06/2005
Date Complete: 10/06/2005
Hole Type: CP+RC
Equipment: 3.0T Dando/Boart

Initial Boring Diameter: 200mm
Initial Core Diameter: 76mm
Rotary Casing Type: PW
Core Barrel: 412DT
Core Bit: Fast Cut

Coordinates: E
N
Ground Level: -
Plunge: 90°
Scale: 1:50

PROGRESS

Date	Time	Hole Depth	Casing Depth	Water Depth	Remarks
02/06/2005	17:00	2.00	2.00	-	Tidel
03/06/2005	07:30	2.00	2.00	2.00	-
03/06/2005	17:00	10.00	10.00	2.90	Tidel
06/06/2005	07:30	10.00	10.00	2.30	-
06/06/2005	17:00	19.00	19.00	-	-
07/06/2005	07:30	19.00	19.00	2.10	-
07/06/2005	17:00	20.70	20.50	-	-
09/06/2005	17:00	31.10	21.60	1.60	-
10/06/2005	17:00	38.60	21.60	1.60	-

DRILLING DETAILS

CP Chiselling			Rotary				
From	To	Hours	From	To	Hole Dia	Core Dia	Flush
0.50	1.00	1.00	21.10	38.60	175	76	Air

WATER STRIKES

Date	Time	Strike	Risen To	After n Minutes	Casing Depth	Flow	Sealed

IN SITU SPT TEST DETAILS

Depth	Blows for 75mm increments
1.20	N=3 (1,1,0,1,0,2)
3.00	N=0 (1,0,0,0,0,0)
4.00	N=2 (0,0,0,1,0,1)
5.00	N=1 (0,0,0,0,1,0)
6.00	N=1 (0,0,0,1,0,0)
7.50	N=0 (0,0,0,0,0,0)
9.00	N=0 (0,0,0,0,0,0)
10.50	N=2 (1,0,0,1,0,1)
12.00	N=1 (0,0,1,0,0,0)
13.50	N=2 (1,0,1,0,1,0)
15.00	N=4 (1,1,1,1,1,1)
16.50	N=4 (1,0,1,1,0,2)
18.00	N=4 (1,0,1,1,1,1)
19.50	N=40 (30,15,11,10,10,15)
20.50	500mm - Abandoned

NOTES

All depth in metres; all diameters in millimetres.
Groundwater levels are subject to seasonal, tidal and other fluctuations and should not be taken as constant
Hand dug inspection pit. Borehole backfilled with bentonite to 0.60m bgl and concrete to surface.

PERSONNEL

Driller: GMCA/HF

Logged by: GM+KB

Checked by: WRS

Status

Final

03/08/2005



BOREHOLE LOG

Borehole No

02

Sheet 1 of 6

BAE Govan No 1 Slipway

Client: BAE Systems Marine Limited

Job No: 0839

Consultant: Arch Henderson & Partners

Date Started	30/05/2005	Initial Boring Diameter	250mm	Coordinates:	E
Date Complete	07/06/2005	Initial Core Diameter	76mm		N
Hole Type	CP+RC	Rotary Casing Type	PW	Ground Level:	-
Equipment	3.0T Dando/Boart	Core Barrel	412DT	Plunge:	90°
		Core Bit	Fast Cut	Scale:	1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) ROD	FI	Installation
						Test	Result			
MADE GROUND: Very strong grey concrete with occasional 20mm dia reinforcing bars.										
MADE GROUND: Soft brown to dark brown slightly sandy gravelly clay with frequent ash and red blaes and occasional rootlets. Gravel is sub angular and sub rounded fine to coarse (Driller notes, cobble and stone fill).		0.50		B 0.60-1.20						
				D 1.20-1.65	S	5				
				B 1.20-1.80						
Very loose grey slightly gravelly silty fine to coarse SAND with occasional bands of clay. gravel is rounded and sub angular.		1.80		D 2.00-2.45	S	1				
				B 2.00-2.50						
				B 2.50-3.00						
Compact grey sandy SILT. Sand is fine to medium.		2.80		UNR 3.00	S	0				
				D 3.00-3.45						
				B 3.00-3.50						
				B 3.50-4.00						
				D 4.00-4.45	S	2				
				B 4.00-5.00						
Very loose grey very silty fine SAND.				D 5.00	S	0				
				B 5.00-6.00						
				D 6.00-6.45	S	1				
Continued next sheet		7.20		B 7.00						
				D 7.50-7.95	S	1				

U	Undisturbed U100 Sample	■	Core Run	S	Standard Penetration Test	CP	Cable Percussion
P	Piston Sample	TCR	Total Core Recovery	C	Cone Penetration Test	RO	Rotary Open Hole
TW	Thin Wall Sample	SCR	Solid Core Recovery	32	N for full 300mm penetration	RC	Rotary Cored
D	Small Disturbed Sample	RQD	Rock Quality Designation	/175	For given penetration (mm)		
B	Bulk Disturbed Sample	FI	Fracture Index	/25#	Sealing blows only (mm)		
LB	Large Bulk Disturbed Sample	NI	Non Intact	NP	No Penetration		
W	Water Sample	U*	Blows to drive U100 /U85	PR	Pressuremeter Test		
G	Gas Sample	NA	Not Applicable	K	Permeability Test (m/s)		
C	Core	J	Amber Jar Sample	IV	In situ Vane Test		
NR	No Recovery	V	Vial Sample	L	Packer Test (Lugeons)		

Installation		
	Slotted Pipe	
	Piezometer Tip	
	Grout	
	Concrete	

Status
Final
03/08/2005



BOREHOLE LOG

Borehole No
02
Sheet 2 of 6

BAE Govan No 1 Slipway

Client: BAE Systems Marine Limited

Job No: 0839

Consultant: Arch Henderson & Partners

Date Started	30/05/2005	Initial Boring Diameter	250mm	Coordinates:	E
Date Complete	07/06/2005	Initial Core Diameter	76mm		N
Hole Type	CP+RC	Rotary Casing Type	PW	Ground Level	-
Equipment	30T Dando/Boart	Core Barrel	412DT	Plunge:	90°
		Core Bit	Fast Cut	Scale:	1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Installation	
						Test	Result				
Very loose grey very silty fine SAND.				B 8.50							
				D 9.00-9.45	S	3					
				B 10.00							
				B 11.50							
				D 12.00-12.45	S	3					
				B 13.00							
				D 13.50-13.95	S	2					
				B 14.50							
				D 15.00-15.45	S	55					
				B 15.20-16.00							
Very stiff dark grey slightly gravelly sandy CLAY. Gravel is sub angular and sub rounded fine to medium (Driller notes boulder CLAY).		15.20 15.30									
Continued next sheet		16.00									

U	Undisturbed U100 Sample	■	Core Run	S	Standard Penetration Test	CP	Cable Percussion
P	Piston Sample	TCR	Total Core Recovery	C	Cone Penetration Test	RO	Rotary Open Hole
TW	Thin Wall Sample	SCR	Solid Core Recovery	32	N for full 300mm penetration	RC	Rotary Cored
D	Small Disturbed Sample	RQD	Rock Quality Designation	/175	For given penetration (mm)		
B	Bulk Disturbed Sample	FI	Fracture Index	/25#	Seating blows only (mm)		
LB	Large Bulk Disturbed Sample	NI	Not Intact	NP	No Penetration		
W	Water Sample	U'	Blows to drive U100 /U86	PR	Pressuremeter Test		
G	Gas Sample	NA	Not Applicable	K	Permeability Test (mVs)		
C	Core	J	Amber Jar Sample	IV	In situ Vane Test		
NR	No Recovery	V	Vial Sample	L	Packer Test (Lugeons)		

	Slotted Pipe		Sand Filter
	Piezometer Tip		Bentonite Seal
	Grout		Gravel Filter
	Concrete		

Status

Final

03/08/2005



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BOREHOLE LOG

Borehole No

02

Sheet 5 of 6

BAE Govan No 1 Slipway

Client: BAE Systems Marine Limited

Job No: 0839

Consultant: Arch Henderson & Partners

Date Started	30/05/2005	Initial Boring Diameter	250mm	Coordinates:	E
Date Complete	07/06/2005	Initial Core Diameter	76mm		N
Hole Type	CP+RC	Rotary Casing Type	PW	Ground Level:	-
Equipment	3.0T DandoBoart	Core Barrel	412DT	Plunge:	90°
		Core Bit	Fast Cut	Scale:	1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Installation
						Test	Result			
Occasional thin beds of strong grey fine grained SILTSTONE, fresh. Thin to medium spaced horizontal fractures, smooth and planar, medium spaced vertical fractures, smooth and stepped.	[Pattern]								NI	
No recovery, weak shaley MUDSTONE (Driller's description).	[Pattern]	33.40		33.40-36.40				92 (70)	NR	12
Moderately weak thinly bedded grey fine grained MUDSTONE with abundant marine brachiopod shells (productus and rhynchonella) to 35.40m, fresh.	[Pattern]	33.70						50		8
	[Pattern]								NI	
	[Pattern]									4
... from 35.40m to 35.65m, closely spaced horizontal fractures smooth and undulating	[Pattern]	35.75							NI	
Strong medium bedded brown fine and medium grained SANDSTONE, fresh. Medium spaced horizontal fractures smooth and undulating.	[Pattern]			36.40-39.40				100 (100)		1
	[Pattern]	37.40						97		
Strong thinly laminated light grey fine and medium grained SANDSTONE, micaceous coating on laminae, fresh.	[Pattern]	37.65								
Strong thinly bedded brown fine and medium SANDSTONE with occasional micaceous laminae and interlaminated with white siltstone at base. Close to medium spaced horizontal fractures smooth and undulating.	[Pattern]									11
... at 38.50m, fracture dipping at 40° to 45°, smooth and undulating	[Pattern]			39.40-40.90				100 (100)		74

Continued next sheet

Undisturbed U100 Sample	Core Run	S	Standard Penetration Test	CP	Cable Percussion
Piston Sample	TCR Total Core Recovery	C	Cone Penetration Test	RO	Rotary Open Hole
Thin Wall Sample	SCR Solid Core Recovery	32	N for full 300mm penetration	RC	Rotary Cored
Small Disturbed Sample	RQD Rock Quality Designation	/175	For given penetration (mm)		
Bulk Disturbed Sample	FI Fracture Index	/25#	Seating blows only (mm)	Installation	
Large Bulk Disturbed Sample	NI Non Intact	NP	No Penetration	[Symbol]	Slotted Pipe
Water Sample	U* Blows to drive U100 /U66	PR	Pressuremeter Test	[Symbol]	Piezometer Tip
Gas Sample	NA Not Applicable	K	Permeability Test (m/s)	[Symbol]	Grout
Core	J Amber Jar Sample	IV	In situ Vane Test	[Symbol]	Concrete
No Recovery	V Vial Sample	L	Packer Test (Lugeons)	[Symbol]	Sand Filter
				[Symbol]	Bentonite Seal
				[Symbol]	Gravel Filter

Status
Final
03/08/2005



BOREHOLE LOG

Borehole No
02
Sheet 6 of 6

BAE Govan No 1 Slipway

Client: BAE Systems Marine Limited

Job No: 0839

Consultant: Arch Henderson & Partners

Date Started: 30/05/2005
Date Complete: 07/06/2005
Hole Type: CP+RC
Equipment: 3.0T Dando/Boart

Initial Boring Diameter: 250mm
Initial Core Diameter: 76mm
Rotary Casing Type: PW
Core Barrel: 412DT
Core Bit: Fast Cut

Coordinates: E
N
Ground Level: -
Plunge: 90°
Scale: 1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Installation
						Test	Result			
Strong thinly bedded brown fine and medium SANDSTONE with occasional micaceous laminae and interlaminated with white siltstone at base. Close to medium spaced horizontal fractures smooth and undulating.		40.90							10	
End of Borehole at 40.90 m										

U Undisturbed U100 Sample P Piston Sample TW Thin Wall Sample D Small Disturbed Sample BL Bulk Disturbed Sample LB Large Bulk Disturbed Sample W Water Sample G Gas Sample C Core NR No Recovery	■ Core Run TCR Total Core Recovery SCR Solid Core Recovery RQD Rock Quality Designation FI Fracture Index NI Non Intact U* Blows to drive U100 /U86 NA Not Applicable J Amber Jar Sample V Vial Sample	S Standard Penetration Test C Cone Penetration Test N for full 300mm penetration /175 For given penetration (mm) /25# Seating blows only (mm) NP No Penetration PR Pressuremeter Test K Permeability Test (m/s) IV Insitu Vane Test L Packer Test (Lugeons)	CP Cable Percussion RO Rotary Open Hole RC Rotary Cored Installation Slotted Pipe Piezometer Tip Grout Concrete Sand Filter Bentonite Seal Gravel Filter
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Status

Final
03/08/2005



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BOREHOLE LOG

Borehole No

02

Information

BAE Govan No 1 Slipway

Client: BAE Systems Marine Limited

Job No: 0839

Consultant: Arch Henderson & Partners

Date Started	30/05/2005	Initial Boring Diameter:	250mm	Coordinates:	E
Date Complete:	07/06/2005	Initial Core Diameter	76mm		N
Hole Type:	CP+RC	Rotary Casing Type	PW	Ground Level:	-
Equipment:	3.0T Dando/Boart	Core Barrel	412DT	Plunge:	90°
		Core Bit	East Cut	Scale:	1:50

PROGRESS

Date	Time	Hole Depth	Casing Depth	Water Depth	Remarks
30/05/2005	17:00	2.80	2.80	2.00	
31/05/2005	07:30	2.80	2.80	2.00	
1/06/2005	17:00	10.00	10.00	-	Tidal, adding water
1/06/2005	07:30	10.00	10.00	2.30	
1/06/2005	17:00	16.00	16.00	-	Tidal, adding water
1/06/2005	17:00	22.40	16.00	1.80	
2/06/2005	07:30	24.40	16.00	1.80	
2/06/2005	17:00	40.90	16.00	1.80	

DRILLING DETAILS

CP Chiselling			Rotary				
From	To	Hours	From	To	Hole Dia	Core Dia	Flush
15.20	16.00	1.00	16.00	40.90	175	76	Air

WATER STRIKES

Date	Time	Strike	Risen To	After n Minutes	Casing Depth	Flow	Sealed
01/06/2005		1.00	-	-	16.00	-	-
01/06/2005		1.80	-	-	16.00	-	-
01/06/2005		2.00	-	-	-	Tidal	-

IN SITU SPT TEST DETAILS

Depth	Blows for 75mm Increments
1.20	N=5 (1,1,2,1,2,0)
2.00	N=1 (1,0,1,0,0,0)
3.00	N=0 (1,0,0,0,0,0)
4.00	N=2 (0,0,1,0,0,1)
5.00	N=0 (0,0,0,0,0,0)
6.00	N=1 (1,0,0,1,0,0)
7.50	N=1 (0,0,0,1,0,0)
9.00	N=3 (1,0,1,0,1,1)
12.00	N=3 (1,0,1,1,0,1)
13.50	N=2 (0,0,1,0,1,0)
15.00	N=55 (0,6,8,10,15,22)

NOTES

All depth in metres, all diameters in millimetres.

Groundwater levels are subject to seasonal, tidal and other fluctuations and should not be taken as constant.
Hand dug inspection pit. Diameter of borehole reduced to 200mm at 1.10m. PW Casing in hole.
Borehole backfilled with bentonite to 0.60m bgl and concrete to ground level.

PERSONNEL

GM/AHF

Logged by: GM

Checked by: WRS

Status

Final

03/08/2005



BOREHOLE LOG

Borehole No

03

Sheet 1 of 4

BAE Govan No 1 Slipway

Client: BAE Systems Marine Limited

Job No: 0839

Consultant: Arch Henderson & Partners

Date Started	08/06/2005	Initial Boring Diameter	200mm	Coordinates:	E
Date Complete	22/06/2005	Initial Core Diameter	76mm		N
Hole Type	CP+RC	Rotary Casing Type	PW	Ground Level:	-
Equipment	3.0T Dando/Boart	Core Barrel	412DT	Plunge:	90°
		Core Bit	Fast cut	Scale:	1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Installation
						Test	Result			
MADE GROUND: Grey slightly silty sub angular to angular fine to coarse gravel with stone and rare nail.										
MADE GROUND: Medium dense light to dark grey and reddish brown slightly silty sub angular fine to coarse gravel of slag and stone with occasional sandstone and small sub angular cobbles.		0.70	B	0.70						
			B	1.00-2.00						
			B	2.00-3.00						
			D	3.00-3.45		S	48			
... from 4.00m; becoming sandy and occasional boulder			B	4.00-4.50						
Loose greyish brown silty to very silty fine SAND.		4.50	D	4.50-4.95		S	18			
			B	5.50						
			D	6.00-6.45		S	9			
			B	7.00						
		D	7.50-7.95		S	8				

Continued next sheet

<ul style="list-style-type: none"> Undisturbed U100 Sample Piston Sample Thin Wall Sample Small Disturbed Sample Bulk Disturbed Sample Large Bulk Disturbed Sample Water Sample Gas Sample Core No Recovery 	<ul style="list-style-type: none"> Core Run TCR Total Core Recovery SCR Solid Core Recovery RQD Rock Quality Designation FI Fracture Index NI Non Intact U' Blows to drive U100 /U86 NA Not Applicable J Amber Jar Sample V Vial Sample 	<ul style="list-style-type: none"> S Standard Penetration Test C Cone Penetration Test 32 N for full 300mm penetration /175 For given penetration (mm) /25# Sealing blows only (mm) NP No Penetration PR Pressuremeter Test K Permeability Test (m/s) IV Insitu Vane Test L Packer Test (Lugeons) 	<ul style="list-style-type: none"> CP Cable Percussion RO Rotary Open Hole RC Rotary Cored <p>Installation</p> <ul style="list-style-type: none"> Slotted Pipe Piezometer Tip Grout Concrete Sand Filter Bentonite Seal Gravel Filter
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Status
Final
03/08/2005



BOREHOLE LOG

Borehole No
03
Sheet 2 of 4

BAE Govan No 1 Slipway

Client: BAE Systems Marine Limited

Job No: 0839

Consultant: Arch Henderson & Partners

Date Started	08/06/2005	Initial Boring Diameter	200mm	Coordinates:	E
Date Complete	22/06/2005	Initial Core Diameter	76mm		N
Hole Type:	CP+RC	Rotary Casing Type	PW	Ground Level:	-
Equipment	3.0T Dando/Boart	Core Barrel	412DT	Plunge:	90°
		Core Bit	Fast cut	Scale:	1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Installation
						Test	Result			
Loose greyish brown silty to very silty fine SAND.				B	8.50					
				D	9.00-9.45	S	6			
				B	10.00					
				D	10.50-10.95	S	6			
				B	11.50					
				D	12.00-12.45	S	9			
Medium dense greyish brown silty fine SAND.		13.00		B	13.00					
				D	13.50-13.95	S	16			
				B	14.50					
				D	15.00-15.45	S	22			
				B	15.70					

continued next sheet

Undisturbed U100 Sample	TCR	Core Run	S	Standard Penetration Test	CP	Cable Percussion
Piston Sample	SCR	Total Core Recovery	C	Cone Penetration Test	RO	Rotary Open Hole
Thin Wall Sample	RQD	Solid Core Recovery	32	N for full 300mm penetration	RC	Rotary Cored
Small Disturbed Sample	FI	Rock Quality Designation	/175	For given penetration (mm)		
Bulk Disturbed Sample	NI	Fracture Index	/25#	Seating blows only (mm)		
Large Bulk Disturbed Sample	U*	Non Intact	NP	No Penetration		
Water Sample	NA	Blows to drive U100 UJ86	PR	Pressuremeter Test		
Gas Sample	J	Not Applicable	K	Permeability Test (m/s)		
Core	V	Amber Jar Sample	IV	In situ Vane Test		
No Recovery		Vial Sample	L	Packer Test (Lugeons)		

	Slotted Pipe		Sand Filter
	Piezometer Tip		Bentonite Seal
	Grout		Gravel Filter
	Concrete		

Status
Final
03/08/2005



BOREHOLE LOG

Borehole No
03
Sheet 3 of 4

BAE Govan No 1 Slipway

Client: BAE Systems Marine Limited
Consultant: Arch Henderson & Partners

Job No: 0839

Date Started: 08/06/2005	Initial Boring Diameter: 200mm	Coordinates: E
Date Complete: 22/06/2005	Initial Core Diameter: 76mm	N
Hole Type: CP+RC	Rotary Casing Type: PW	Ground Level: -
Equipment: 3.0T Dando/Boart	Core Barrel: 412DT	Plunge: 90°
	Core Bit: Fast cut	Scale: 1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Installation
						Test	Result			
Very stiff dark grey slightly gravelly sandy CLAY with occasional small sub angular cobbles and boulders. Gravel is sub angular and sub rounded fine to coarse.				D 16.50-16.95		S	40			
				B 17.00						
				D 18.00-18.45 B 18.00-18.80		S	60			
			18.80							
Yellowish grey SANDSTONE of sub angular and sub rounded fine to coarse gravel size.		19.00		D 19.00		S	50/0#			
BOULDER (Driller's description)		19.10								
Boulder CLAY and occasional whin boulder (Driller's description).										

Continued next sheet

U Undisturbed U100 Sample	Core Run	S Standard Penetration Test	CP Cable Percussion
P Piston Sample	TCR Total Core Recovery	C Cone Penetration Test	RO Rotary Open Hole
TW Thin Wall Sample	SCR Solid Core Recovery	32 N for full 300mm penetration	RC Rotary Cored
D Small Disturbed Sample	RQD Rock Quality Designation	/175 For given penetration (mm)	
B Bulk Disturbed Sample	FI Fracture Index	/25# Sealing blows only (mm)	
LB Large Bulk Disturbed Sample	NI Non Intact	NP No Penetration	
W Water Sample	U* Blows to drive U100 /U86	PR Pressuremeter Test	
G Gas Sample	NA Not Applicable	K Permeability Test (m/s)	
C Core	J Amber Jar Sample	IV Insitu Vane Test	
HR No Recovery	V Vial Sample	L Packer Test (Lugeons)	

Slotted Pipe	Sand Filter
Piezometer Tip	Bentonite Seal
Grout	Gravel Filter
Concrete	

Status
Final
03/08/2005



BOREHOLE LOG

Borehole No
03
Sheet 4 of 4

BAE Govan No 1 Slipway

Client: BAE Systems Marine Limited
Consultant: Arch Henderson & Partners

Job No: 0839

Date Started: 08/06/2005	Initial Boring Diameter: 200mm	Coordinates: E
Date Complete: 22/06/2005	Initial Core Diameter: 76mm	Ground Level: N
Hole Type: CP+RC	Rotary Casing Type: PW	Plunge: 90°
Equipment: 3.0T Dando/Boart	Core Barrel: 412DT	Scale: 1:50
	Core Bit: Fast cut	

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Installation
						Test	Result			
Boulder CLAY and occasional whin boulder (Driller's description).										
Tightly packed GRAVEL and cobbles (Driller's description).		25.50								
Close grained strong SANDSTONE (Driller's description).		27.90 28.00		28.00-30.30				100 (97) 84	1	
Strong to very strong thin to medium bedded fine grained SANDSTONE. Fresh. Close to medium spaced horizontal fractures, smooth and undulating. Sub vertical fracture at 30.20m dipping at 45-50° smooth and planar.									4	
End of Borehole at 30.30 m		30.30							4	

<p>P TW S W G R</p> <ul style="list-style-type: none"> Undisturbed U100 Sample Piston Sample Thin Wall Sample Small Disturbed Sample Bulk Disturbed Sample Large Bulk Disturbed Sample Water Sample Gas Sample Core No Recovery 	<ul style="list-style-type: none"> Core Run TCR Total Core Recovery SCR Solid Core Recovery RQD Rock Quality Designation FI Fracture Index NI Non Intact U* Blows to drive U100 AU86 NA Not Applicable J Amber Jar Sample V Vial Sample 	<ul style="list-style-type: none"> S Standard Penetration Test C Cone Penetration Test 32 N for full 300mm penetration /175 For given penetration (mm) /25# Sealing blows only (mm) NP No Penetration PR Pressuremeter Test K Permeability Test (m/s) IV Insitu Vane Test L Packer Test (Lugeons) 	<ul style="list-style-type: none"> CP Cable Percussion RO Rotary Open Hole RC Rotary Cored <p>Installation</p> <ul style="list-style-type: none"> Slotted Pipe Piezometer Tip Grout Concrete Sand Filter Benlonitic Seal Gravel Filter
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Status

Final
03/08/2005



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BOREHOLE LOG

Borehole No

03

Information

BAE Govan No 1 Slipway

Client: BAE Systems Marine Limited
Consultant: Arch Henderson & Partners

Job No: 0839

Date Started	08/06/2005	Initial Boring Diameter:	200mm	Coordinates:	E
Date Complete	22/06/2005	Initial Core Diameter	76mm		N
Core Type:	CP+RC	Rotary Casing Type	PW	Ground Level:	-
Equipment:	3.0T Dando/Boart	Core Barrel:	412DT	Plunge:	90°
		Core Bit	Fast cut	Scale:	1:50

PROGRESS

DRILLING DETAILS

Date	Time	Hole Depth	Casing Depth	Water Depth	Remarks	CP Chise			Rotary				
						From	To	Hours	From	To	Hole Dia	Core Dia	Flush
08/06/2005	17:00	0.70	0.70	-		1.00	2.00	0.50	19.00	28.00	125	OH	Air
08/06/2005	07:30	0.70	0.70	-	Tidal	2.00	2.50	0.20	28.00	30.30	175	76	Air
08/06/2005	17:00	4.50	4.50	-		15.90	16.50	1.00					
08/06/2005	07:30	4.50	4.50	-	Tidal	17.10	17.50	1.50					
08/06/2005	17:00	13.00	-	-		18.40	18.80	1.00					
08/06/2005	07:30	13.00	-	-	Tidal	18.80	19.00	1.00					
08/06/2005	17:00	17.50	17.50	-	Tidal								
08/06/2005	07:30	17.50	17.50	-	Tidal								
08/06/2005	17:00	19.00	-	-	Tidal								
08/06/2005	17:00	30.30	28.00	30.00									

WATER STRIKES

IN SITU SPT TEST DETAILS

Time	Strike	Risen To	After n Minutes	Casing Depth	Flow	Sealed	Depth	Blows for 75mm increments
							3.00	N=48 (6,5,15,10,11,12)
							4.50	N=18 (2,3,4,4,5,5)
							6.00	N=9 (1,2,2,3,2)
							7.50	N=8 (1,2,1,2,3)
							9.00	N=6 (1,0,1,2,1,2)
							10.50	N=6 (1,1,1,1,2,2)
							12.00	N=9 (1,2,2,1,3,3)
							13.50	N=16 (2,3,3,4,4,5)
							15.00	N=22 (2,4,4,4,6,8)
							16.50	N=40 (10,8,7,9,11,13)
							18.00	N=60 (5,6,11,12,14,23)
							19.00	50.0mm - Abandoned

NOTES

All depth in metres, all diameters in millimetres.

Groundwater levels are subject to seasonal, tidal and other fluctuations and should not be taken as constant

Borehole backfilled with arisings on completion. Diameter of borehole reduced to 150mm at 17.50m.

PERSONNEL

GMCA/RB

Logged by: GM

Checked by: WRS



BOREHOLE LOG

BAE Govan Environmental Study

Borehole No
01
Sheet 1 of 6
Status
Final
04/03/2014

Client: BAE Systems Surface Ships Ltd.
 Consultant: Arch Henderson

Job No: 5298

Date Started: 21/11/2013	Initial Boring Diameter: 250mm	Coordinates: E 666122.834 m National Grid
Date Complete: 28/11/2013	Initial Core Diameter: 76mm	N 254703.077 m National Grid
Hole Type: CP+RC	Rotary Casing Type: PW	Ground Level: 5.07 m OD
Equipment: 3.0T Dando + Casagrande C6	Core Barrel: 412DT	Plunge: 90°
	Core Bit: Fast Cut	Scale: 1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Installation
						Test	Result			
MADE GROUND: Concrete.				B 0.80 DJV 1.00						
MADE GROUND: Medium dense brown clayey sandy subangular fine to coarse gravel of various lithologies including blaes.		1.00 1.10	4.07 3.97	D 1.20-1.65		S	16			
Medium dense brown slightly sandy subangular to subrounded fine to coarse GRAVEL of various lithologies.				B 1.80 DJV 2.00 D 2.00-2.45		S	19			
Soft locally firm grey clayey SILT. Some subangular to subrounded mostly fine to medium gravel in top 1.0m. Locally sandy.		2.60	2.47	B 2.80 DJV 3.00 U 3.00-3.45	7					
				B 3.80 D 4.00-4.45		S	11			
				D 4.80 D 5.00-5.45		S	5			
				B 6.00						
				D 6.50-6.95		S	7			
				B 7.50						

Continued next sheet

U Undisturbed U100 / U86 Sample P Piston Sample TW Thin Wall Sample D Small Disturbed Sample B Bulk Disturbed Sample LB Large Bulk Disturbed Sample W Water Sample ES Environmental / Contamination Sample C Core J Amber Jar Sample V Vial Sample	Core Run Total Core Recovery Solid Core Recovery Rock Quality Designation Fracture Index Non Intact Blows to drive U100 / U86 Thin wall undisturbed sample Not Applicable No Recovery No Penetration Open Hole Drilling	S Standard Penetration Test C Cone Penetration Test 32 N for full 300mm penetration /175 For given penetration (mm) /25# Seating blows only (mm) PP Pocket Penetrometer Test IPID In-situ Photo-Ionisation Detector (ppm) L Packer Test (Lugeons) IV Insitu Vane Test. Peak IVR Insitu Vane Test. Residual HV Hand Vane Test. Peak HVR Hand Vane Test. Residual	CP Cable Percussion RO Rotary Open Hole RC Rotary Cored SO Sonic Open holed CONP Continuous Percussion WLS Windowless Sampler Installation Slotted Pipe Piezometer Tip Grout Concrete Sand Filter Bentonite Seal Gravel Filter
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BOREHOLE LOG

BAE Govan Environmental Study

Borehole No
01
Sheet 2 of 6
Status
Final
04/03/2014

Client: BAE Systems Surface Ships Ltd.
 Consultant: Arch Henderson

Job No: 5298

Date Started: 21/11/2013	Initial Boring Diameter: 250mm	Coordinates: E 666122.834 m National Grid
Date Complete: 28/11/2013	Initial Core Diameter: 76mm	N 254703.077 m National Grid
Hole Type: CP+RC	Rotary Casing Type: PW	Ground Level: 5.07 m OD
Equipment: 3.0T Dando + Casagrande C6	Core Barrel: 412DT	Plunge: 90°
	Core Bit: Fast Cut	Scale: 1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Install-ation
						Test	Result			
Soft locally firm grey clayey SILT. Some subangular to subrounded mostly fine to medium gravel in top 1.0m. Locally sandy.				D 8.00-8.45		S	16			
Sandstone obstruction (Driller's description). Presumed COBBLE or boulder.		9.50	-4.43	D 9.50-9.95		S	50/20			
				B 10.50						
Medium dense brown fine to coarse SAND. Driller records occasional cobbles. At 12.00m, loose		10.70	-5.63	D 11.00-11.45		S	17			
				B 12.00						
				D 12.50-12.95		S	7			
				B 13.50						
				D 14.00-14.45		S	10			
				B 15.00						
				D 15.50-15.95		S	16			

Continued next sheet

U Undisturbed U100 / U86 Sample P Piston Sample TW Thin Wall Sample D Small Disturbed Sample B Bulk Disturbed Sample LB Large Bulk Disturbed Sample W Water Sample ES Environmental / Contamination Sample C Core J Amber Jar Sample V Vial Sample	Core Run Total Core Recovery Solid Core Recovery Rock Quality Designation Fracture Index Non Intact Blows to drive U100 / U86 Thin wall undisturbed sample Not Applicable No Recovery No Penetration Open Hole Drilling	S Standard Penetration Test C Cone Penetration Test 32 N for full 300mm penetration /175 For given penetration (mm) /25# Seating blows only (mm) PP Pocket Penetrometer Test IPID In-situ Photo-Ionisation Detector (ppm) L Packer Test (Lugeons) IV Insitu Vane Test. Peak IVR Insitu Vane Test. Residual HV Hand Vane Test. Peak HVR Hand Vane Test. Residual	CP Cable Percussion RO Rotary Open Hole RC Rotary Cored SO Sonic Open holed CONP Continuous Percussion WLS Windowless Sampler Installation Slotted Pipe Piezometer Tip Grout Concrete Sand Filter Bentonite Seal Gravel Filter
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BOREHOLE LOG

BAE Govan Environmental Study

Borehole No 01 Sheet 4 of 6
Status Final 04/03/2014

Client: BAE Systems Surface Ships Ltd.
Consultant: Arch Henderson

Job No: 5298

Date Started: 21/11/2013	Initial Boring Diameter: 250mm	Coordinates: E 666122.834 m National Grid
Date Complete: 28/11/2013	Initial Core Diameter: 76mm	N 254703.077 m National Grid
Hole Type: CP+RC	Rotary Casing Type: PW	Ground Level: 5.07 m OD
Equipment: 3.0T Dando + Casagrande C6	Core Barrel: 412DT	Plunge: 90°
	Core Bit: Fast Cut	Scale: 1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Install -ation
						Test	Result			
Medium dense brown fine to coarse SAND. Driller records occasional cobbles. At 24.20m, OBSTRUCTION. No progress.		24.20	-19.13	DNR DNR		S	50/0			
Sandy CLAY with cobbles/sandy boulder clay (Driller's description) (Open holed).						S	50/0			

Continued next sheet

U Undisturbed U100 / U86 Sample P Piston Sample TW Thin Wall Sample D Small Disturbed Sample B Bulk Disturbed Sample LB Large Bulk Disturbed Sample W Water Sample ES Environmental / Contamination Sample C Core J Amber Jar Sample V Vial Sample	Core Run TCR Total Core Recovery SCR Solid Core Recovery RQD Rock Quality Designation FI Fracture Index NI Non Intact U* Blows to drive U100 / U86 UT Thin wall undisturbed sample NA Not Applicable NR No Recovery NP No Penetration OH Open Hole Drilling	S Standard Penetration Test C Cone Penetration Test 32 N for full 300mm penetration /175 For given penetration (mm) /25# Seating blows only (mm) PP Pocket Penetrometer Test IPID In-situ Photo-Ionisation Detector (ppm) L Packer Test (Lugeons) IV Insitu Vane Test. Peak IVR Insitu Vane Test. Residual HV Hand Vane Test. Peak HVR Hand Vane Test. Residual	CP Cable Percussion RO Rotary Open Hole RC Rotary Cored SO Sonic Open holed CONP Continuous Percussion WLS Windowless Sampler Installation Slotted Pipe Piezometer Tip Grout Concrete Sand Filter Bentonite Seal Gravel Filter
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BOREHOLE LOG

BAE Govan Environmental Study

Borehole No 01 Sheet 5 of 6
Status Final 04/03/2014

Client: BAE Systems Surface Ships Ltd.
 Consultant: Arch Henderson

Job No: 5298

Date Started: 21/11/2013	Initial Boring Diameter: 250mm	Coordinates: E 666122.834 m National Grid
Date Complete: 28/11/2013	Initial Core Diameter: 76mm	N 254703.077 m National Grid
Hole Type: CP+RC	Rotary Casing Type: PW	Ground Level: 5.07 m OD
Equipment: 3.0T Dando + Casagrande C6	Core Barrel: 412DT	Plunge: 90°
	Core Bit: Fast Cut	Scale: 1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Install -ation	
						Test	Result				
Sandy CLAY with cobbles/sandy boulder clay (Driller's description) (Open holed).											
Medium strong locally strong pale grey medium grained SANDSTONE with some thin muddy bands and laminae in basal 1.00m. Dip <math><5^\circ</math>. Widely spaced sub horizontal joints, planar and undulating, smooth, tight and clean. Some drilling induced fracturing along bedding planes in basal 1.00m.		34.20	-29.13	34.20-35.20				100 (100) 100	0		
				35.20-36.20				100 (100) 100	0		
				36.20-37.20					100 (100) 90	2	
				37.20-38.20					100 (100) 70	4	
				38.20-39.20					100 (100) 80	3	
		39.20-40.20					100 (90) 60	6			

Continued next sheet

U Undisturbed U100 / U86 Sample P Piston Sample TW Thin Wall Sample D Small Disturbed Sample B Bulk Disturbed Sample LB Large Bulk Disturbed Sample W Water Sample ES Environmental / Contamination Sample C Core J Amber Jar Sample V Vial Sample	Core Run TCR Total Core Recovery SCR Solid Core Recovery RQD Rock Quality Designation FI Fracture Index NI Non Intact U* Blows to drive U100 / U86 UT Thin wall undisturbed sample NA Not Applicable NR No Recovery NP No Penetration OH Open Hole Drilling	S Standard Penetration Test C Cone Penetration Test 32 N for full 300mm penetration /175 For given penetration (mm) /25# Seating blows only (mm) PP Pocket Penetrometer Test IPID In-situ Photo-Ionisation Detector (ppm) L Packer Test (Lugeons) IV Insitu Vane Test. Peak IVR Insitu Vane Test. Residual HV Hand Vane Test. Peak HVR Hand Vane Test. Residual	CP Cable Percussion RO Rotary Open Hole RC Rotary Cored SO Sonic Open holed CONP Continuous Percussion WLS Windowless Sampler Installation Slotted Pipe Piezometer Tip Grout Concrete Sand Filter Bentonite Seal Gravel Filter
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BOREHOLE LOG

BAE Govan Environmental Study

Borehole No
01
Sheet 6 of 6
Status
Final
04/03/2014

Client: BAE Systems Surface Ships Ltd.

Consultant: Arch Henderson

Job No: 5298

Date Started: 21/11/2013	Initial Boring Diameter: 250mm	Coordinates: E 666122.834 m National Grid
Date Complete: 28/11/2013	Initial Core Diameter: 76mm	N 254703.077 m National Grid
Hole Type: CP+RC	Rotary Casing Type: PW	Ground Level: 5.07 m OD
Equipment: 3.0T Dando + Casagrande C6	Core Barrel: 412DT	Plunge: 90°
	Core Bit: Fast Cut	Scale: 1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Install -ation
						Test	Result			
<p>Medium strong locally strong pale grey medium grained SANDSTONE with some thin muddy bands and laminae in basal 1.00m. Dip <math><5^\circ</math>. Widely spaced sub horizontal joints, planar and undulating, smooth, tight and clean. Some drilling induced fracturing along bedding planes in basal 1.00m.</p> <p>End of Borehole at 40.20 m</p>		40.20	-35.13		U					

U Undisturbed U100 / U86 Sample P Piston Sample TW Thin Wall Sample D Small Disturbed Sample B Bulk Disturbed Sample LB Large Bulk Disturbed Sample W Water Sample ES Environmental / Contamination Sample C Core J Amber Jar Sample V Vial Sample	Core Run TCR Total Core Recovery SCR Solid Core Recovery RQD Rock Quality Designation FI Fracture Index NI Non Intact U* Blows to drive U100 / U86 UT Thin wall undisturbed sample NA Not Applicable NR No Recovery NP No Penetration OH Open Hole Drilling	S Standard Penetration Test C Cone Penetration Test 32 N for full 300mm penetration /175 For given penetration (mm) /25# Seating blows only (mm) PP Pocket Penetrometer Test IPID In-situ Photo-Ionisation Detector (ppm) L Packer Test (Lugeons) IV Insitu Vane Test. Peak IVR Insitu Vane Test. Residual HV Hand Vane Test. Peak HVR Hand Vane Test. Residual	CP Cable Percussion RO Rotary Open Hole RC Rotary Cored SO Sonic Open holed CONP Continuous Percussion WLS Windowless Sampler Installation Slotted Pipe Piezometer Tip Grout Concrete Sand Filter Bentonite Seal Gravel Filter
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BOREHOLE LOG

BAE Govan Environmental Study

Borehole No

01

Information

Status

Final

04/03/2014

Client: BAE Systems Surface Ships Ltd.

Consultant: Arch Henderson

Job No: 5298

Date Started: 21/11/2013	Initial Boring Diameter: 250mm	Coordinates: E 666122.834 m National Grid
Date Complete: 28/11/2013	Initial Core Diameter: 76mm	N 254703.077 m National Grid
Hole Type: CP+RC	Rotary Casing Type: PW	Ground Level: 5.07 m OD
Equipment: 3.0T Dando + Casagrande C6	Core Barrel: 412DT	Plunge: 90 °
	Core Bit: Fast Cut	Scale: 1:50

PROGRESS

Date	Time	Hole Depth	Casing Depth	Water Depth	Remarks
21/11/2013	17:00	12.00	12.00	9.00	
22/11/2013	07:30	12.00	12.00	6.20	
22/11/2013	17:00	19.50	19.50	6.20	
23/11/2013	07:30	19.50	19.50	4.90	
23/11/2013	17:00	23.45	23.45	-	
26/11/2013	07:30	23.45	23.45	4.80	
26/11/2013	17:00	24.20	24.20	-	
27/11/2013	07:30	24.20	24.20	4.80	
27/11/2013	17:00	31.00	31.00	-	
28/11/2013	07:30	31.00	31.00	-	
28/11/2013	17:00	40.20	34.20	5.40	

DRILLING DETAILS

CP Chiselling			Rotary				
From	To	Hours	From	To	Hole Dia	Core Dia	Flush
9.50	10.70	2.00	24.20	34.20	127	OH	Air
24.10	24.20	1.00	34.20	40.20	107	76	Air

WATER STRIKES

Date	Time	Strike	Risen To	After n Minutes	Casing Depth	Flow	Sealed
21/11/2013	:	9.00	8.10	20	-	-	-

IN SITU SPT TEST DETAILS

Depth	Blows for 75mm Increments
1.20	N=16 (2,2,3,7,3,3)
2.00	N=19 (2,2,4,6,6,3)
4.00	N=11 (2,2,3,3,3,2)
5.00	N=5 (2,3,0,2,2,1)
6.50	N=7 (1,0,1,2,1,3)
8.00	N=16 (2,1,2,4,5,5)
9.50	50/20mm (25/0,0,50/20)
11.00	N=17 (3,1,2,4,5,6)
12.50	N=7 (3,3,2,2,1,2)
14.00	N=10 (2,1,2,2,3,3)
15.50	N=16 (1,1,2,4,5,5)
17.00	N=16 (1,2,3,4,4,5)
18.50	N=18 (2,3,3,4,5,6)
20.00	N=21 (2,2,3,4,6,8)
21.50	N=27 (4,4,6,6,7,8)
23.00	N=47 (3,6,9,10,12,16)
24.20	50/0mm (25/0,50/0)
24.70	50/0mm (25/0,50/0)

NOTES

All depth in metres; all diameters in millimetres.

Groundwater levels are subject to seasonal, tidal and other fluctuations and should not be taken as constant
 Concrete cored from surface followed by inspection pit. PW casing installed to base of CP borehole. Rotary continuation to 40.20m. Borehole backfilled with cement/bentonite and finished at surface with concrete.

PERSONNEL

Driller: SKZ/HF	Logged by: RC	Checked by: RC
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BOREHOLE LOG

BAE Govan Environmental Study

Borehole No
06
Sheet 1 of 4
Status
Final
04/03/2014

Client: BAE Systems Surface Ships Ltd.
 Consultant: Arch Henderson

Job No: 5298

Date Started: 15/11/2013	Initial Boring Diameter: 250mm	Coordinates: E 666204.590 m National Grid
Date Complete: 18/11/2013	Initial Core Diameter: 76mm	N 254747.190 m National Grid
Hole Type: CP+RC	Rotary Casing Type: PW	Ground Level: 4.67 m OD
Equipment: 3.0T Dando + Casagrande C6	Core Barrel: 412DT	Plunge: 90°
	Core Bit: Fast cut	Scale: 1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Install -ation
						Test	Result			
MADE GROUND: Concrete. (Driller's description).										
MADE GROUND: Grey slightly sandy silty sub angular fine to coarse gravel of dolerite. Sand is fine to coarse.		2.00	2.67							
MADE GROUND: Medium dense dark grey sandy clayey sub angular to sub rounded fine to coarse gravel of red brick, dolerite and other lithologies. Occasional cobbles of sandstone and slate encountered. Driller records metal.		2.90	1.77	B DJV U	2.80 3.00 3.00-3.45	17				
				B D	3.80 4.00-4.45		S	15		
Medium dense dark grey slightly clayey gravelly fine to coarse SAND. Gravel is sub angular to sub rounded fine to coarse of sandstone and other lithologies.		5.00	-0.33	B D	4.80 5.00-5.45		S	12		
				DJV B	6.00 6.00					
				U B	6.50-6.95 7.50	13				

Continued next sheet

U Undisturbed U100 / U86 Sample P Piston Sample TW Thin Wall Sample D Small Disturbed Sample B Bulk Disturbed Sample LB Large Bulk Disturbed Sample W Water Sample ES Environmental / Contamination Sample C Core J Amber Jar Sample V Vial Sample	■ Core Run TCR Total Core Recovery SCR Solid Core Recovery RQD Rock Quality Designation FI Fracture Index NI Non Intact U* Blows to drive U100 / U86 UT Thin wall undisturbed sample NA Not Applicable NR No Recovery NP No Penetration OH Open Hole Drilling	S Standard Penetration Test C Cone Penetration Test 32 N for full 300mm penetration /175 For given penetration (mm) /25# Seating blows only (mm) PP Pocket Penetrometer Test IPID In-situ Photo-Ionisation Detector (ppm) L Packer Test (Lugeons) IV Insitu Vane Test. Peak IVR Insitu Vane Test. Residual HV Hand Vane Test. Peak HVR Hand Vane Test. Residual	CP Cable Percussion RO Rotary Open Hole RC Rotary Cored SO Sonic Open holed CONP Continuous Percussion WLS Windowless Sampler Installation Slotted Pipe Piezometer Tip Grout Concrete Sand Filter Bentonite Seal Gravel Filter
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BOREHOLE LOG

BAE Govan Environmental Study

Borehole No
06
Sheet 2 of 4
Status
Final
04/03/2014

Client: BAE Systems Surface Ships Ltd.
 Consultant: Arch Henderson

Job No: 5298

Date Started: 15/11/2013	Initial Boring Diameter: 250mm	Coordinates: E 666204.590 m National Grid
Date Complete: 18/11/2013	Initial Core Diameter: 76mm	N 254747.190 m National Grid
Hole Type: CP+RC	Rotary Casing Type: PW	Ground Level: 4.67 m OD
Equipment: 3.0T Dando + Casagrande C6	Core Barrel: 412DT	Plunge: 90°
	Core Bit: Fast cut	Scale: 1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Installation
						Test	Result			
Medium dense dark grey slightly clayey gravelly fine to coarse SAND. Gravel is sub angular to sub rounded fine to coarse of sandstone and other lithologies.				B 9.00						
Medium dense brownish grey slightly sandy sub rounded fine to medium gravelly CLAY. Sand is fine to coarse.		9.50	-4.83	D 9.50-9.95		S	18			
				B 10.50						
				D 11.00-11.45		S	9			
				B 12.00						
				D 12.50-12.95		S	20			
				B 13.50						
				D 14.00-14.45		S	21			
				D 15.50-15.95		S	17			

Continued next sheet

U Undisturbed U100 / U86 Sample P Piston Sample TW Thin Wall Sample D Small Disturbed Sample B Bulk Disturbed Sample LB Large Bulk Disturbed Sample W Water Sample ES Environmental / Contamination Sample C Core J Amber Jar Sample V Vial Sample	Core Run TCR Total Core Recovery SCR Solid Core Recovery RQD Rock Quality Designation FI Fracture Index NI Non Intact U* Blows to drive U100 / U86 UT Thin wall undisturbed sample NA Not Applicable NR No Recovery NP No Penetration OH Open Hole Drilling	S Standard Penetration Test C Cone Penetration Test 32 N for full 300mm penetration /175 For given penetration (mm) /25# Seating blows only (mm) PP Pocket Penetrometer Test IPID In-situ Photo-Ionisation Detector (ppm) L Packer Test (Lugeons) IV Insitu Vane Test. Peak IVR Insitu Vane Test. Residual HV Hand Vane Test. Peak HVR Hand Vane Test. Residual	CP Cable Percussion RO Rotary Open Hole RC Rotary Cored SO Sonic Open holed CONP Continuous Percussion WLS Windowless Sampler Installation Slotted Pipe Piezometer Tip Grout Concrete Sand Filter Bentonite Seal Gravel Filter
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BOREHOLE LOG

BAE Govan Environmental Study

Borehole No
06
Sheet 3 of 4
Status
Final
04/03/2014

Client: BAE Systems Surface Ships Ltd.
 Consultant: Arch Henderson

Job No: 5298

Date Started: 15/11/2013	Initial Boring Diameter: 250mm	Coordinates: E 666204.590 m National Grid
Date Complete: 18/11/2013	Initial Core Diameter: 76mm	N 254747.190 m National Grid
Hole Type: CP+RC	Rotary Casing Type: PW	Ground Level: 4.67 m OD
Equipment: 3.0T Dando + Casagrande C6	Core Barrel: 412DT	Plunge: 90°
	Core Bit: Fast cut	Scale: 1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Installation
						Test	Result			
Medium dense brownish grey slightly sandy sub rounded fine to medium gravelly CLAY. Sand is fine to coarse.				B 16.50						
				D 17.00-17.45	S	19				
				B 18.00						
				D 18.50-18.95	S	20				
				B 19.50						
				D 20.00-20.45	S	23				
				B 21.00						
				D 21.20-21.65	S	50/5				
				D 21.30-22.30	S	50/0			100 (30)	
				D 21.30-21.75					10	NI
Very dense dark grey slightly sandy sub rounded fine to medium gravelly CLAY. Sand is fine to coarse.		21.20 21.30	-16.53 -16.63							
Medium strong locally weak dark grey MUDSTONE. Broken in places. Some sub horizontal bedding separation.										
10cm ironstone at 22.70m.									16	
5cm ironstone at 23.10m.									12	
Continued next sheet										

U Undisturbed U100 / U86 Sample P Piston Sample TW Thin Wall Sample D Small Disturbed Sample B Bulk Disturbed Sample LB Large Bulk Disturbed Sample W Water Sample ES Environmental / Contamination Sample C Core J Amber Jar Sample V Vial Sample	Core Run Total Core Recovery Solid Core Recovery Rock Quality Designation Fracture Index Non Intact Blows to drive U100 / U86 Thin wall undisturbed sample Not Applicable No Recovery No Penetration Open Hole Drilling	S Standard Penetration Test C Cone Penetration Test 32 N for full 300mm penetration /175 For given penetration (mm) /25# Seating blows only (mm) PP Pocket Penetrometer Test IPID In-situ Photo-Ionisation Detector (ppm) L Packer Test (Lugeons) IV Insitu Vane Test. Peak IVR Insitu Vane Test. Residual HV Hand Vane Test. Peak HVR Hand Vane Test. Residual	CP Cable Percussion RO Rotary Open Hole RC Rotary Cored SO Sonic Open holed CONP Continuous Percussion WLS Windowless Sampler Installation Slotted Pipe Piezometer Tip Grout Concrete Sand Filter Bentonite Seal Gravel Filter
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BOREHOLE LOG

BAE Govan Environmental Study

Borehole No
06
Sheet 4 of 4
Status
Final
04/03/2014

Client: BAE Systems Surface Ships Ltd.
 Consultant: Arch Henderson

Job No: 5298

Date Started: 15/11/2013	Initial Boring Diameter: 250mm	Coordinates: E 666204.590 m National Grid
Date Complete: 18/11/2013	Initial Core Diameter: 76mm	N 254747.190 m National Grid
Hole Type: CP+RC	Rotary Casing Type: PW	Ground Level: 4.67 m OD
Equipment: 3.0T Dando + Casagrande C6	Core Barrel: 412DT	Plunge: 90°
	Core Bit: Fast cut	Scale: 1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Install -ation
						Test	Result			
Medium strong locally weak dark grey MUDSTONE. Broken in places. Some sub horizontal bedding separation.	[Hatched Pattern]			24.30-25.30				100 (70) 20	NI	
5cm ironstone at 25.60m.	[Horizontal Lines]			25.30-26.30				100 (70) 30	14	
	[Hatched Pattern]			26.30-27.30				100 (100) 80	3	
End of Borehole at 27.30 m		27.30	-22.63							

U Undisturbed U100 / U86 Sample P Piston Sample TW Thin Wall Sample D Small Disturbed Sample B Bulk Disturbed Sample LB Large Bulk Disturbed Sample W Water Sample ES Environmental / Contamination Sample C Core J Amber Jar Sample V Vial Sample	Core Run TCR Total Core Recovery SCR Solid Core Recovery RQD Rock Quality Designation FI Fracture Index NI Non Intact U* Blows to drive U100 / U86 UT Thin wall undisturbed sample NA Not Applicable NR No Recovery NP No Penetration OH Open Hole Drilling	S Standard Penetration Test C Cone Penetration Test 32 N for full 300mm penetration /175 For given penetration (mm) /25# Seating blows only (mm) PP Pocket Penetrometer Test IPID In-situ Photo-Ionisation Detector (ppm) L Packer Test (Lugeons) IV Insitu Vane Test. Peak IVR Insitu Vane Test. Residual HV Hand Vane Test. Peak HVR Hand Vane Test. Residual	CP Cable Percussion RO Rotary Open Hole RC Rotary Cored SO Sonic Open holed CONP Continuous Percussion WLS Windowless Sampler Installation Slotted Pipe Piezometer Tip Grout Concrete Sand Filter Bentonite Seal Gravel Filter
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BOREHOLE LOG

BAE Govan Environmental Study

Borehole No

06

Information

Status

Final

04/03/2014

Client: BAE Systems Surface Ships Ltd.

Consultant: Arch Henderson

Job No: 5298

Date Started: 15/11/2013	Initial Boring Diameter: 250mm	Coordinates: E 666204.590 m National Grid
Date Complete: 18/11/2013	Initial Core Diameter: 76mm	N 254747.190 m National Grid
Hole Type: CP+RC	Rotary Casing Type: PW	Ground Level: 4.67 m OD
Equipment: 3.0T Dando + Casagrande C6	Core Barrel: 412DT	Plunge: 90 °
	Core Bit: Fast cut	Scale: 1:50

PROGRESS

Date	Time	Hole Depth	Casing Depth	Water Depth	Remarks
15/11/2013	17:00	14.45	14.00	9.90	
18/11/2013	07:30	14.45	14.00	9.90	
18/11/2013	17:00	21.30	21.30	9.80	
25/11/2013	07:30	21.30	21.30	5.30	
25/11/2013	17:00	27.30	21.30	25.40	

DRILLING DETAILS

CP Chiselling			Rotary				
From	To	Hours	From	To	Hole Dia	Core Dia	Flush
21.20	21.50	1.00	21.30	27.30	107	76	Air

WATER STRIKES

Date	Time	Strike	Risen To	After n Minutes	Casing Depth	Flow	Sealed

IN SITU SPT TEST DETAILS

Depth	Blows for 75mm Increments
4.00	N=15 (2,7,3,3,6,3)
5.00	N=12 (3,3,3,3,3,3)
9.50	N=18 (3,4,4,4,5,5)
11.00	N=9 (2,0,3,1,2,3)
12.50	N=20 (4,4,5,4,5,6)
14.00	N=21 (3,4,5,5,6,5)
15.50	N=17 (4,4,4,5,4,4)
17.00	N=19 (4,5,5,4,6,4)
18.50	N=20 (6,4,6,4,5,5)
20.00	N=23 (6,5,5,6,6,6)
21.20	50/5mm (25,0,50,0,0,0)
21.30	50/0mm (25,0,50,0,0,0)

NOTES

All depth in metres; all diameters in millimetres.

Groundwater levels are subject to seasonal, tidal and other fluctuations and should not be taken as constant

Hand dug inspection pit 0.60m x 0.60m to 1.20m depth. Concrete cored from surface. PW casing installed to base of CP borehole. Rotary continuation to 27.30m. Borehole backfilled with cement / bentonite on completion.

PERSONNEL

Driller: SK+HF

Logged by: RC

Checked by: RC



BOREHOLE LOG

BAE Govan Environmental Study

Borehole No

08

Sheet 1 of 1

Status

Final

04/03/2014

Client: BAE Systems Surface Ships Ltd.

Consultant: Arch Henderson

Job No: 5298

Date Started: 20/11/2013	Initial Boring Diameter: 250mm	Coordinates: E 666245.241 m National Grid
Date Complete: 20/11/2013	Initial Core Diameter	N 254681.547 m National Grid
Hole Type: CP	Rotary Casing Type: -	Ground Level: 4.67 m OD
Equipment: 3.0T Dando	Core Barrel:	Plunge: 90°
	Core Bit:	Scale: 1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Installation
						Test	Result			
MADE GROUND: Tar (Driller's description).		0.20	4.47							
MADE GROUND: Concrete.										
MADE GROUND: Medium dense grey sand angular fine to coarse gravel (Type 1).		0.50	4.17	B 0.80						
				D 1.20-1.65		S	19			
				B 1.80						
				D 2.00-2.45		S	20			
				B 2.80						
		D 3.00-3.45		S	22					
At 4.10m, OBSTRUCTION, No further progress. End of Borehole at 4.10 m		4.10	0.57	B 3.80 DNR 4.00		S	50/50			

U Undisturbed U100 / U86 Sample P Piston Sample TW Thin Wall Sample D Small Disturbed Sample B Bulk Disturbed Sample LB Large Bulk Disturbed Sample W Water Sample ES Environmental / Contamination Sample C Core J Amber Jar Sample V Vial Sample	■ Core Run TCR Total Core Recovery SCR Solid Core Recovery RQD Rock Quality Designation FI Fracture Index NI Non Intact U* Blows to drive U100 / U86 UT Thin wall undisturbed sample NA Not Applicable NR No Recovery NP No Penetration OH Open Hole Drilling	S Standard Penetration Test C Cone Penetration Test 32 N for full 300mm penetration /175 For given penetration (mm) /25# Seating blows only (mm) PP Pocket Penetrometer Test IPID In-situ Photo-Ionisation Detector (ppm) L Packer Test (Lugeons) IV Insitu Vane Test. Peak IVR Insitu Vane Test. Residual HV Hand Vane Test. Peak HVR Hand Vane Test. Residual	CP Cable Percussion RO Rotary Open Hole RC Rotary Cored SO Sonic Open holed CONP Continuous Percussion WLS Windowless Sampler Installation Slotted Pipe Piezometer Tip Grout Concrete Sand Filter Bentonite Seal Gravel Filter
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BOREHOLE LOG

BAE Govan Environmental Study

Borehole No

08

Information

Status

Final

04/03/2014

Client: BAE Systems Surface Ships Ltd.

Consultant: Arch Henderson

Job No: 5298

Date Started: 20/11/2013	Initial Boring Diameter: 250mm	Coordinates: E 666245.241 m National Grid
Date Complete: 20/11/2013	Initial Core Diameter	N 254681.547 m National Grid
Hole Type: CP	Rotary Casing Type: -	Ground Level: 4.67 m OD
Equipment: 3.0T Dando	Core Barrel:	Plunge: 90 °
	Core Bit:	Scale: 1:50

PROGRESS

Date	Time	Hole Depth	Casing Depth	Water Depth	Remarks
20/11/2013	17:00	4.10	4.10	-	-

DRILLING DETAILS

CP Chiselling			Rotary				
From	To	Hours	From	To	Hole Dia	Core Dia	Flush

WATER STRIKES

Date	Time	Strike	Risen To	After n Minutes	Casing Depth	Flow	Sealed

IN SITU SPT TEST DETAILS

Depth	Blows for 75mm Increments
1.20	N=19 (5,4,4,5,5,5)
2.00	N=20 (4,4,5,5,5,5)
3.00	N=22 (4,3,4,5,6,7)
4.00	50/50mm (25,0,50,0,0,0)

NOTES

All depth in metres; all diameters in millimetres.

Groundwater levels are subject to seasonal, tidal and other fluctuations and should not be taken as constant
 Hand dug inspection pit 0.60m x 0.60m to 1.20m depth. Concrete cored from surface, followed by inspection pit. Refusal in borehole at 4.10m and terminated upon Client's instruction. Borehole backfilled with cement/bentonite and finished with concrete at surface.

PERSONNEL

Driller: SK	Logged by: RC	Checked by: RC
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BOREHOLE LOG

BAE Govan Environmental Study

Borehole No 10 Sheet 1 of 3
Status Final 04/03/2014

Client: BAE Systems Surface Ships Ltd.
 Consultant: Arch Henderson

Job No: 5298

Date Started: 04/11/2013	Initial Boring Diameter: 250mm	Coordinates: E 666262.942 m National Grid
Date Complete: 22/11/2013	Initial Core Diameter: 76mm	N 254756.862 m National Grid
Hole Type: CP+RC	Rotary Casing Type: PW	Ground Level: 4.84 m OD
Equipment: 3.0T Dando + Casagrande C6	Core Barrel: 412DT	Plunge: 90°
	Core Bit: Fast cut	Scale: 1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Install -ation
						Test	Result			
MADE GROUND: Concrete.		1.10	3.74							
VOID (underfloor void between jetty and river bed).										
MADE GROUND: Dense black and dark grey slightly clayey sandy subangular fine to coarse gravel of various lithologies including ash, slag, metal, glass and timber.		4.40	0.44	B 4.80 DJV 5.00 D 5.00-5.45		S	50/50			
				DJV 6.00 B 6.00						
				D 6.50-6.95		S	42			
Very soft grey slightly sandy clayey SILT with thin and thick laminations of silty clay. Sand is mostly fine to medium.		7.00	-2.16	DJV 7.00 B 7.50						

Continued next sheet

U Undisturbed U100 / U86 Sample P Piston Sample TW Thin Wall Sample D Small Disturbed Sample B Bulk Disturbed Sample LB Large Bulk Disturbed Sample W Water Sample ES Environmental / Contamination Sample C Core J Amber Jar Sample V Vial Sample	Core Run TCR Total Core Recovery SCR Solid Core Recovery RQD Rock Quality Designation FI Fracture Index NI Non Intact U* Blows to drive U100 / U86 UT Thin wall undisturbed sample NA Not Applicable NR No Recovery NP No Penetration OH Open Hole Drilling	S Standard Penetration Test C Cone Penetration Test 32 N for full 300mm penetration /175 For given penetration (mm) /25# Seating blows only (mm) PP Pocket Penetrometer Test IPID In-situ Photo-Ionisation Detector (ppm) L Packer Test (Lugeons) IV Insitu Vane Test. Peak IVR Insitu Vane Test. Residual HV Hand Vane Test. Peak HVR Hand Vane Test. Residual	CP Cable Percussion RO Rotary Open Hole RC Rotary Cored SO Sonic Open holed CONP Continuous Percussion WLS Windowless Sampler Installation Slotted Pipe Piezometer Tip Grout Concrete Sand Filter Bentonite Seal Gravel Filter
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BOREHOLE LOG

BAE Govan Environmental Study

Borehole No
10
Sheet 2 of 3
Status
Final
04/03/2014

Client: BAE Systems Surface Ships Ltd.
 Consultant: Arch Henderson

Job No: 5298

Date Started: 04/11/2013	Initial Boring Diameter: 250mm	Coordinates: E 666262.942 m National Grid
Date Complete: 22/11/2013	Initial Core Diameter: 76mm	N 254756.862 m National Grid
Hole Type: CP+RC	Rotary Casing Type: PW	Ground Level: 4.84 m OD
Equipment: 3.0T Dando + Casagrande C6	Core Barrel: 412DT	Plunge: 90°
	Core Bit: Fast cut	Scale: 1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Installation				
						Test	Result							
Very soft grey slightly sandy clayey SILT with thin and thick laminations of silty clay. Sand is mostly fine to medium.				DJV D 8.00-8.45			S	18						
				B 9.00										
				U 9.50-9.95			11							
				B 11.00			S	20						
				D 12.00-12.45										
Loose grey silty fine to coarse, mostly fine to medium, SAND passing to sandy silt in places. No progress at 16.50m - Possible boulder.			-13.00	-8.16										
											B 13.50			
											D 14.00-14.45	S	19	
											B 15.00			
											D 15.50-15.95	S	16	

Continued next sheet

U Undisturbed U100 / U86 Sample P Piston Sample TW Thin Wall Sample D Small Disturbed Sample B Bulk Disturbed Sample LB Large Bulk Disturbed Sample W Water Sample ES Environmental / Contamination Sample C Core J Amber Jar Sample V Vial Sample	Core Run Total Core Recovery Solid Core Recovery Rock Quality Designation Fracture Index Non Intact Blows to drive U100 / U86 Thin wall undisturbed sample Not Applicable No Recovery No Penetration Open Hole Drilling	S Standard Penetration Test C Cone Penetration Test 32 N for full 300mm penetration /175 For given penetration (mm) /25# Seating blows only (mm) PP Pocket Penetrometer Test IPID In-situ Photo-Ionisation Detector (ppm) L Packer Test (Lugeons) IV Insitu Vane Test. Peak IVR Insitu Vane Test. Residual HV Hand Vane Test. Peak HVR Hand Vane Test. Residual	CP Cable Percussion RO Rotary Open Hole RC Rotary Cored SO Sonic Open holed CONP Continuous Percussion WLS Windowless Sampler Installation Slotted Pipe Piezometer Tip Grout Concrete Sand Filter Bentonite Seal Gravel Filter
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BOREHOLE LOG

BAE Govan Environmental Study

Borehole No
10
Sheet 3 of 3
Status
Final
04/03/2014

Client: BAE Systems Surface Ships Ltd.
Consultant: Arch Henderson

Job No: 5298

Date Started: 04/11/2013	Initial Boring Diameter: 250mm	Coordinates: E 666262.942 m National Grid
Date Complete: 22/11/2013	Initial Core Diameter: 76mm	N 254756.862 m National Grid
Hole Type: CP+RC	Rotary Casing Type: PW	Ground Level: 4.84 m OD
Equipment: 3.0T Dando + Casagrande C6	Core Barrel: 412DT	Plunge: 90°
	Core Bit: Fast cut	Scale: 1:50

Description of Strata	Legend	Depth	Reduced Level	Sampling/ Core Run	U	In Situ Testing		TCR (SCR) RQD	FI	Install -ation	
						Test	Result				
Loose grey silty fine to coarse, mostly fine to medium, SAND passing to sandy silt in places. No progress at 16.50m - Possible boulder.		16.50	-11.66	DNR 16.00-16.45		S	50/0				
Cobble BOULDER. (Driller's description) (Open holed)		16.50	-11.66	DNR B 16.50 16.50		S	50/0				
Medium strong locally weak thinly to thickly bedded grey medium grained SANDSTONE with thin muddy laminae to base. Broken from 17.60m to 18.20m.		17.20	-12.36	17.20-18.50				100 (61) 0	NI		
Medium strong locally dark grey MUDSTONE. Sandy in top 30cm. Close to medium spaced drilling induced sub horizontal fractures, planar, smooth, tight and clean. Short sub vertical drilling induced fractures at 20.70m and 21.50m, planar, smooth, tight and clean.		18.50	-13.66	18.50-19.50				100 (60) 30	16		
				19.50-20.50				100 (80) 60	8		
				20.50-21.50					100 (70) 40	9	
				21.50-22.90					100 (86) 71	4	
End of Borehole at 22.90 m		22.90	-18.06								

U Undisturbed U100 / U86 Sample P Piston Sample TW Thin Wall Sample D Small Disturbed Sample B Bulk Disturbed Sample LB Large Bulk Disturbed Sample W Water Sample ES Environmental / Contamination Sample C Core J Amber Jar Sample V Vial Sample	Core Run TCR Total Core Recovery SCR Solid Core Recovery RQD Rock Quality Designation FI Fracture Index NI Non Intact U* Blows to drive U100 / U86 UT Thin wall undisturbed sample NA Not Applicable NR No Recovery NP No Penetration OH Open Hole Drilling	S Standard Penetration Test C Cone Penetration Test 32 N for full 300mm penetration /175 For given penetration (mm) /25# Seating blows only (mm) PP Pocket Penetrometer Test IPID In-situ Photo-Ionisation Detector (ppm) L Packer Test (Lugeons) IV Insitu Vane Test. Peak IVR Insitu Vane Test. Residual HV Hand Vane Test. Peak HVR Hand Vane Test. Residual	CP Cable Percussion RO Rotary Open Hole RC Rotary Cored SO Sonic Open holed CONP Continuous Percussion WLS Windowless Sampler Installation Slotted Pipe Piezometer Tip Grout Concrete Sand Filter Bentonite Seal Gravel Filter
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BOREHOLE LOG

BAE Govan Environmental Study

Borehole No

10

Information

Status

Final

04/03/2014

Client: BAE Systems Surface Ships Ltd.

Consultant: Arch Henderson

Job No: 5298

Date Started: 04/11/2013	Initial Boring Diameter: 250mm	Coordinates: E 666262.942 m National Grid
Date Complete: 22/11/2013	Initial Core Diameter: 76mm	N 254756.862 m National Grid
Hole Type: CP+RC	Rotary Casing Type: PW	Ground Level: 4.84 m OD
Equipment: 3.0T Dando + Casagrande C6	Core Barrel: 412DT	Plunge: 90 °
	Core Bit: Fast cut	Scale: 1:50

PROGRESS

Date	Time	Hole Depth	Casing Depth	Water Depth	Remarks
04/11/2013	17:00	13.00	13.00	-	Dry
05/11/2013	07:30	13.00	13.00	4.00	
05/11/2013	17:00	16.50	13.00	4.00	
22/11/2013	07:30	16.50	13.00	8.10	
22/11/2013	17:00	22.90	16.50	5.30	

DRILLING DETAILS

CP Chiselling			Rotary				
From	To	Hours	From	To	Hole Dia	Core Dia	Flush
4.40	6.00	2.00	16.50	17.20	125	OH	Air
16.50	16.50	1.00	17.20	22.90	107	76	Air

WATER STRIKES

Date	Time	Strike	Risen To	After n Minutes	Casing Depth	Flow	Sealed
04/11/2013	:	11.50	11.30	20	11.50	-	-

IN SITU SPT TEST DETAILS

Depth	Blows for 75mm Increments
5.00	50/50mm (25,0,50,0,0,0)
6.50	N=42 (8,11,12,6,14,10)
8.00	N=18 (3,4,4,4,5,5)
11.00	N=20 (3,3,6,4,5,5)
12.50	N=17 (3,4,3,4,5,5)
14.00	N=19 (3,5,5,5,4,5)
15.50	N=16 (4,6,4,4,4,4)
16.00	50/0mm (25,0,50,0,0,0)
16.50	50/0mm (25/0 50/0)

NOTES

All depth in metres; all diameters in millimetres.

Groundwater levels are subject to seasonal, tidal and other fluctuations and should not be taken as constant

Hand dug inspection pit 0.60m x 0.60m to 1.20m depth. Position cored from surface was void space. CP drilling commenced at 4.50mbgl. PW casing installed to base of CP borehole. Rotary continuation to 22.90m. Borehole backfilled with cement / bentonite upon completion to 4.40mbgl.

PERSONNEL

Driller: SKZ+HF	Logged by: RC	Checked by: RC
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RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA

GOVAN, GLASGOW

Client: BAE Systems Marine Limited

Engineer: Capita Symonds

Contract No: 19379

Borehole No:

01

Inspection Pit to 1.20
Cable Percussion to 16.60
Rotary Open Hole to 25.00
Rotary Core Drilling to 28.00

Location: Orientation: Vertical Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests		Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	Result							Symbol	Depth
	10.00						See previous sheet	x x x x			
	10.50	B, W						x x x x			
	11.00	SPT=31	4.6/7.7/8.9	11.00		11.00	Dense brown silty fine and medium SAND	x x x x			
29/7	12.00	UP		12.00				x x x x	6.00 5.00		
	13.50	B				13.00	Greyish brown sandy SILT with pockets of clay	x x x x			
	14.00	B, UP a)		14.00		at 14.00m: very sandy	x x x x			
	15.00	SPT=33	3.8/8.7/9.9	15.00		15.00	Dense brown sandy SILT	x x x x			
	16.60	SPT>50	RO-S	16.60		16.30	# Dark grey sandy gravelly CLAY with cobbles and boulders	x x x x			
31/7	16.60			16.60				x x x x			
3/8				18.65				x x x x			

Remarks:
Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Water was continuously added to assist boring at the depths indicated.

Diam	To Depth	
	Boring	Casing
250	4.50	4.50
200	12.00	12.00
150	16.60	16.60
P	18.65	18.65
120	25.00	
H	28.00	

Driller MK/DB	Originator ML	Ground-water			Water Added		Chiseling			Returns	Flush	
		Struck 12.00	Rose To 5.00	Time(mins) O'N GHT	Cut Off	From 10.50	To 16.60	From 4.50	To 16.60		Time(hr) 2	Type Air
Chk & App WTG	Status Final											



Fig No:
B1
Sheet 2 of 3
Scale 1:50

File: P:\www\APR\Quebec\379_Groborr\Laptop - rinned: 28/07/2006 10:38:02 Raeburn Drilling and Geotechnical, Whistlerberry Rd, Hamilton ML3 0HP Tel: 01888-71177 E-mail: enquiries@raeburndrilling.com

RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA

GOVAN, GLASGOW

Client: BAE Systems Marine Limited

Engineer: Capita Symonds

Contract No: 19379

Borehole No:

01

Inspection Pit to 1.20
Cable Percussion to 16.60
Rotary Open Hole to 25.00
Rotary Core Drilling to 28.00

Location:

Orientation: Vertical

Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests				Casing Depth	Level (MOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	Result	TCR	SCR							RQD	FI
	16.80								See previous sheet				
	25.00	CORE		97	92	80	5	18.65					25.00
							3						
							3						
4/8								18.65	28.00				
									Moderately strong and strong bedded pale grey fine to coarse grained SANDSTONE with some very thin muddy laminations. No evidence of weathering. Fractures are very closely to widely spaced, subhorizontal planar and smooth				25.30
									END OF BOREHOLE				

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Water was continuously added to assist boring at the depths indicated.

Diam	To Depth	
	Boring	Casing
250	4.50	4.50
200	12.00	12.00
150	16.60	16.60
P	18.65	18.65
120	25.00	
H	28.00	

Driller MK/DB	Originator ML	Ground-water				Water Added		Chiseling			Flush		Returns Fuel	Type Air	To Depth 28.00
		Struck	Rose To	Time(mlns)	Cut Off	From 10.50	To 16.60	From 4.50 16.30	To 4.60 16.60	Time(hr) 1.5 2					
Chk & App WTG	Status Final														



Fig No:
B1
Sheet 3 of 3
Scale 1:50

Site: BOREHOLE File: P:\GINTY\PROJ\ECTS\19379.GPJGGH Laptop Printed: 28/08/2006 10:38:02 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA
 GOVAN, GLASGOW
 Client: BAE Systems Marine Limited
 Engineer: Capita Symonds

Contract No: 19379
 Borehole No: 02
 Inspection Pit to 1.20
 Cable Percussion to 22.60
 Rotary Open Hole to 37.00
 Rotary Core Drilling to 40.00

Location: Orientation: Vertical Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

GL 17.3 in CD

Site: BOREHOLE File: P:\GINTWP\PROJECTS\19379_GFOJGFT\Laptop Printed: 28/06/2006 10:38:05 Raeburn Drilling and Geotechnical Whitebeary Rd, Hamilton ML3 0HP Tel: 01896711177 E-mail: enquiries@raeburndrilling.com

Progress	Sample Depth	Samples and Tests		Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	Result							Symbol	Depth
26/7 2006	0.50	B				0.45	CONCRETE				
	1.20	B	CPT=15 6.7 8.4 2.3	1.20		1.20	MADE GROUND (grey gravelly fine to coarse sand with fragments of broken stone)				1.00
26/7	2.00	B	SPT=22 3.4 4.6 6.6	2.00		2.00	Firm mottled grey and orange brown sandy CLAY		DRY DRY		
	2.25	B				2.00	Medium dense orange brown very silty gravelly fine to coarse SAND with cobblesbelow 2.25m: brown				
	3.00	T	SPT=10 4.3 4.3 2.1	3.00		3.00	Soft brown sandy CLAY				
	3.50	B									
	4.00	U	(18)	4.00							
	4.50	T				4.50	Loose to medium dense greyish brown sandy SILT with pockets of clay				
	5.00	U	(18)	5.00							
	5.50	T									
	6.00	B									
	6.50	U	(20)	6.50							
	7.00	T									
	8.00	U	(18)	8.00							
	8.50	T									
	8.75	B									
	9.50	U	(17)	9.50							

Remarks:
 # Description based on Driller's log.
 An inspection pit was excavated by hand to a depth of 1.20m to clear services.
 Small amounts of water were added to assist boring from 1.20m to 10.00m and continuously from 10.00m to 20.00m.

Diam	To Depth	
	Boring	Casing
250	9.25	9.25
200	18.00	18.00
150	22.60	22.50
P	32.50	32.50
120	37.00	
H	40.00	

Driller	Originator	Ground-water				Water Added		Chise Eng			Returns	Flush	
		Struck	Rose To	Time(mins)	Cut Off	From	To	From	To	Time(hr)		Type	To Depth
GB/DB	ML					1.50	10.00	22.50	22.60	2	Fu3	Air	40.00
Chk & App	Status												
WTG	Final												



Fig No:
 B2
 Sheet 1 of 4
 Scale 1:50

RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA

GOVAN, GLASGOW

Client: BAE Systems Marine Limited

Engineer: Capita Symonds

Contract No: 19379

Borehole No:

02

Inspection Pit to 1.20
Cable Percussion to 22.60
Rotary Open Hole to 37.00
Rotary Core Drilling to 40.00

Location:

Orientation: Vertical

Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests		Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	Result							Symbol	Depth
	10.00	T		10.00			See previous sheet	x x x x	DRY		
	11.00	U	(20)	11.00				x x x x			
	11.50	T				at 11.50m: passes to sandy CLAY	x x x x			
	11.75	B				below 12.00m: dense	x x x x			
	12.50	U	(24)	12.50				x x x x			
	13.00	T						x x x x			
	14.00	U	(18)	14.00				x x x x			
	14.50	T				14.55	Medium dense light brown very silty fine and medium SAND	x x x x			
	15.00	B						x x x x			
	15.50	T	SPT=19 2324.65	15.50				x x x x			
	17.00	T	SPT=22 3236.67	18.50				x x x x			
	17.75	B						x x x x			
	18.50	T						x x x x			

8.60

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Small amounts of water were added to assist boring from 1.20m to 10.00m and continuously from 10.00m to 20.00m.

Diam	To Depth	
	Boring	Casing
250	9.25	9.25
200	18.00	18.00
150	22.60	22.50
P	32.50	32.50
120	37.00	
H	40.00	

Driller GB/DB	Originator ML	Ground-water				Water Added		Chiselling			Returns	Flush	
		Struck	Rose To	Time(mins)	Cut Off	From	To	From	To	Time(hr)		Type	To Depth
						1.50	10.00	22.50	22.60	2	Full	Air	40.00
						10.00	20.00						



Fig No:
B2
Sheet 2 of 4
Scale 1:50

Style: BOREHOLE File: P:\GINTW\PROJECTS\19379.GPJGGH Laptop Printed: 28/09/2006 10:38:05 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01696-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA

GOVAN, GLASGOW

Client: BAE Systems Marine Limited

Engineer: Capita Symonds

Contract No: 19379

Borehole No:
02

Inspection Pit to 1.20
Cable Percussion to 22.60
Rotary Open Hole to 37.00
Rotary Core Drilling to 40.00

Location:

Orientation: Vertical

Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests		Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	Result							Symbol	Depth
	20.00	SPT	33 4.6 7.8 8.8 10	20.00			See previous sheetbelow 20.00m: dense	X	5.20		
	20.75	B						X			
	21.50	SPT	46 7.9 11.11.12.12	21.50		21.80	# Dense brown clayey gravelly fine to coarse SAND with cobbles, boulders and bands of sandy gravelly clay	X			
	22.60	SPT	>50 SO RO-S	22.50 22.60		22.60	# Very stiff sandy gravelly CLAY with cobbles and boulders	X			

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Small amounts of water were added to assist boring from 1.20m to 10.00m and continuously from 10.00m to 20.00m.

Diam	To Depth	
	Boring	Casing
250	9.25	9.25
200	18.00	18.00
150	22.60	22.60
P	32.50	32.50
120	37.00	
H	40.00	

Driller	Originator	Ground-water				Water Added		Chiselling			Flush		
		Struck	Rose To	Time(mins)	Cut Off	From	To	From	To	Time(hr)	Returns	Type	To Depth
GB/DB	ML					1.50	10.00	22.60	22.60	2	Full	Air	40.00
Chk & App	Status					10.00	20.00						
WTG	Final												



Fig No:
B2
Sheet 3 of 4
Scale 1:50

Style: BOREHOLE File: P:\GINT\WORK\PROJECTS\19379.GPJGGH Laptop Printed: 28/09/2006 10:38:06 Raeburn Drilling and Geotechnical, Whistieberry Rd, Hamilton ML3 0HP Tel: 01898-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA

GOVAN, GLASGOW

Client: BAE Systems Marine Limited

Engineer: Capita Symonds

Contract No: 19379

Borehole No:

02

Inspection Pit to 1.20
Cable Percussion to 22.60
Rotary Open Hole to 37.00
Rotary Core Drilling to 40.00

Location: Orientation: Vertical Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests				Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	Result									Symbol	Depth
	22.60												
								See previous sheet					
	36.00	RO-R				32.50		# MUDSTONE					36.00 38.30
	37.00	CORE	TCR	SCR	RQD	FI	32.50	Moderately strong and strong bedded pale grey fine to coarse grained SANDSTONE with thin muddy cross laminations. No evidence of weathering. Fractures are medium and widely spaced, subhorizontal planar and smooth					
			100	98	97	1							
						3							
						2							
						32.50							
31/7							40.00	END OF BOREHOLE					

Remarks:
Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Small amounts of water were added to assist boring from 1.20m to 10.00m and continuously from 10.00m to 20.00m.

Diam	To Depth	
	Boring	Casing
250	9.25	9.25
200	18.00	18.00
150	22.60	22.50
P	32.50	32.50
120	37.00	
H	40.00	

Drnr GB/DB	Originator ML	Ground-water				Water Added		Chiseling			Flush		
		Struck	Rose To	Time(mins)	Cut Off	From	To	From	To	Time(hr)	Returns	Type	To Depth
						1.50	10.00	22.50	22.60	2	Full	Air	40.00
Chk & App WTG	Status Final					10.00	20.00						



Fig No:
B2
Sheet 4 of 4
Scale 1:50

Style: BOREHOLE File: P:\GINT\PROJECTS\19379.GPJGGH Laptop Printed: 28/09/2008 10:38:07 Raeburn Drilling and Geotechnical, Whitteberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA

GOVAN, GLASGOW

Client: BAE Systems Marine Limited

Engineer: Capita Symonds

Contract No: 19379

Borehole No:

03

Inspection Pit to 1.20
Cable Percussion to 26.20
Rotary Open Hole to 39.00
Rotary Core Drilling to 57.00

Location:

Orientation: Vertical

Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests		Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	Result							Symbol	Depth
3/7 2006	0.15					0.15	TARMAC				
	0.30					0.30	CONCRETE				
	0.30	B					MADE GROUND (brown slightly sandy clay with some ash)				
	0.60	B				0.60	MADE GROUND (brown clayey slightly gravelly fine to coarse sand with some ash)				
	1.20	U (15)				1.40	Loose to medium dense brown sily very gravelly fine to coarse SAND				
3/7	1.70	B, T							DRY		2.00
	2.00	SPT=10 1.1/2.2.3.3		1.90							
	2.45	B									
	3.00	SPT=11 1.2/3.3.2		3.00							
	3.65	B				3.65	Firm laminated brown CLAY				
	4.00	U (12)		4.00		4.20	Loose greyish brown sandy SILT				
	4.50	B, T									
	5.00	SPT=6 1.1/1.1.2.2		5.00							
	6.00	B									
	6.50	SPT=5 1.1/1.1.1.2		6.50							
	7.50	B									
	8.00	SPT=8 1.1/1.2.2.3		8.00							
	9.00	B									
	9.50	SPT=7 1.1/1.2.2.2		9.50							

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Water was continuously added to assist boring at the depths indicated.

Diam	To Depth	
	Boring	Casing
250	11.00	11.00
200	20.00	20.00
150	26.20	26.20
P	34.00	34.00
H	57.00	

Driller MK/DB	Originator SD	Ground-water				Water Added		Chiseling			Flush		
		Struck	Rose To	Time (mins)	Cut Off	From	To	From	To	Time (hr)	Returns	Type	To Depth
						12.00	26.20	26.20	26.20	1	Full	Air	57.00
Chk & App WTG	Status Final												



Fig No:
B3
Sheet 1 of 6
Scale 1:50

Style: BOREHOLE File: P:\GINTW\PROJECTS\19379.GPJGGH Laptop Printed: 28/08/2006 10:38:10 Raeburn Drilling and Geotechnical, Whistlers Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA
 GOVAN, GLASGOW
 Client: BAE Systems Marine Limited
 Engineer: Capita Symonds

Contract No: 19379
 Borehole No: 03
 Inspection Pit to 1.20
 Cable Percussion to 26.20
 Rotary Open Hole to 39.00
 Rotary Core Drilling to 57.00

Location: Orientation: Vertical Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests		Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	Result							Symbol	Depth
	10.50	B					See previous sheet ...below 10.00m: loose and medium dense	x x x x			
	11.00	T	SPT=13 1.2 3.3 3.4	11.00				x x x x			
A/T	12.00	B		12.00				x x x x	▼ DRY 9.50		
	12.50	T	SPT=9 1.1 2.2 2.3	12.50				x x x x			
	13.50	B				13.50	Medium dense greyish brown silty fine and medium SAND	x x x x			
	14.00	T	SPT=22 4.6/5.5 5.7	14.00				x x x x			
	15.00	B						x x x x			
	15.50	T	SPT=26 4.4 6.6 7.7	15.50				x x x x			
	16.50	B						x x x x			
	17.00	T	SPT=15 2.3 3.4 4.4	17.00				x x x x			
	18.00	B						x x x x			
	18.50	T	SPT=14 2.3 3.3 4.4	18.50				x x x x			
	19.50	B						x x x x			

Remarks:
 # Description based on Driller's log.
 An inspection pit was excavated by hand to a depth of 1.20m to clear services.
 Water was continuously added to assist boring at the depths indicated.

Diam	To Depth	
	Boring	Casing
250	11.00	11.00
200	20.00	20.00
150	26.20	26.20
P	34.00	34.00
H	57.00	

Driller MK/DB	Originator SD	Ground-water				Water Added		Chiseling			Returns Full	Flush Type Air	To Depth 57.00
		Struck 12.00	Rose To 9.50	Time (mins) ON	Cut Off	From 12.00	To 26.20	From 26.20	To 26.20	Time (hr) 1			
Chk & App WTG	Status Final												



Fig No: B3
 Sheet 2 of 6
 Scale 1:50

Style: BOREHOLE File: P:\GINT\PROJECTS\19379.GPJGCH Laptop Printed: 28/08/2006 10:38:11 Raeburn Drilling and Geotechnical, Whistlerberry Rd, Hamilton ML3 0HP Tel: 01898 711177 E-mail: enquiries@raeburndrilling.com

RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA

GOVAN, GLASGOW

Client: BAE Systems Marine Limited

Engineer: Capita Symonds

Contract No: 19379

Borehole No: 03

Inspection Pit to 1.20
Cable Percussion to 26.20
Rotary Open Hole to 39.00
Rotary Core Drilling to 57.00

Location:

Orientation: Vertical

Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests		Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	Result							Symbol	Depth
	20.00	SPT=18 2 4/5 5.4.4		20.00			See previous sheet	X	6.00		
	21.00	B				21.00	Medium dense grey gravelly sandy SILT	X			
	21.50	SPT=15 2 2/3 4.4.4		21.50				X			
	22.00	B						X			
	22.50	SPT=24 2 5/8 6.7		22.50		22.50	Medium dense grey sandy fine and medium subangular and subrounded GRAVEL with pockets of silt	X			
	23.50	B						X			
	24.00	U (81 a)		24.00		24.00	Stiff dark grey and black sandy gravelly CLAY with occasional cobbles and boulders	X			
	24.50	SPT=42 7 8/9 10.12.12		24.50				X			
	25.25	B, T						X			
	25.50	SPT=50 8 8/10.14.14.12		25.50				X			
6/7	26.20	SPT>50 50/ RO-S		26.20		26.20	# Sandy gravelly CLAY with cobbles and boulders	X	6.00		
7/7								X	7.00		

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Water was continuously added to assist boring at the depths indicated.

Diam	To Depth	
	Boring	Casing
250	11.00	11.00
200	20.00	20.00
150	26.20	26.20
P	34.00	34.00
H	57.00	

Driller	Originator	Ground-water				Water Added		Chiseling			Flush		
		Struck	Rose To	Time(mins)	Cut Off	From	To	From	To	Time(hr)	Returns	Type	To Depth
MK/DB	SD					12.00	26.20	26.20	26.20	1	Full	Air	57.00
Chk & App	Status												
WTG	Final												



Fig No:
B3
Sheet 3 of 6
Scale 1:50

File: P:\GINT\PROJECTS\19379.GPJGGH Laptop Printed: 28/08/2006 10:38:12 Raeburn Drilling and Geotechnical, Whistlerberry Rd, Hamilton ML3 OHP Tel: 01898-711177 E-mail: enquiries@raeburndrilling.com
 Site: BOREHOLE

RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA

GOVAN, GLASGOW

Client: BAE Systems Marine Limited

Engineer: Capita Symonds

Contract No: 19379

Borehole No:

03

Inspection Pit to 1.20
Cable Percussion to 26.20
Rotary Open Hole to 39.00
Rotary Core Drilling to 57.00

Location: Orientation: Vertical Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests				Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	Result									Symbol	Depth
	28.20												
	34.00	CORE	TCR	SCR	RQD	FI	34.00						
	34.00		28	5	0								
117	37.00	RO-S					34.00						
	38.00	RO-R					34.00	38.00	# MUDSTONE			38.00	
	39.00	CORE	95	67	45	8	34.00	39.00	Weak to moderately strong laminated dark grey MUDSTONE with occasional sandy laminations. No evidence of weathering. Fractures are very closely to medium spaced, subhorizontal and subvertical planar and smooth			38.30	

Remarks:
Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Water was continuously added to assist boring at the depths indicated.

Diam	To Depth	
	Boring	Casing
250	11.00	11.00
200	20.00	20.00
160	26.20	26.20
P	34.00	34.00
H	57.00	

Drifer MK/DB	Originator SD	Ground-water				Water Added		Chiseling			Flush		
		Struck	Rose To	Time(mins)	Cut Off	From	To	From	To	Time(hr)	Returns	Type	To Depth
						12.00	26.20	28.20	26.20	1	Full	Air	57.00
Chk & App WTG	Status Final												



Fig No:
B3
Sheet 4 of 6
Scale 1:50

Style: BOREHOLE File: P:\GINTW\PROJECTS\19379.GPJGGH Laptop Printed: 28/08/2006 10:38:13 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA

GOVAN, GLASGOW

Client: BAE Systems Marine Limited

Engineer: Capita Symonds

Contract No: 19379

Borehole No: 03

Inspection Pit to 1.20
Cable Percussion to 26.20
Rotary Open Hole to 39.00
Rotary Core Drilling to 57.00

Location:

Orientation: Vertical

Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests				Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	Result									Symbol	Depth
	39.00					3			See previous sheet				
						7							
	42.00	CORE	73	43	33	6	34.00						
						7							
						9							
	45.00	CORE	97	83	50	10	34.00	45.00	Moderately strong bedded pale grey fine to coarse grained SANDSTONE with muddy laminations increasing towards top of stratum. Weathering evident as slight orange staining throughout stratum. Fractures are very closely to medium spaced, subhorizontal planar and smooth				
						3							
						6		46.90	Weak laminated dark grey MUDSTONE with sandy laminations throughout stratum. No evidence of weathering. Fractures are extremely closely to medium spaced, subhorizontal planar and smooth				
	48.00	CORE	100	82	67	15	34.00						
						2		48.60	Moderately strong bedded pale grey fine to coarse grained SANDSTONE with muddy laminations. No evidence of weathering. Fractures are very closely to widely spaced, subhorizontal planar and smooth				
						9							

Remarks:
Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Water was continuously added to assist boring at the depths indicated.

Diam	To Depth	
	Boring	Casing
250	11.00	11.00
200	20.00	20.00
150	26.20	26.20
P	34.00	34.00
H	57.00	

Driller MK/DB	Originator SD	Ground-water				Water Added		Chiseling			Returns	Flush Type	To Depth
		Struck	Rose To	Time(mins)	Cut Off	From	To	From	To	Time(hr)			
						12.00	26.20	26.20	26.20	1	Full	Air	57.00
Chk & App WTG	Status Final												



Fig No:
B3
Sheet 5 of 6
Scale 1:50

Style: BOREHOLE File: P:\GINTWP\PROJECTS\19379.GPJ\GCH Laptop Printout: 28/08/2006 10:38:14 Raeburn Drilling and Geotechnical, Whistlerry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA

GOVAN, GLASGOW

Client: BAE Systems Marine Limited

Engineer: Capita Symonds

Contract No: 19379

Borehole No:

04

Inspection Pit to 1.20
Cable Percussion to 26.15
Rotary Open Hole to 36.20
Rotary Core Drilling to 39.20

Location:

Orientation: Vertical

Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests		Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	Result							Symbol	Depth
3/7 2006						0.15	TARMAC				
						0.40	# MADE GROUND (broken stone)				
						0.55	# TARMAC				0.50
						0.70	# MADE GROUND (broken stone)				
		0.80	B			0.90	MADE GROUND (greyish brown sandy slightly gravelly clay with some ash)				1.00
						1.20	MADE GROUND (brown slightly gravelly sandy clay with some ash)				
		1.20	U (12)		1.20		Orange brown silty slightly gravelly fine to coarse SAND		DRY DRY		
		1.60	T								
		2.00	SPT=11 2.33 2.24 T		1.80		Medium dense silty slightly gravelly fine and medium SAND				
		2.50	B								
3/7						2.70	Firm laminated brown sandy CLAY				
		3.10	SPT=9 1.1 2.2 2.3 T		3.00						
		3.60	B								
		4.20	U (13)		4.00						
		4.65	T								
		5.30	SPT=7 1.1 1.2 2.2 T		5.00						
		6.00	B								
		6.60	SPT=11 2.1 2.3 3.3 T		6.30	below 6.60m: medium dense				
		7.20	B								
		8.10	SPT=10 2.1 2.2 3.3 T		8.00						
4/7											
		9.00	B								
		9.60	SPT=12 3.2 3.2 3.4 T		9.60						

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Small amounts of water were added to assist boring from 1.20m to 8.00m and continuously from 8.00m to 26.00m.
A 50mm diameter perforated standpipe was installed to a depth of 10.00m. The installation was protected with a geotextile wrap.

Diam	To Depth	
	Boring	Casing
250	16.50	16.50
200	26.15	26.00
P	35.00	35.00
120	36.20	
H	39.20	

Driller HM/DB	Originator SD	Ground-water				Water Added		Chise/ing			Flush		
		Struck	Rose To	Time(mins)	Cut Off	From	To	From	To	Time(hr)	Returns	Type	To Depth
		9.60	9.20	15		1.20	8.00	25.90	26.15	2.5	Full	Air	39.20
Chk & App WTG	Status Final												



Fig No:
B4
Sheet 1 of 4
Scale 1:50

File: W:\PR\19379\19379.dwg Printed: 28/06/2006 10:58:17 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com
 Job: BO

RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA

GOVAN, GLASGOW

Client: BAE Systems Marine Limited

Engineer: Capita Symonds

Contract No: 19379

Borehole No:

04

Inspection Pit to 1.20
Cable Percussion to 26.15
Rotary Open Hole to 36.20
Rotary Core Drilling to 39.20

Location:

Orientation: Vertical

Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests		Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	Result							Symbol	Depth
							See previous sheet				
	20.80	B									
	21.30	SPT=37 6.8,7.9,11,10 T		21.10		21.30	Dense brownish grey fine and medium SAND				
	22.50	B									
	22.80	SPT=36 4.7,7.8,10,11 T		22.60							
6/7	23.80	B		24.00					3.00		
	24.20	SPT=33 5.6,7.8,8,10 T		24.20					4.00		
	25.30	B									
7/7	25.80	SPT>50 10,30 B		25.80		26.00			6.00		
8/7	26.00	T		26.00		26.00	# Sandy gravelly CLAY with cobbles and boulders		2.60		
	26.15	RO-S		26.15							
						27.00	# Clayey SAND and GRAVEL				
						29.00	# Sandy gravelly CLAY with cobbles and boulders				

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Small amounts of water were added to assist boring from 1.20m to 8.00m and continuously from 8.00m to 26.00m.
A 50mm diameter perforated standpipe was installed to a depth of 10.00m. The installation was protected with a geotextile wrap.

Diam	To Depth	
	Boring	Casing
250	18.50	18.50
200	29.15	26.00
P	35.00	35.00
120	36.20	
H	39.20	

Driller HM/DB	Originator SD	Ground-water				Water Added		Chasing			Flush		
		Struck	Rose To	Time(mins)	Cut Off	From	To	From	To	Time(hr)	Returns	Type	To Depth
						1.20	8.00	25.90	26.15	2.5	Full	Air	39.20
Chk & App WTG	Status Final												



Fig No:
B4
Sheet 3 of 4
Scale 1:50

File: F:\GINT\PROJECTS\19379.GPJ\GGH Laptop - Printed: 28/08/2006 10:38:19 - Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton, ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA

GOVAN, GLASGOW

Client: BAE Systems Marine Limited

Engineer: Capita Symonds

Contract No: 19379

Borehole No:

04

Inspection Pit to 1.20
Cable Percussion to 26.15
Rotary Open Hole to 36.20
Rotary Core Drilling to 39.20

Location:

Orientation: Vertical

Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests				Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	Result									Symbol	Depth
	28.15												
13/7	36.20	CORE	TCR 100	SCR 97	RQD 92	FI 1	35.00	36.20	Moderately strong and strong bedded pale grey fine to coarse grained SANDSTONE with occasional thin muddy laminations. Weathering evident as slight orange staining. Fractures are medium and widely spaced, subhorizontal planar and smooth				36.20 36.50
14/7							35.00	39.20	END OF BOREHOLE				

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Small amounts of water were added to assist boring from 1.20m to 8.00m and continuously from 8.00m to 26.00m.
A 50mm diameter perforated standpipe was installed to a depth of 10.00m. The installation was protected with a geotextile wrap.

Diam	To Depth	
	Boring	Casing
250	16.50	16.50
200	26.15	26.00
P	35.00	35.00
120	36.20	
H	39.20	

Driller HM/DB	Originator SD	Ground-water				Water Added		Chiseling			Flush		To Depth
		Struck	Rose To	Time(mins)	Cut Off	From	To	From	To	Time(hr)	Returns	Type	
						1.20	8.00	25.90	26.15	2.5	Full	Air	39.20
Chk & App WTG	Status Final												



Fig No:
B4
Sheet 4 of 4
Scale 1:50

Site: BOREHOLE File: P:\GINT\PROJECTS\19379 GP\JGSH Laptop Printout: 28/06/2006 10:38:19 Raeburn Drilling and Geotechnical, Whistlbery Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA

GOVAN, GLASGOW

Client: BAE Systems Marine Limited

Engineer: Capita Symonds

Contract No: 19379

Borehole No:

05

Inspection Pit to 1.20
Cable Percussion to 26.00
Rotary Core Drilling to 29.00

Location:

Orientation: Vertical

Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests		Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	Result							Symbol	Depth
1077 2008	0.15	B				0.15	CONCRETE				
							MADE GROUND (dark brown gravelly fine to coarse sand with cobbles and occasional ash)				0.50
	0.50	B				0.50	Light brown gravelly fine to coarse SAND with cobbles				1.00
	1.20	U (20)		1.20		1.30	Soft greyish brown sandy CLAY				
	1.30	B									
	1.70	T									
	2.00	U (20)		2.00							
	2.50	T									
	3.00	U (18)		3.00							
	3.35	B									
	3.50	T									
1077	4.00	SPT=6 T	1.1/2.1.1.2	3.80		4.00	Loose greyish brown silty gravelly fine and medium SAND with occasional cobbles		DRY DRY		
	4.25	B									
	5.00	SPT=9 T	1.1/2.2.2.3	5.00							
	5.50	B				5.50	Brown slightly silty sandy fine to coarse angular to subrounded GRAVEL with occasional cobbles				
	6.00					6.00	Soft greyish brown sandy CLAY with pockets of sandy silt				
	6.50	U (20)		6.50							
	7.00	T									
	7.25	B									
	8.00	U (20)		8.00							
	8.50	T									
	9.50	U (20)		9.50							

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Small amounts of water were added to assist boring from 1.20m to 5.00m and continuously from 5.00m to 11.00m.
A 50mm diameter perforated standpipe was installed to a depth of 10.00m. The installation was protected with a geotextile wrap.

Diam	To Depth	
	Boring	Casing
250	9.25	9.25
200	18.00	18.00
150	26.00	25.80
H	29.00	

Driller GD/DB	Originator ML	Ground-water				Water Added		Chiseling			Flush			To Depth 29.00
		Struck	Rose To	Time(mins)	Cut Off	From	To	From	To	Time(hr)	Returns	Type		
		3.80				1.20	5.00	24.20	24.50	0.5	Full	Air		
		5.00	4.20	20		5.00	11.00	25.70	26.00	1				
Chk & App WTG	Status Final													



Fig No:
B5
Sheet 1 of 3
Scale 1:50

Site: BOREHOLE File: P:\GINT\PROJECTS\19379.GPJ\GGH Laptop Printed: 28/08/2006 10:38:22 Raeburn Drilling and Geotechnical, Whistler Rd, Hamilton ML3 OHP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA

GOVAN, GLASGOW

Client: BAE Systems Marine Limited

Engineer: Capita Symonds

Contract No: 19379

Borehole No: 05

Inspection Pit to 1.20
Cable Percussion to 26.00
Rotary Core Drilling to 29.00

Location: Orientation: Vertical Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests		Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	Result							Symbol	Depth
	10.00	T				10.25	See previous sheet				
	10.25	B					Grey silty fine and medium SAND				
11/7	11.00	UP		11.00					6.35 5.05		11.00
	12.50	UP		12.50							
	13.25	B				13.25	Medium dense brown silty fine and medium SAND				
	14.00	T	SPT=18 3.4/4.5, 4.5	14.00							
	14.75	B									
	15.00	T	SPT=20 4.5/4.5, 5.6	15.00							
	16.50	T	SPT=20 5.4/5.5, 4.6	16.50							
	17.25	B									
12/7	18.00	T	SPT=21 3.4/4.5, 6.6	18.00 18.00					8.25 5.15		
	19.50	T	SPT=21 4.5/4.5, 6.6	19.50							

Remarks:

Description based on Drier's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Small amounts of water were added to assist boring from 1.20m to 5.00m and continuously from 5.00m to 11.00m.
A 50mm diameter perforated standpipe was installed to a depth of 10.00m. The installation was protected with a geotextile wrap.

Diam	To Depth	
	Boring	Casing
250	9.25	9.25
200	18.00	18.00
150	26.00	25.80
H	29.00	

Drier	Originator	Ground-water				Water Added		Chiseling			Flush		To Depth
		Struck	Rose To	Time (mins)	Cut Off	From	To	From	To	Time (hr)	Returns	Type	
GD/DB	ML					1.20	5.00	24.20	24.50	0.5	Full	Air	29.00
Chk & App	Status					5.00	11.00	25.70	26.00	1			
WTG	Final												



Fig No: B5
Sheet 2 of 3
Scale 1:50

Style: BOREHOLE File: P:\GINT\PROJECTS\19379.GPJGCH Laptop Printed: 28/06/2006 10:36:22 Raeburn Drilling and Geotechnical, Whistlers Rd, Hamilton ML3 0HP Tel: 01696-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA

GOVAN, GLASGOW

Client: BAE Systems Marine Limited

Engineer: Capita Symonds

Contract No: 19379

Borehole No:

05

Inspection Pit to 1.20
Cable Percussion to 28.00
Rotary Core Drilling to 29.00

Location:

Orientation: Vertical

Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests				Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	Result									Symbol	Depth
	20.25	B						See previous sheet					
	21.00	SPT=22	5.6	5.5	5.6	21.00							
	22.50	SPT=24	4.6	5.6	6.7	22.50							
	24.00	U (180 a)				24.00	24.00	Very dense grey very clayey gravelly fine to coarse SAND with occasional cobbles and boulders					
	24.50	SPT>50	8.12	14.16	16.18	24.50							
	25.25	B											
13/7	25.80	SPT>50				25.70	25.70	MUDSTONE		7.65			
14/7	26.00	CORE	88	40	12	25.80	26.00	Weak to moderately strong laminated dark grey MUDSTONE. Weathering evident as a reduction in strength. Fractures are extremely closely and very closely spaced, subhorizontal and subvertical planar and smooth		5.10		26.00	
												26.30	
19/7						28.00	29.00	END OF BOREHOLE					

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Small amounts of water were added to assist boring from 1.20m to 5.00m and continuously from 5.00m to 11.00m.
A 50mm diameter perforated standpipe was installed to a depth of 10.00m. The installation was protected with a geotextile wrap.

Diam	To Depth	
	Boring	Casing
250	9.25	9.25
200	18.00	18.00
150	26.00	25.80
H	29.00	

Driller GD/DB	Originator ML	Ground-water				Water Added		Chiseling			Flush		
		Struck	Rose To	Time(mins)	Cut Off	From	To	From	To	Time(hr)	Returns	Type	To Depth
						1.20	5.00	24.20	24.50	0.5	Full	Air	29.00
Chk & App WTG	Status Final					5.00	11.00	25.70	26.00	1			



Fig No:
B5
Sheet 3 of 3
Scale 1:50

File: \\mnp\mnp\19379_Crosson Laptop\Printed: 28/06/2006 10:38:25 Raeburn Drilling and Geotechnical, Whistlersberry Rd, Hamilton ML3 0HP Tel: 01856-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA

GOVAN, GLASGOW

Client: BAE Systems Marine Limited

Engineer: Capita Symonds

Contract No: 19379

Borehole No:

06

Inspection Pit to 1.20
 Cable Percussion to 28.40
 Rotary Open Hole to 33.00
 Rotary Core Drilling to 36.00

Location:

Orientation: Vertical

Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests		Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	Result							Symbol	Depth
8/7 2006						0.15	TARMAC				
							# MADE GROUND (grey broken stone)				0.50
						1.05					1.00
	1.05	B				1.20	Brown very clayey gravelly SAND (possibly made ground)				
	1.20	U (8)					Grey CLAY with pockets of silt				
						1.50	Soft mottled grey and brown sandy CLAY: locally passes to sandy SILT				
	1.70	B, T				below 2.20m: brown				
	2.00	U (15)		1.80							
	2.50	B, T									
	3.00	SPT=8 2333.1.1 T		3.50							
8/7	3.45	B		3.50		below 3.45m: greyish brown				
	3.60	T									
	4.50	U (12)		4.50							
	5.00	B, T									
	5.50	U (16)		5.50		5.50	Soft greyish brown CLAY with pockets of silt				
	6.00	T, W									
	6.50	B									
	7.00	U (18)		6.50							
	7.50	T									
	8.00	B									
	8.30	B									
	8.50	U (20)		8.50							
	9.00	T									
	9.50	B									

Remarks:

Description based on Driller's log.
 An inspection pit was excavated by hand to a depth of 1.20m to clear services.
 Water was continuously added to assist boring at the depths indicated.
 A 50mm diameter perforated standpipe was installed to a depth of 10.00m. The installation was protected with a geotextile wrap.

Diam	To Depth	
	Boring	Casing
250	9.00	9.00
200	20.50	20.50
150	28.40	28.00
P	30.00	30.00
120	33.00	
H	36.00	

Dnr	Originator	Ground-water				Water Added		Chiseling			Flush		
		Struck	Rose To	Time (mins)	Cut Off	From	To	From	To	Time (hr)	Returns	Type	To Depth
MK/DB	ML					11.50	27.50	25.00	26.30	2	Full	Alr	36.00
Chk & App	Status							28.40	28.40	1			
WTG	Final												



Fig No:
 B6
 Sheet 1 of 4
 Scale 1:50

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RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA

GOVAN, GLASGOW

Client: BAE Systems Marine Limited

Engineer: Capita Symonds

Contract No: 19379

Borehole No:

06

Inspection Pit to 1.20
Cable Percussion to 28.40
Rotary Open Hole to 33.00
Rotary Core Drilling to 36.00

Location:

Orientation: Vertical

Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests		Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	Result							Symbol	Depth
	10.00	U	(16)	10.00			See previous sheet				
	10.50	T					Grey sandy SILT				11.00
97	11.50	U B	(16 a)	11.50			Grey sandy CLAY		▼ DRY 6.00		
	12.00	UP		12.00							
117	14.00	UP		14.00					6.00 6.00		
	16.50	T	SPT=23 5.6.6.6.6	16.50			Medium dense grey SILT				
	17.50	B									
	18.00	T	SPT=23 4.4.6.6.6	18.00							
	19.00	B									
	19.50	T	SPT=20 4.4.4.6.6	19.50			Medium dense greyish brown fine and medium SAND				

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Water was continuously added to assist boring at the depths indicated.
A 50mm diameter perforated standpipe was installed to a depth of 10.00m. The installation was protected with a geotextile wrap.

Diam	To Depth	
	Boring	Casing
250	9.00	9.00
200	20.50	20.50
150	28.40	28.00
P	30.00	30.00
120	33.00	
H	36.00	

Driller MK/DB	Originator ML	Ground-water			Water Added		Chiseling			Flush		Fig No:	
		Struck	Rose To	Time(mins)	Cut Off	From	To	From	To	Time(hr)	Returns		Type
		11.50	6.00		ON	11.50	27.50	25.00	28.30	2	Fu	Air	36.00
					GHT			28.40	28.40	1			



Fig No:
B6
Sheet 2 of 4
Scale 1:50

File: J19379 L... Laplo... 28/10/2010 10:38:26... Geotechnical... Whistledyke... Hamilton... OHP... Tel: 01698-711177... E-mail: enquiries@raeburndrilling.com

RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA

GOVAN, GLASGOW

Client: BAE Systems Marine Limited

Engineer: Capita Symonds

Contract No: 19379

Borehole No: 06

Inspection Pit to 1.20
Cable Percussion to 28.40
Rotary Open Hole to 33.00
Rotary Core Drilling to 36.00

Location:

Orientation: Vertical

Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests				Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	Result	TCR	SCR							RQD	FI
	28.40								See previous sheet				
	31.60	RO-R				30.00			# Dark grey MUDSTONE				
	33.00	CORE		TCR: 83 SCR: 33 RQD: 0 FI: >20		30.00			Weak to moderately strong laminated grey MUDSTONE with shell fragments throughout stratum. Weathering evident as a reduction in strength. Fractures are extremely closely to medium spaced, subhorizontal and subvertical planar and smooth				33.00 33.30
	34.50	CORE		TCR: 71 SCR: 29 RQD: 14 FI: 18		30.00							
	35.20	CORE		TCR: 81 SCR: 19 RQD: 19 FI: 16		30.00							
207						30.00		36.00	END OF BOREHOLE				

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Water was continuously added to assist boring at the depths indicated.
A 50mm diameter perforated standpipe was installed to a depth of 10.00m. The installation was protected with a geotextile wrap.

Diam	To Depth	
	Boring	Casing
250	9.00	9.00
200	20.50	20.50
150	28.40	28.00
P	30.00	30.00
120	33.00	
H	36.00	

Driller	Originator	Ground-water				Water Added		Ch'seling			Flush		To Depth
		Struck	Rose To	Time(mins)	Cut Off	From	To	From	To	Time(hr)	Returns	Type	
MK/DB	ML					11.50	27.50	25.00	28.30	2	Full	Air	36.00
Chk & App	Status							28.40	28.40	1			
WTG	Final												



Fig No:
B6
Sheet 4 of 4
Scale 1:50

Style: BOREHOLE File: P:\GINTW\PROJECTS\19379.GPJGGH Laptop Printed: 28/08/2006 10:38:28 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA

GOVAN, GLASGOW

Client: BAE Systems Marine Limited

Engineer: Capita Symonds

Contract No: 19379

Borehole No:

07

Inspection Pit to 1.20
Cable Percussion to 35.80
Rotary Open Hole to 40.00
Rotary Core Drilling to 43.00

Location: Orientation: Vertical Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests		Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill		
		Type	Result							Symbol	Depth	
37 2006	0.15	B				0.15	TARMAC					
	0.60	B					MADE GROUND (brown slightly silty gravelly fine to coarse sand with cobbles and occasional fragments of tarmac)				0.50	
	0.90	B				0.90	MADE GROUND (grey and brown sandy gravelly clay with cobbles and occasional pieces of timber)					
	1.20	U (21)										
	37	1.70	T		1.50		1.55	MADE GROUND (soft and firm mottled brown and grey sandy gravelly clay with occasional cobbles and pieces of timber)		DRY		
		2.00	SPT=8	1.12.1.2.3	2.00							
		2.25	B									
		3.00	SPT=6	1.0.1.2.1.2	3.00		3.00	Loose brown silty gravelly fine to coarse SAND				
		3.25	B				3.25	Soft brown CLAY with pockets of slightly clayey gravelly sand				
		4.00	SPT=6	1.1.1.2.1.2	4.00		4.00	Loose brown SILT with pockets of slightly sandy clay				
		4.25	B									
		5.00	SPT=6	1.1.1.2.1.2	5.00							
6.00		T										
6.50		SPT=10	1.2.2.2.3.3	6.50								
47	7.25	B				7.25	Medium dense grey sandy SILT with pockets of slightly sandy clay					
	8.00	SPT=11	1.2.2.3.3.3	8.00								
	9.50	SPT=11	2.1.2.2.3.4	9.50								

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Small amounts of water were added to assist boring from 1.50m to 4.00m and continuously from 10.00m to 18.50m.

Diam	To Depth	
	Boring	Casing
250	9.25	9.25
200	18.50	18.50
150	35.80	35.80
120	40.00	
H	43.00	

Driller GD/DB	Originator ML	Ground-water			Water Added		Chiselling			Flush			
		Struck 4.00	Rose To	Time(mins)	Cut Off	From	To	From	To	Time(hr)	Returns	Type	To Depth
Chk & App WTG	Status Final					1.50	4.00	22.00	23.50	3	Full	Air	43.00
						10.00	20.50	26.40	26.75	0.75			
								27.20	27.50	0.5			
								27.90	28.35	1			
								30.00	30.50	1			
						30.80	31.10	0.75					
						32.30	32.60	0.5					



Fig No:
B7
Sheet 1 of 5
Scale 1:50

Style: BOREHOLE File: P:\GINT\PROJECTS\19379.GPJSGH Laptop Printed: 28/08/2006 10:39:31 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA

GOVAN, GLASGOW

Client: BAE Systems Marine Limited

Engineer: Capita Symonds

Contract No: 19379

Borehole No:

07

Inspection Pit to 1.20
Cable Percussion to 35.80
Rotary Open Hole to 40.00
Rotary Core Drilling to 43.00

Location:

Orientation: Vertical

Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests		Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	Result							Symbol	Depth
				10.00			See previous sheet	x x x x	DRY		
	10.25	B						x x x x			
	11.00		SPT=19 2,4,4,5,6	11.00				x x x x			
	12.00		SPT=24 4,6,6,8	12.50		12.00	Medium dense brown silty fine and medium SAND	x x x x			
	12.50	T						x x x x			
	13.25	B						x x x x			
	14.00		SPT=23 3,4,4,6,7	14.00				x x x x			
	15.50		SPT=24 4,6,6,6,7	15.50				x x x x			
	16.25	B						x x x x			
	17.00		SPT=27 4,6,9,7,7,7	17.00				x x x x			
	18.50		SPT=29 3,6,9,7,8,8	18.50				x x x x			
	19.25	B						x x x x			

9.30
11.75

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Small amounts of water were added to assist boring from 1.50m to 4.00m and continuously from 10.00m to 18.50m.

Diam	To Depth	
	Boring	Casing
250	9.25	9.25
200	18.50	18.50
150	35.80	35.80
120	40.00	
H	43.00	

Site: BOREHOLE File: P:\GINT\PROJECTS\19379.GPJGGH Leptop Printed: 28/08/2008 10:38:32 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

Driller GD/DB	Originator ML	Ground-water				Water Added		Chiselling			Flush			To Depth
		Struck	Rose To	Time(mins)	Cut Off	From	To	From	To	Time(hr)	Returns	Type		
						1.50	4.00	22.00	23.50	3			43.00	
						10.00	20.50	26.40	26.75	0.75	Full	Air		
								27.20	27.50	0.5				
								27.90	28.35	1				
								30.00	30.50	1				
								30.80	31.10	0.75				
								32.30	32.60	0.5				



Fig No:
B7
Sheet 2 of 5
Scale 1:50

RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA

GOVAN, GLASGOW

Client: BAE Systems Marine Limited

Engineer: Capita Symonds

Contract No: 19379

Borehole No: 07

Inspection Pit to 1.20
Cable Percussion to 35.80
Rotary Open Hole to 40.00
Rotary Core Drilling to 43.00

Location:

Orientation: Vertical

Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests		Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	Result							Symbol	Depth
	20.00	SPT=34	4.6 3.8 8.8 10	20.00			See previous sheet				
	21.00	B				20.50	Grey sandy CLAY with occasional cobbles and boulders				
	21.50	SPT=40	14.9 9.9 10.12	21.50		21.50	Dense becoming very dense grey silty very sandy fine to coarse angular to subrounded GRAVEL with cobbles and boulders				
	23.00	CPT>50	8.14/19.14.16.18	23.00							
	23.50	B		23.50					15.80	5.00	
6/7	24.50	CPT>50	14.19/22.27.35.50	24.50							
	25.00	U (a)		25.00							
	26.00	CPT>50	16.21/29.36.50 (22)	26.00							
	26.50	B									
	27.50	CPT>50	27.30/38.48.50 (21)	27.50							
	28.50	B		28.50					7.65	5.00	
7/7	29.00	CPT>50	29.38	29.00							
		B									

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Small amounts of water were added to assist boring from 1.50m to 4.00m and continuously from 10.00m to 18.50m.

Diam	To Depth	
	Boring	Casing
250	9.25	9.25
200	18.50	18.50
150	35.80	35.80
120	40.00	
H	43.00	

Driller GD/DB	Originator ML	Ground-water			Water Added		Chiselling			Flush			
		Struck	Rose To	Time(mins)	Cut Off	From	To	From	To	Time(hr)	Returns	Type	To Depth
Chk & App WTG	Status Final					1.50	4.00	22.00	23.50	3	Full	Air	43.00
						10.00	20.50	26.40	26.75	0.75			
								27.20	27.50	0.5			
								27.90	28.35	1			
								30.00	30.50	1			
								30.80	31.10	0.75			
						32.20	32.50	0.5					



Fig No:
B7
Sheet 3 of 5
Scale 1:50

Style: BOREHOLE File: P:\AGINT\WPROJETS\19379.GPJGGH Laptop Printed: 28/08/2006 10:38:33 Raeburn Drilling and Geotechnical, Whistler Rd, Hamilton ML3 OHP Tel: 01608-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN

DRILLING AND GEOTECHNICAL LTD

Site: SBOH LAY DOWN AREA

GOVAN, GLASGOW

Client: BAE Systems Marine Limited

Engineer: Capita Symonds

Contract No: 19379

Borehole No: 07

Inspection Pit to 1.20
Cable Percussion to 35.80
Rotary Open Hole to 40.00
Rotary Core Drilling to 43.00

Location:

Orientation: Vertical

Equipment: Dando 2000; Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests					Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill	
		Type	100	88	73	5							Symbol	Depth
	40.00	CORE					35.80							
								5						
								5						
								3						
18/7							35.80		43.00					
END OF BOREHOLE														

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Small amounts of water were added to assist boring from 1.50m to 4.00m and continuously from 10.00m to 18.50m.

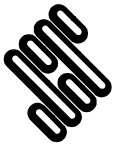
Diam	To Depth	
	Boring	Casing
250	9.25	9.25
200	18.50	18.50
150	35.80	35.80
120	40.00	
H	43.00	

Driller GD/DB	Originator ML	Ground-water				Water Added			Chiselling			Flush		
		Struck	Rose To	Time(mins)	Cut Off	From	To	From	To	Time(hr)	Returns	Type	To Depth	
						1.50	4.00	22.00	23.50	3	Fu	Air	43.00	
						10.00	20.50	26.40	26.75	0.75				
								27.20	27.50	0.5				
								27.90	28.35	1				
								30.00	30.50	1				
								30.80	31.10	0.75				
								32.32	32.60	0.5				

RAEBURN

Fig No:
B7
Sheet 5 of 5
Scale 1:50

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DETAILED BOREHOLE LOG

Contract: Govan Facilities Investment Feasibility		Client: Arch Henderson LLP		Borehole: BH A	
Contract Ref: 541812		Start: 09.07.21	Ground Level (m AOD): 5.84	National Grid Co-ordinate: E:254700.9 N:666018.7	Sheet: 1 of 11
End: 29.07.21					

Depth (m)	Samples & Testing			Mechanical Log				Water	Description of Strata	Reduced Level	Depth (m)	Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
0.00-0.08	1	B							MADE GROUND: Strong black ASPHALT with 90 to 95% aggregate content. Aggregate is subangular fine to medium of basalt.	5.76	0.08	
0.08-0.15	2	B							MADE GROUND: Greyish brown very sandy slightly clayey angular to subrounded fine to coarse GRAVEL of mixed lithologies including dolerite, sandstone and occasional red brick. Sand is fine to coarse.	5.49	0.35	
0.10-0.15	101	ES	1xT+2xJ+2xV									
0.10-0.15	3	D										
0.35-0.40	102	ES	1xT+2xJ+2xV						MADE GROUND: Dark grey very sandy slightly clayey angular to subangular fine to coarse GRAVEL of mixed lithologies including red brick and concrete with medium cobble content. Sand is fine to coarse. Cobbles are subangular of concrete. Contains irregular fragmented layers of concrete. ... 0.35-0.60m: In northeast corner of pit more intact concrete layer.	5.29	0.55	
0.35-0.55	4	B										
0.40-0.45	5	D										
0.60-0.90	6	B							MADE GROUND: Orangish brown gravelly very clayey fine to coarse SAND. Gravel is subangular to subrounded fine to medium of mixed lithologies including red brick, coal and occasional blaes.	4.84	1.00	
0.70-0.80	103	ES	1xT+2xJ+2xV									
0.80-0.90	7	D										
1.00-1.10	104	ES	1xT+2xJ+2xV						MADE GROUND: Orangish brown slightly gravelly silty fine to coarse predominantly fine to medium SAND. Gravel is subangular to subrounded fine to coarse of mixed lithologies including red brick.	4.64	1.20	
1.00-1.20	8	B										
1.10-1.20	9	D										
1.20-1.65	10	SPT	N=14						MADE GROUND: (Medium dense) brown slightly gravelly slightly silty fine to coarse predominantly coarse SAND. Gravel is angular to subrounded fine to coarse of mixed lithologies including red brick.	3.19	2.65	
1.20-1.65	10.1	DSPT										
1.20-1.65	11	D										
1.65-2.20	12	B							Medium dense brown silty fine to medium SAND. Rare subangular to subrounded fine to medium gravel of mixed lithologies including sandstone and coal. (BRIDGETON SAND MEMBER)	(1.45)		
1.65-2.20	12.1	D										
2.00	105	ES	1xT+2xJ+2xV									
2.20-2.65	13	SPT	N=20									
2.20-2.65	13.1	DSPT										
2.65-3.20	14	B										
2.65-3.20	14.1	D										
3.20-3.65	15	SPT	N=16									
3.20-3.65	15.1	DSPT										
3.50	106	ES	1xT+2xJ+2xV									
3.65-4.80	16	B										
3.65-4.80	16.1	D										

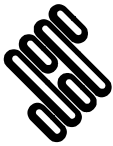
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Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)	From	To	Duration (hh:mm)	
09/07/21	16:30	7.50	7.50	200	5.30	26.80	27.40	00:15	
12/07/21	08:00	7.50	7.50	200	5.20	27.80	28.30	02:00	
12/07/21	16:40	11.60	11.60	200	5.80	28.50	28.60	01:00	
13/07/21	08:35	11.60	11.60	200	4.74	28.60	28.70	01:30	
13/07/21	16:31	17.20	17.30	200	5.97	28.70	28.90	01:45	
14/07/21	08:56	14.60	17.20	200	5.79	28.90	29.50	03:00	
14/07/21	16:47	24.50	24.50	200	5.30	29.50	30.10	02:15	
15/07/21	08:20	24.50	24.50	200	5.73	30.10	30.30	04:00	

1. Position checked with Ground Penetrating Radar, CAT and Genny prior to excavation.
 2. Asphalt broken out from GL to 0.08 m depth using a saw and hydraulic breaker.
 3. Inspection pit hand dug to 1.20 m depth. Dimensions 1.00 m x 1.00 m.
 4. Borehole drilled using cable percussive techniques to 30.30 m depth.
 5. Sands 'blowing' up casing during drilling and overnight.

All dimensions in metres Scale: **1:25**

Method Used: Inspection pit + Cable Percussion + Rotary Cored	Plant Used: Dando 2000 Mark 2 + Comacchio MC405	Drilled By: Willie Whitelaw + Alex Fraser	Logged By: LBlair	Checked By: JS	
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DETAILED BOREHOLE LOG

Contract: Govan Facilities Investment Feasibility		Client: Arch Henderson LLP		Borehole: BH A
Contract Ref: 541812	Start: 09.07.21 End: 29.07.21	Ground Level (m AOD): 5.84	National Grid Co-ordinate: E:254700.9 N:666018.7	Sheet: 2 of 11

Depth (m)	Samples & Testing			Mechanical Log				Water	Description of Strata	Reduced Level	Depth (m) (Thickness)	Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
4.50-4.95 4.50-4.95 4.60-5.20 4.60-5.20	17 17.1 18 18.1	SPT DSPT B D	N=16						Medium dense brown silty fine to medium SAND. Rare subangular to subrounded fine to medium gravel of mixed lithologies including sandstone and coal. (BRIDGETON SAND MEMBER) (stratum copied from 2.65m from previous sheet)			
5.40-5.85 5.40-5.85	19 19.1	SPT DSPT	N=10									
5.80-6.30 5.80-6.30	20 20.1	B D										
6.80-7.25 6.80-7.25	21 21.1	SPT DSPT	N=29									
7.30-7.50	22	B										
7.50-7.50 7.50-7.95	22.1 23	D SPT	N=17									
8.10-8.20	24	B										
8.40-8.80	24	D										

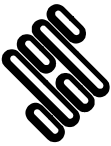
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Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)	From	To	Duration (hh:mm)	
15/07/21	16:32	28.50	28.40	200	6.47				
16/07/21	08:36	28.50	28.40	200	5.15				
16/07/21	16:34	28.90	28.80	200	6.73				
19/07/21	09:17	28.90	28.80	200	5.73				
19/07/21	16:24	29.50	29.50	150	4.43				
20/07/21	08:31	29.50	29.50	150	4.53				
20/07/21	18:47	30.30	30.30	150	-				
21/07/21	08:12	30.30	30.30	150	5.47				

Water added to suppress sands.
 6. Borehole extended from 30.30 m to 36.50 m depth by rotary coring techniques using a GEOBOR S core barrel and water flush.
 7. 19mm diameter standpipe piezometer initially installed at 34.00m depth, but rig unable to pull 150mm diameter casing, so installation not completed. Casing eventually removed on 9/11/21, but piezometer pipe damaged and installation lost. 50mm diameter

All dimensions in metres Scale: **1:25**

Method Used: Inspection pit + Cable Percussion + Rotary Cored	Plant Used: Dando 2000 Mark 2 + Comacchio MC405	Drilled By: Willie Whitelaw + Alex Fraser	Logged By: LBlair	Checked By: JS	
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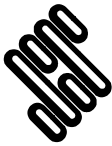
DETAILED BOREHOLE LOG

Contract: Govan Facilities Investment Feasibility		Client: Arch Henderson LLP		Borehole: BH A
Contract Ref: 541812	Start: 09.07.21 End: 29.07.21	Ground Level (m AOD): 5.84	National Grid Co-ordinate: E:254700.9 N:666018.7	Sheet: 3 of 11

Depth (m)	Samples & Testing			Mechanical Log				Water	Description of Strata	Reduced Level	Depth (m)	Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
9.00-9.45	25	SPT	N=9						Loose brown slightly gravelly silty fine to coarse SAND. Gravel is subangular to subrounded fine to coarse predominantly fine to medium of mixed lithologies including sandstone and coal. (BRIDGETON SAND MEMBER)	-3.16	9.00	
9.70-10.20	26	D									(1.50)	
9.70-10.20	26	B										
10.00-11.60	28	D										
10.50-10.95	27	SPT	N=11						Medium dense brown slightly silty fine to medium SAND. Rare subangular to subrounded fine to coarse predominantly fine to medium gravel of mixed lithologies including sandstone and coal. (BRIDGETON SAND MEMBER)	-4.66	10.50	
11.00-11.60	28	B										
12.00-12.45	29	SPT	N=18									
12.00-12.45	30	DSPT										
12.00-12.50	31	B										
13.00-13.50	32	B										

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Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)	From	To	Duration (hh:mm)					
									standpipe (complete with flush cover) installed to 9.00m depth. Response zone 3.00-9.00m depth. 8. Pit reinstated with asphalt by Luddon Construction Ltd. 9. SPT hammer AR287-2021 (E _s = 73.00%) used.				
All dimensions in metres								Scale:	1:25				
Method Used:	Inspection pit + Cable Percussion + Rotary Cored		Plant Used:	Dando 2000 Mark 2 + Comacchio MC405		Drilled By:	Willie Whitelaw + Alex Fraser		Logged By:	LBlair	Checked By:	JS	



DETAILED BOREHOLE LOG

Contract: Govan Facilities Investment Feasibility		Client: Arch Henderson LLP		Borehole: BH A
Contract Ref: 541812	Start: 09.07.21 End: 29.07.21	Ground Level (m AOD): 5.84	National Grid Co-ordinate: E:254700.9 N:666018.7	Sheet: 4 of 11

Depth (m)	Samples & Testing			Mechanical Log				Water	Description of Strata	Reduced Level	Depth (m) (Thickness)	Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
13.50-13.95	33	SPT	N=16						Medium dense brown slightly silty fine to medium SAND. Rare subangular to subrounded fine to coarse predominantly fine to medium gravel of mixed lithologies including sandstone and coal. (BRIDGETON SAND MEMBER) <i>(stratum copied from 10.50m from previous sheet)</i>			
13.50-13.95	34	DSPT										
14.00-14.50	35	B										
15.00-15.45	36	SPT	N=15									
15.00-15.45	37	DSPT										
15.00-15.50	38	B										
16.00-16.50	39	B										
16.50-16.95	40	SPT	N=19									
16.50-16.95	41	DSPT										
17.00-17.50	42	B										

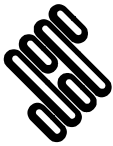
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Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)	From	To	Duration (hh:mm)		

All dimensions in metres Scale: **1:25**

Method Used: **Inspection pit + Cable Percussion + Rotary Cored** | Plant Used: **Dando 2000 Mark 2 + Comacchio MC405** | Drilled By: **Willie Whitelaw + Alex Fraser** | Logged By: **LBlair** | Checked By: **JS**





DETAILED BOREHOLE LOG

Contract: Govan Facilities Investment Feasibility		Client: Arch Henderson LLP		Borehole: BH A
Contract Ref: 541812	Start: 09.07.21 End: 29.07.21	Ground Level (m AOD): 5.84	National Grid Co-ordinate: E:254700.9 N:666018.7	Sheet: 5 of 11

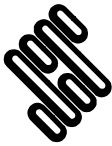
Depth (m)	Samples & Testing			Mechanical Log				Water	Description of Strata	Reduced Level	Depth (m) (Thickness)	Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
18.00-18.45 18.00-18.45 18.00-18.50	43 44 45	SPT DSPT B	N=18						Medium dense brown slightly silty fine to medium SAND. Rare subangular to subrounded fine to coarse predominantly fine to medium gravel of mixed lithologies including sandstone and coal. (BRIDGETON SAND MEMBER) (stratum copied from 10.50m from previous sheet)			
19.00-19.50	46	B										
19.50-19.95 19.50-20.00	47 48	SPT D	N=16									
20.00-20.50	49	B										
21.00-21.45 21.00-21.45 21.00-21.50	50 51 52	SPT DSPT B	N=18									
22.00-22.50	53	B										

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Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)	From	To	Duration (hh:mm)		

All dimensions in metres Scale: **1:25**

Method Used: **Inspection pit + Cable Percussion + Rotary Cored** Plant Used: **Dando 2000 Mark 2 + Comacchio MC405** Drilled By: **Willie Whitelaw + Alex Fraser** Logged By: **LBlair** Checked By: **JS**



DETAILED BOREHOLE LOG

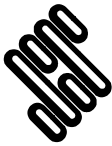
Contract: Govan Facilities Investment Feasibility		Client: Arch Henderson LLP		Borehole: BH A
Contract Ref: 541812	Start: 09.07.21 End: 29.07.21	Ground Level (m AOD): 5.84	National Grid Co-ordinate: E:254700.9 N:666018.7	Sheet: 6 of 11

Depth (m)	Samples & Testing			Mechanical Log				Water	Description of Strata	Reduced Level (m)	Depth (m) (Thickness)	Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
22.50-22.95	54	SPT	N=41						Medium dense to dense brown slightly gravelly silty fine to coarse SAND. Gravel is subangular to subrounded fine to coarse predominantly fine to medium of mixed lithologies predominantly coal. (BRIDGETON SAND MEMBER)	-16.67	22.51	
22.50-22.95	55	DSPT										
23.00-23.50	56	B										
24.00-24.50	57	B										
24.50-24.95	58	SPT	N=26									
24.50-24.95	59	DSPT									(4.30)	
25.00-25.50	60	B										
26.00-26.50	61	B										
26.00-26.10	62	D										
26.00-26.00	63	SPT	NP									
26.80-27.40	64	D							Description on next sheet	-20.96	26.80	

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Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)	From	To	Duration (hh:mm)		
All dimensions in metres Scale: 1:25										
Method Used: Inspection pit + Cable Percussion + Rotary Cored		Plant Used: Dando 2000 Mark 2 + Comacchio MC405		Drilled By: Willie Whitelaw + Alex Fraser		Logged By: LBlair		Checked By: JS		





DETAILED BOREHOLE LOG

Contract: Govan Facilities Investment Feasibility		Client: Arch Henderson LLP		Borehole: BH A	
Contract Ref: 541812	Start: 09.07.21 End: 29.07.21	Ground Level (m AOD): 5.84	National Grid Co-ordinate: E:254700.9 N:666018.7	Sheet: 7 of 11	

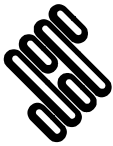
Depth (m)	Samples & Testing			Mechanical Log				Water	Description of Strata	Reduced Level (m)	Depth (m) (Thickness)	Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
27.40-27.80	65	B	21,4/39,11 for 75mm						Very dense greyish brown sandy slightly clayey subangular to subrounded fine to coarse GRAVEL of mixed lithologies including mudstone with medium cobble content. Occasional pockets of clay. Sand is fine to coarse. Cobbles are subangular of mixed lithologies including mudstone. (Driller notes clay is possibly being washed away whilst drilling). (WILDERNESS TILL FORMATION) (stratum copied from 26.80m from previous sheet)	-23.16	(2.20)	
27.50-27.75	66	SPT										
27.70-28.40	67	B										
28.60-28.91	68	SPT	13,12/20,20,10 for 35mm						Very dense greyish brown slightly sandy slightly clayey angular to rounded GRAVEL of mixed lithologies including mudstone with high cobble content. Occasional pockets of clay. Sand is fine to coarse. Cobbles are subangular to rounded of mixed lithologies including mudstone. (Driller notes grey very dense stiff claybound gravel with cobbles and boulder clay. Clay possibly washing away. Driller notes boulders). (WILDERNESS TILL FORMATION)	-23.16	29.00	
28.60-28.91	69	DSPT										
28.80	70	D										
28.80-29.00	71	B										
29.00-29.50	72	B							Stiff to very stiff dark grey slightly sandy very gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of mixed lithologies including siltstone and mudstone. (WILDERNESS TILL FORMATION) Probable SANDSTONE recovered as angular gravel. (LIMESTONE COAL FORMATION) ... 30.30-30.50m: AZCL	-24.26	30.00,00	
30.00-30.07	73	SPT	6,19/50 for 30mm									
30.00-30.13	74	DSPT										
30.00-30.10	75	B										
30.10-30.30	76	B										
30.30-30.50			25/50 for 3mm									
30.30-30.31	77	SPT										
30.50-32.00	79	C						Weak to medium strong distinctly weathered thinly laminated light to dark grey fine to coarse SANDSTONE. Fractures are subhorizontal (2-10°) very closely to closely spaced undulating rough with occasional sandy clay infill and brownish grey discoloration. (LIMESTONE COAL FORMATION) ... 30.75-30.80m: Non-intact. ... 30.90m: 5° hairline fracture. ... 30.92m: 2° hairline fracture.	-24.66	30.50	(0.40)	
30.50-30.68												
30.68-30.74	80	C						Medium strong to strong partially weathered to unweathered thinly to thickly laminated light to dark grey fine to coarse SANDSTONE. Fractures are subhorizontal (1-6°) closely to medium spaced undulating rough to planar rough occasional grey sandy infill. (LIMESTONE COAL FORMATION) ... 31.10m: 1° hairline fracture.	-25.26	31.10	(0.60)	
31.16-31.55	81	C										

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Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)	From	To	Duration (hh:mm)	

All dimensions in metres Scale: **1:25**

Method Used: Inspection pit + Cable Percussion + Rotary Cored Plant Used: Dando 2000 Mark 2 + Comacchio MC405 Drilled By: Willie Whitelaw + Alex Fraser Logged By: LBlair Checked By: JS



DETAILED BOREHOLE LOG

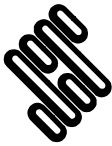
Contract: Govan Facilities Investment Feasibility		Client: Arch Henderson LLP		Borehole: BH A	
Contract Ref: 541812	Start: 09.07.21 End: 29.07.21	Ground Level (m AOD): 5.84	National Grid Co-ordinate: E:254700.9 N:666018.7	Sheet: 8 of 11	

Depth (m)	Samples & Testing			Mechanical Log				Water	Description of Strata	Reduced Level	Depth (m)	Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
32.00-33.50 32.10-32.36	82	C		97	86	66		10 163 380	Medium strong to strong partially weathered to unweathered thinly to thickly laminated light to dark grey fine to coarse SANDSTONE. Fractures are subhorizontal (1-6°) closely to medium spaced undulating rough to planar rough occasional grey sandy infill. (LIMESTONE COAL FORMATION) ... 31.10m: 1° hairline fracture. (stratum copied from 31.10m from previous sheet) ... 31.94m: Fracture 5° undulating rough no staining or infill possible drilling induced fracture. ... 32.35m: Fracture 4° planar rough no staining or infill possible drilling induced fracture. ... 36.34-33.50m: Rare laminations of mudstone and siltstone. ... 32.70-32.77m: Fractures subhorizontal (2-5°) very closely spaced undulating rough no infill orangish brown staining. ... 32.92m: Fracture 85° undulating rough no staining partial brown sandy infill (2mm). ... 33.37m: Fracture 2° planar rough no staining or infill possible drilling induced fracture. ... 33.50-33.70m: AZCL.	-27.86	33.70	(2.60)
33.28-33.41 33.50-35.00	83	C		97	97	81			Medium strong to strong locally weak partially weathered thinly laminated light to dark grey fine to coarse SANDSTONE. Frequent laminations of mudstone and siltstone. Fractures are subhorizontal (2-10°) very closely to medium spaced planar rough to planar smooth occasional grey staining and grey sandy clay infill. (LIMESTONE COAL FORMATION)			
34.67-34.86 35.00-36.50	84	C		89	80	53		20 116 280	Medium strong partially weathered thinly laminated light to dark grey fine to coarse SANDSTONE. Occasional thin laminations of mudstone and orangish brown surface staining. Fractures are subhorizontal (2-8°) closely spaced undulating rough planar rough orangish brown staining and occasional grey clay infill (2mm). (LIMESTONE COAL FORMATION)	-29.16	35.00	(0.50)
				100	90	64		60 96 170	Moderately weak to medium strong locally very weak distinctly weathered to partially weathered thinly laminated very thinly interbedded light to dark grey fine to coarse SANDSTONE and MUDSTONE. Frequent thin laminations of siltstone. Fractures are subhorizontal (1-10°) very closely to closely spaced undulating rough to planar smooth brownish grey staining and clay infill (up to 30mm). (LIMESTONE COAL FORMATION) ... 35.53-35.59: Non-intact.	-29.66	35.50	
								NI 96 150				

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)	From	To	Duration (hh:mm)		
All dimensions in metres										
Method Used: Inspection pit + Cable Percussion + Rotary Cored		Plant Used: Dando 2000 Mark 2 + Comacchio MC405		Drilled By: Willie Whitelaw + Alex Fraser		Logged By: LBlair		Checked By: JS		

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DETAILED BOREHOLE LOG

Contract: Govan Facilities Investment Feasibility		Client: Arch Henderson LLP		Borehole: BH A	
Contract Ref: 541812	Start: 09.07.21 End: 29.07.21	Ground Level (m AOD): 5.84	National Grid Co-ordinate: E:254700.9 N:666018.7	Sheet: 9 of 11	

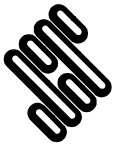
Depth (m)	Samples & Testing			Mechanical Log				Water	Description of Strata	Reduced Level	Depth (m) (Thickness)	Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
35.95-36.07	85	C		100	90	64	NI 96 150		Moderately weak to medium strong locally very weak distinctly weathered to partially weathered thinly laminated very thinly interbedded light to dark grey fine to coarse SANDSTONE and MUDSTONE. Frequent thin laminations of siltstone. Fractures are subhorizontal (1-10°) very closely to closely spaced undulating rough to planar smooth brownish grey staining and clay infill (up to 30mm). (LIMESTONE COAL FORMATION) <i>(stratum copied from 35.50m from previous sheet)</i>	-30.66	(1.00) 36.50	
									Borehole terminated at 36.50m depth.			

GINT LIBRARY_V10_01.GLB LibVersion: v8_07_001 PjVersion: v8_07_001 Log_XCUSTOM - SSL - 563046 - DETAIL LOG | 541812-GOVAN FACILITIES INVESTMENT FEASIBILITY.GPJ - V10_01. Structural Soils Ltd, Branch Office - Glasgow, 65 Sussex Street, Glasgow, Scotland, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008, Web: www.soils.co.uk, Email: ask@soils.co.uk | 13/01/22 - 18:59 | JS6 |

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)	From	To	Duration (hh:mm)		

All dimensions in metres Scale: **1:25**

Method Used: Inspection pit + Cable Percussion + Rotary Cored	Plant Used: Dando 2000 Mark 2 + Comacchio MC405	Drilled By: Willie Whitelaw + Alex Fraser	Logged By: LBlair	Checked By: JS	
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DETAILED BOREHOLE LOG

Contract: Govan Facilities Investment Feasibility		Client: Arch Henderson LLP		Borehole: BH A
Contract Ref: 541812	Start: 09.07.21 End: 29.07.21	Ground Level (m AOD): 5.84	National Grid Co-ordinate: E:254700.9 N:666018.7	Sheet: 10 of 11

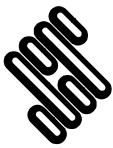
BHA 30.50-32.00m



BH A 32.00-33.50m

GINT LIBRARY_V10_01.GLB LibVersion: v8_07 | Log XCUSTOM - SSL - 563046 - DETAIL LOG | 541812-GOVAN FACILITIES INVESTMENT FEASIBILITY.GPJ - V10_01.
Structural Soils Ltd, Branch Office - Glasgow: 65 Sussex Street, Glasgow, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008, Web: www.soils.co.uk, Email: ask@soils.co.uk | 13/01/22 - 18:59 | JS6 |

Method Used: Inspection pit + Cable Percussion + Rotary Cored	Plant Used: Dando 2000 Mark 2 + Comacchio MC405	Drilled By: Willie Whitelaw + Alex Fraser	Logged By: LBlair	Checked By: JS	
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DETAILED BOREHOLE LOG

Contract: Govan Facilities Investment Feasibility		Client: Arch Henderson LLP		Borehole: BH A
Contract Ref: 541812	Start: 09.07.21 End: 29.07.21	Ground Level (m AOD): 5.84	National Grid Co-ordinate: E:254700.9 N:666018.7	Sheet: 11 of 11

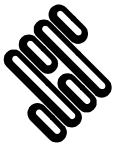
BHA 33.50-35.00m



BHA 35.00-36.50m

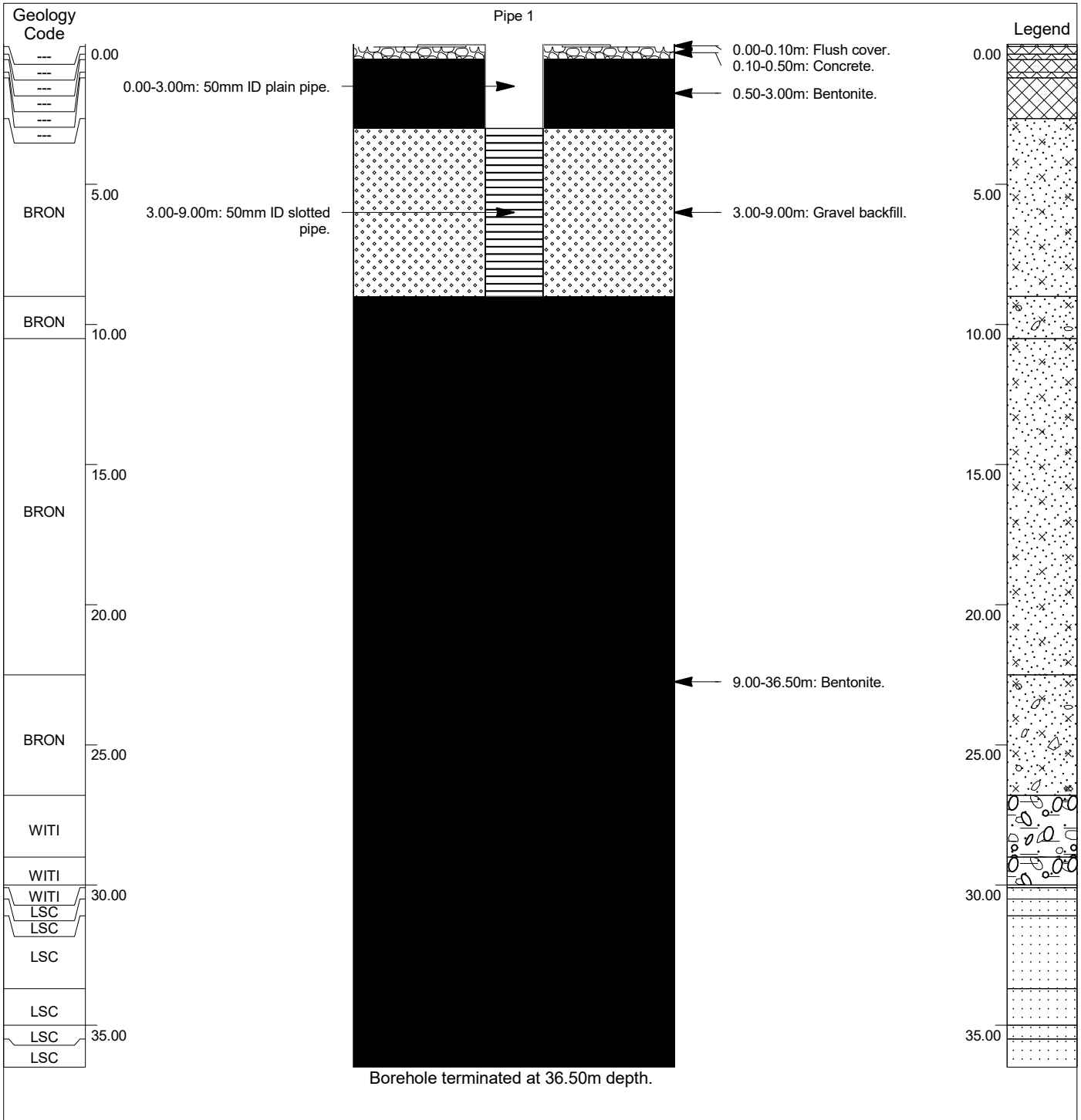
GINT LIBRARY_V10_01.GLB LibVersion: v8_07 | Log XCUSTOM - SSL - 563046 - DETAIL LOG | 541812-GOVAN FACILITIES INVESTMENT FEASIBILITY.GPJ - V10_01. Structural Soils Ltd, Branch Office - Glasgow, 65 Sussex Street, Glasgow, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008, Web: www.soils.co.uk, Email: ask@soils.co.uk | 13/01/22 - 18:59 | JS6 |

Method Used: Inspection pit + Cable Percussion + Rotary Cored	Plant Used: Dando 2000 Mark 2 + Comacchio MC405	Drilled By: Willie Whitelaw + Alex Fraser	Logged By: LBlair	Checked By: JS	
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INSTALLATION LOG

Contract: Govan Facilities Investment Feasibility		Client: Arch Henderson LLP		Borehole: BH A
Contract Ref: 541812	Start: 09.07.21 End: 29.07.21	Ground Level (m AOD): 5.84	National Grid Co-ordinate: E:254700.9 N:666018.7	Sheet: 1 of 1



Notes

Geology code details:

=Bridgeton Sand Member, =Limestone Coal Formation, =Wilderness Till Formation

Note: Graphical representation of well installation is scaled vertically, but exaggerated in the horizontal to aid interpretation.

All dimensions in metres	Installation Date	Installation Type	Installed By
Scale 1:208	09/11/2021	Standpipe	-

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STANDARD PENETRATION TEST SUMMARY TABLE

Exploratory Position ID	Depth (m)	Hole Dia (mm)	Casing Depth (m)	Water Depth (m)	Seating Drive		Test Drive			Hammer ID	Calibration Date	Energy Ratio (%)	N ₆₀	Comments
					Blows	Pen (mm)	Blows	R (mm)	Result					
BH A	1.20	200	1.20	Dry	1,2	150	2,3,4,5		N=14	AR287-2021	10/06/2021	73	17	
	2.20	200	2.20	Dry	3,4	150	5,4,5,6		N=20	AR287-2021	10/06/2021	73	24	
	3.20	200	3.20	Dry	4,4	150	3,4,3,6		N=16	AR287-2021	10/06/2021	73	19	
	4.50	200	4.20	Dry	2,3	150	4,4,4,4		N=16	AR287-2021	10/06/2021	73	19	
	5.40	200	5.40	Dry	2,2	150	1,2,3,4		N=10	AR287-2021	10/06/2021	73	12	
	6.80	200	6.80	5.20	4,6	150	6,7,7,9		N=29	AR287-2021	10/06/2021	73	35	
	7.50	200	7.50		2,3	150	3,4,4,6		N=17	AR287-2021	10/06/2021	73	21	
	9.00	200	9.00		0,0	150	3,2,2,2		N=9	AR287-2021	10/06/2021	73	11	
	10.50	200	10.50		1,2	150	2,2,3,4		N=11	AR287-2021	10/06/2021	73	13	
	12.00	200	12.00		3,3	150	3,4,4,7		N=18	AR287-2021	10/06/2021	73	22	
	13.50	200	13.50		3,4	150	4,3,4,5		N=16	AR287-2021	10/06/2021	73	19	
	15.00	200	15.00		2,3	150	3,4,4,4		N=15	AR287-2021	10/06/2021	73	18	
	16.50	200	16.50		4,4	150	4,5,4,6		N=19	AR287-2021	10/06/2021	73	23	
	18.00	200	17.20		2,3	150	4,4,5,5		N=18	AR287-2021	10/06/2021	73	22	
	19.50	200	17.20		2,3	150	3,4,4,5		N=16	AR287-2021	10/06/2021	73	19	
	21.00	200	17.20		3,3	150	4,4,4,6		N=18	AR287-2021	10/06/2021	73	22	
	22.50	200	17.20		3,5	150	5,7,12,17		N=41	AR287-2021	10/06/2021	73	50	
	24.50	200	24.50		2,4	150	4,5,8,9		N=26	AR287-2021	10/06/2021	73	32	

Notes:

1. Tests carried out in general accordance with BS EN ISO 22476-3:2005+A1:2011.
2. Reported blows are for 75mm penetration unless indicated "+".
3. Where full test drive was not achieved, actual penetration (R) and total test drive blows are reported.
4. Tests carried out using a split spoon sampler unless noted as SPT(c) (denotes use of solid cone method) in the comments column.
5. Entries in the water depth column reflects the measured water depth at time of test.

$$N_{60} = (\text{Measured hammer energy ratio} / 60) \times N \text{ value}$$

 <p>STRUCTURAL SOILS 65 Sussex Street Glasgow Scotland G41 1DX</p>	Compiled By		Date	Contract Ref:
	JSOUTHERN		13.01.22	541812
Contract:	Govan Facilities Investment Feasibility			Page: 1 of 2




STANDARD PENETRATION TEST SUMMARY TABLE

Exploratory Position ID	Depth (m)	Hole Dia (mm)	Casing Depth (m)	Water Depth (m)	Seating Drive		Test Drive			Hammer ID	Calibration Date	Energy Ratio (%)	N ₆₀	Comments
					Blows	Pen (mm)	Blows	R (mm)	Result					
BH A	26.00	200	26.00			0		0	NP	AR287-2021	10/06/2021	73		
	27.50	200	27.50		21,4	150	39+,11	99	21,4/39,11	AR287-2021	10/06/2021	73		
									for 75mm					
	28.60	200	28.60		13,12	125	20,20,10+	185	13,12/20,20,10	AR287-2021	10/06/2021	73		
									for 35mm					
	30.00	200	30.00		6,19	44	50+	30	6,19/50	AR287-2021	10/06/2021	73		
									for 30mm					
	30.30	200	30.30		25	5	50+	3	25/50	AR287-2021	10/06/2021	73		
									for 3mm					

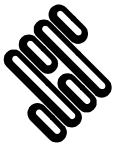
Notes:

1. Tests carried out in general accordance with BS EN ISO 22476-3:2005+A1:2011.
2. Reported blows are for 75mm penetration unless indicated "+".
3. Where full test drive was not achieved, actual penetration (R) and total test drive blows are reported.
4. Tests carried out using a split spoon sampler unless noted as SPT(c) (denotes use of solid cone method) in the comments column.
5. Entries in the water depth column reflects the measured water depth at time of test.

$$N_{60} = (\text{Measured hammer energy ratio} / 60) \times N \text{ value}$$

 STRUCTURAL SOILS 65 Sussex Street Glasgow Scotland G41 1DX	Compiled By		Date	Contract Ref: 541812
	JSOUTHERN		13.01.22	
	Contract: Govan Facilities Investment Feasibility			Page: 2 of 2





BOREHOLE LOG

Contract: Govan Facilities Investment Feasibility		Client: Arch Henderson LLP		Borehole: BH B	
Contract Ref: 541812		Start: 07.07.21	Ground Level (m AOD): 6.71	National Grid Co-ordinate: E:254694.6 N:665956.4	Sheet: 1 of 5
End: 14.07.21					

Samples and In-situ Tests				Water	Backfill	Description of Strata	Reduced Level	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results						
0.00-0.18	1	B				MADE GROUND: Very strong pinkish grey matrix supported reinforced CONCRETE. Gravel is angular to rounded fine to medium of mixed lithologies. Rebar is 8mm diameter.	6.53	0.18	
0.18-0.25	2	B				MADE GROUND: Dark greyish brown very gravelly slightly clayey fine to coarse SAND with medium cobble and low boulder content. Gravel is angular to subrounded fine to coarse of mixed lithologies including sandstone, basalt, red brick and concrete. Cobbles and boulders are subangular of concrete.	6.36	0.35	
0.18-0.30	3	B					6.29	0.42	
0.20-0.25	4	D					6.26	0.45	
0.20-0.25	101	ES	1xT+2xJ+2xV						
0.35-0.43	5	B							
0.35-0.42	6	D				. . . 0.18m: Layer of plastic sheeting.	6.06	0.65	
0.42-0.45	7	B							
0.42-0.45	8	D				MADE GROUND: Weak to medium strong grey matrix supported partly fragmented CONCRETE with decomposed wood fragments up to 85mm long. Gravel is angular to rounded fine to medium of mixed lithologies. Slight hydrocarbon odour.			
0.42-0.45	102	ES	1xT+2xJ+2xV						
0.45-0.65	9	B							
0.65-0.80	10	B							
0.70-0.75	11	D							
0.75-0.80	103	ES	1xT+2xJ+2xV						
0.80-1.20	12	B							
0.90-1.00	13	D							
1.00-1.10	104	ES	1xT+2xJ+2xV						
1.20-1.65	14	SPT	N=7						
1.20-1.65	15	DSPT						(1.65)	
1.20-1.65	16	B							
1.80	17	D				MADE GROUND: Very strong grey matrix supported CONCRETE. Gravel is subangular fine to coarse of mixed lithologies including sandstone, red brick and clinker.			
2.00-2.45	18	SPT	N=21			MADE GROUND: (Loose becoming medium dense) dark greyish black slightly clayey sandy angular to subangular fine to coarse GRAVEL of ash, blaes and clinker. Sand is fine to coarse of ash.			
2.00-2.45	19	DSPT							
2.00-2.45	20	B							
2.30-2.40	105	ES	1xT+2xJ+2xV			. . . 1.00-1.10m: Slight sulphur odour.	4.41	2.30	
2.80	21	D				Light orangish brown slightly gravelly slightly sandy silty CLAY. Gravel is subangular to subrounded fine to medium of mixed lithologies including coal and sandstone. (GOUROCK SAND MEMBER)			(0.80)
3.00-3.45	22	SPT	N=20			Medium dense greyish brown silty fine to medium SAND. Rare subangular to subrounded fine to coarse predominantly fine to medium gravel of mixed lithologies including sandstone, coal and schist. (BRIDGETON SAND MEMBER) . . . 3.20-3.80m: Occasional black speckling.			
3.00-3.45	23	DSPT							
3.00-3.45	24	B							
3.30-3.40	106	ES	1xT+2xJ+2xV						(0.90)
3.80	25	D							
4.00-4.45	26	SPT	N=15			Medium dense locally loose greyish brown slightly silty fine to medium SAND. (BRIDGETON SAND MEMBER)			
4.00-4.45	27	DSPT							
4.00-4.45	28	B							
							2.71	4.00	

GINT LIBRARY_V10_01.GLB LibVersion: v8_07_001 PjVersion: v8_07_001 Log Cable Percussion Log - A4P | 541812-GOVAN FACILITIES INVESTMENT FEASIBILITY.GPJ - v10_01_ Structural Soils Ltd, Branch Office - Glasgow, Scotland, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008, Web: www.soils.co.uk, Email: ask@soils.co.uk | 06/01/22 - 10:28 | AM4 |

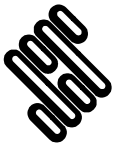
Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
07/07/21	16:00	5.00	5.00	250	-				
08/07/21	08:00	5.00	5.00	250	-				
08/07/21	16:00	14.00	13.50	200	-				
09/07/21	08:00	14.00	13.50	200	-				
09/07/21	13:00	18.00	18.00	200	-				
12/07/21	11:20	12.70	18.00	200	-				
12/07/21	17:20	19.00	19.00	200	-				
13/07/21	09:00	13.50	19.00	200	5.70				

Method Used: Inspection pit + Cable percussion	Plant Used: Dando 2000	Drilled By: Chis Dixon + Matthew Heath	Logged By: ZCockburn	Checked By: JS
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All dimensions in metres		Scale: 1:25
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- Position checked with Ground Penetrating Radar, CAT and Genny prior to excavation.
- Concrete coring from ground level to 0.18 m depth and 0.35-0.42 m depth to remove reinforced concrete slab.
- Inspection pit hand dug to 1.20 m depth. Dimensions 1.00m x 1.00m.
- Borehole drilled using cable percussive techniques to 20.00 m depth.
- Sands 'blowing' up casing during drilling and overnight.





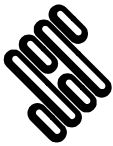
BOREHOLE LOG

Contract: Govan Facilities Investment Feasibility		Client: Arch Henderson LLP		Borehole: BH B
Contract Ref: 541812	Start: 07.07.21 End: 14.07.21	Ground Level (m AOD): 6.71	National Grid Co-ordinate: E:254694.6 N:665956.4	Sheet: 2 of 5

Samples and In-situ Tests				Water	Backfill	Description of Strata	Reduced Level	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results						
4.80	29	D	N=11		Medium dense locally loose greyish brown slightly silty fine to medium SAND. (BRIDGETON SAND MEMBER) <i>(stratum copied from 4.00m from previous sheet)</i>				
5.00-5.45	30	SPT							
5.00-5.45	31	DSPT							
5.00-5.45	32	B							
6.00-6.45	33	SPT	N=26						
6.00-6.45	34	DSPT							
6.00-6.45	35	B							
7.00	36	D	N=9						
7.50-7.95	37	SPT _(NR)							
7.50-7.95	38	B							
8.50	39	D							

GINT LIBRARY_V10_01.GLB LibVersion: v8_07_001 ProjVersion: v8_07_001 | Log CABLE PERCUSSION LOG - A4P | 541812-GOVAN FACILITIES INVESTMENT FEASIBILITY.GPJ - v10_01.
 Structural Soils Ltd, Branch Office - Glasgow, Scotland, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008, Web: www.soils.co.uk, Email: ask@soils.co.uk | 06/01/22 - 10:28 | AM4 |

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
13/07/21	17:00	20.00	20.00	200	-								
Water added to suppress sands. 6. Borehole terminated at 20.00 m depth due to rising sands and slow progress. 7. On completion, borehole backfilled with bentonite pellets. 8. Pit reinstated with concrete by Luddon Construction Ltd. 9. SPT hammer JB18-2020 ($E_r = 54.00\%$) used.													
All dimensions in metres							Scale: 1:25						
Method Used:	Inspection pit + Cable percussion		Plant Used:	Dando 2000		Drilled By:	Chis Dixon + Matthew Heath		Logged By:	ZCockburn	Checked By:	JTS	



BOREHOLE LOG

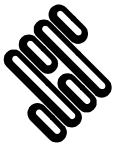
Contract: Govan Facilities Investment Feasibility		Client: Arch Henderson LLP		Borehole: BH B
Contract Ref: 541812	Start: 07.07.21 End: 14.07.21	Ground Level (m AOD): 6.71	National Grid Co-ordinate: E:254694.6 N:665956.4	Sheet: 3 of 5

Samples and In-situ Tests				Water	Backfill	Description of Strata	Reduced Level	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results						
9.00-9.45	40	SPT	N=9		Medium dense locally loose greyish brown slightly silty fine to medium SAND. (BRIDGETON SAND MEMBER) <i>(stratum copied from 4.00m from previous sheet)</i>				
9.00-9.45	41	DSPT							
9.00-9.45	42	B							
10.00	43	D	N=14						
10.50-10.95	44	SPT							
10.50-10.95	45	DSPT							
10.50-10.95	46	B							
11.50	47	D	N=13						
12.00-12.45	48	SPT							
12.00-12.45	49	DSPT							
12.00-12.45	50	B							
13.00	51	D							

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
Method Used: Inspection pit + Cable percussion						Plant Used: Dando 2000			All dimensions in metres Scale: 1:25
Drilled By: Chis Dixon + Matthew Heath			Logged By: ZCockburn			Checked By: JS			

GINT LIBRARY_V10_01.GLB LibVersion: v8_07_001 ProjVersion: v8_07_001 Log CABLE PERCUSSION LOG - A4P | 541812-GOVAN FACILITIES INVESTMENT FEASIBILITY.GPJ - v10_01.
 Structural Soils Ltd, Branch Office - Glasgow, 65 Sussex Street, Glasgow, Scotland, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008, Web: www.structuralsoils.co.uk, Email: ask@structuralsoils.co.uk | 06/01/22 - 10:28 | AM4 |





BOREHOLE LOG

Contract: Govan Facilities Investment Feasibility		Client: Arch Henderson LLP		Borehole: BH B
Contract Ref: 541812	Start: 07.07.21 End: 14.07.21	Ground Level (m AOD): 6.71	National Grid Co-ordinate: E:254694.6 N:665956.4	Sheet: 4 of 5

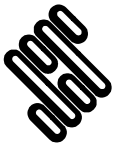
Samples and In-situ Tests				Water	Backfill	Description of Strata	Reduced Level	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results						
13.50-13.95	52	SPT	N=11			Medium dense locally loose greyish brown slightly silty fine to medium SAND. (BRIDGETON SAND MEMBER) <i>(stratum copied from 4.00m from previous sheet)</i>			
13.50-13.95	53	DSPT							
13.50-13.95	54	B							
14.50	55	D	N=35						
15.00-15.45	56	SPT							
15.00-15.45	57	DSPT							
15.00-15.45	58	B	N=19						
16.00	59	D							
16.50-16.95	60	SPT							
16.50-16.95	61	DSPT	N=19						
16.50-16.95	62	B							
17.50	63	D							

GINT LIBRARY_V10_01.GLB LibVersion: v8_07_001 ProjVersion: v8_07 | Log CABLE PERCUSSION LOG - A4P | 541812-GOVAN FACILITIES INVESTMENT FEASIBILITY.GPJ - v10_01.
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Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			
Method Used: Inspection pit + Cable percussion								Plant Used: Dando 2000	Drilled By: Chis Dixon + Matthew Heath	Logged By: ZCockburn	Checked By: JS

All dimensions in metres Scale: **1:25**





BOREHOLE LOG

Contract: Govan Facilities Investment Feasibility		Client: Arch Henderson LLP		Borehole: BH B
Contract Ref: 541812	Start: 07.07.21 End: 14.07.21	Ground Level (m AOD): 6.71	National Grid Co-ordinate: E:254694.6 N:665956.4	Sheet: 5 of 5

Samples and In-situ Tests				Water	Backfill	Description of Strata	Reduced Level	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results						
18.00-18.45 18.00-18.45 18.00-18.50	64 65 66	SPT DSPT B	N=18			Medium dense locally loose greyish brown slightly silty fine to medium SAND. (BRIDGETON SAND MEMBER) <i>(stratum copied from 4.00m from previous sheet)</i>			
19.00	67	D							
19.50-19.95 19.50-19.95	68 69	DSPT SPT	N=12				-13.29	20.00	
						Borehole terminated at 20.00m depth due to rising sands and slow progress.			

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Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
All dimensions in metres									Scale: 1:25
Method Used:	Inspection pit + Cable percussion		Plant Used:	Dando 2000		Drilled By:	Chis Dixon + Matthew Heath		Logged By: ZCockburn Checked By:




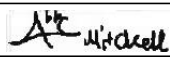
STANDARD PENETRATION TEST SUMMARY TABLE

Exploratory Position ID	Depth (m)	Hole Dia (mm)	Casing Depth (m)	Water Depth (m)	Seating Drive		Test Drive			Hammer ID	Calibration Date	Energy Ratio (%)	N ₆₀	Comments
					Blows	Pen (mm)	Blows	R (mm)	Result					
BH B	1.20	250			1,2	150	1,2,2,2		N=7	JB18-2020	18/09/2020	54	6	
	2.00	250			2,1	150	3,3,5,10		N=21	JB18-2020	18/09/2020	54	19	
	3.00	250			3,5	150	6,4,4,6		N=20	JB18-2020	18/09/2020	54	18	
	4.00	250			2,4	150	3,3,4,5		N=15	JB18-2020	18/09/2020	54	14	
	5.00	250			2,2	150	3,2,3,3		N=11	JB18-2020	18/09/2020	54	10	
	6.00	200			2,4	150	5,6,7,8		N=26	JB18-2020	18/09/2020	54	23	
	7.50	200			1,2	150	2,2,2,3		N=9	JB18-2020	18/09/2020	54	8	No Recovery
	9.00	200			2,2	150	2,2,2,3		N=9	JB18-2020	18/09/2020	54	8	
	10.50	200			3,2	150	2,4,4,4		N=14	JB18-2020	18/09/2020	54	13	
	12.00	200			2,3	150	3,3,3,4		N=13	JB18-2020	18/09/2020	54	12	
	13.50	200			2,3	150	1,2,3,5		N=11	JB18-2020	18/09/2020	54	10	
	15.00	200			2,3	150	5,8,10,12		N=35	JB18-2020	18/09/2020	54	32	
	16.50	200			1,3	150	3,3,5,8		N=19	JB18-2020	18/09/2020	54	17	
	18.00	200			2,3	150	3,4,4,7		N=18	JB18-2020	18/09/2020	54	16	
	19.50	200			3,2	150	2,3,2,5		N=12	JB18-2020	18/09/2020	54	11	

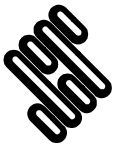
Notes:

1. Tests carried out in general accordance with BS EN ISO 22476-3:2005+A1:2011.
2. Reported blows are for 75mm penetration unless indicated "+".
3. Where full test drive was not achieved, actual penetration (R) and total test drive blows are reported.
4. Tests carried out using a split spoon sampler unless noted as SPT(c) (denotes use of solid cone method) in the comments column.
5. Entries in the water depth column reflects the measured water depth at time of test.

$$N_{60} = (\text{Measured hammer energy ratio} / 60) \times N \text{ value}$$

 <p>STRUCTURAL SOILS 65 Sussex Street Glasgow Scotland G41 1DX</p>	Compiled By		Date	Contract Ref: 541812
	 Contract:	AMITCHELL	06.01.22	
Govan Facilities Investment Feasibility				Page: 1 of 1





Contract: BAE Govan		Client: Portakabin Ltd		Borehole: BH4	
Contract Ref: 541558		Start: 05.03.19 End: 15.03.19	Ground Level (m AOD): 4.91	National Grid Co-ordinate: E:254679.3 N:666041.4	
				Sheet: 1 of 8	

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Reduced Level	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
0.30	1	ES	Tub+VL+J							MADE GROUND: Dark grey sandy angular to subrounded fine to coarse GRAVEL of mixed lithologies including concrete and tar. (ASPHALT).	4.61	0.30	
0.30-0.50	2	B								MADE GROUND: Blackish brown sandy slightly clayey angular to subrounded fine to coarse GRAVEL of mixed lithologies including tar, brick and concrete with medium cobble content. Sand is fine to coarse. Cobbles are subangular to subrounded of mixed lithologies including concrete.		(2.40)	
0.40	3	D											
0.50	4	ES	Tub+VL+J										
0.50-1.10	5	B											
1.00	8	ES	Tub+VL+J										
1.20	6	D								MADE GROUND: Dark brown slightly sandy very clayey angular to subrounded fine to coarse GRAVEL of mixed lithologies including sandstone with low cobble content and occasional pieces of wood. Sand is fine to coarse. Cobbles are subangular to subrounded of mixed lithologies including sandstone. Slight odour (of TCP) at base.		(1.30)	
1.20-1.65	7	SPT	N=5										
1.20-1.65	9	B											
1.80	10	D								MADE GROUND: Dark brown slightly sandy very clayey angular to subrounded fine to coarse GRAVEL of mixed lithologies including sandstone with low cobble content and occasional pieces of wood. Sand is fine to coarse. Cobbles are subangular to subrounded of mixed lithologies including sandstone. Slight odour (of TCP) at base.		(1.30)	
2.00-2.45	11	SPT	N=8										
2.00-2.45	12	B											
2.00	15	ES	Tub+VL+J							MADE GROUND: Dark brown slightly sandy very clayey angular to subrounded fine to coarse GRAVEL of mixed lithologies including sandstone with low cobble content and occasional pieces of wood. Sand is fine to coarse. Cobbles are subangular to subrounded of mixed lithologies including sandstone. Slight odour (of TCP) at base.		(1.30)	
2.80	13	D											
3.00-3.45	14	SPT	N=1										
3.00-3.45	16	B								MADE GROUND: Dark brown slightly sandy very clayey angular to subrounded fine to coarse GRAVEL of mixed lithologies including sandstone with low cobble content and occasional pieces of wood. Sand is fine to coarse. Cobbles are subangular to subrounded of mixed lithologies including sandstone. Slight odour (of TCP) at base.		(1.30)	
3.00	17	ES	Tub+VL+J										
3.80	18	D											
4.00-4.45	19	SPT	N=4							Description on next sheet		4.00	
4.00-4.45	20	B											

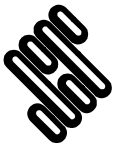
GINT LIBRARY_V8_07.GLB LibVersion: v8_07_001 PriVersion: v8_07 | Log COMPOSITE LOG - A4P | 541558 BAE GOVAN BERTH.GPJ - v8_07. Structural Soils Ltd, Branch Office - Glasgow, 65 Sussex Street, Glasgow, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008, Web: www.soils.co.uk, Email: ask@soils.co.uk | 17/05/19 - 16:07 | GD1 |

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
05/03/19		0.00	None	N/R	-				
05/03/19		8.00	8.00	N/R	-				
06/03/19		8.00	8.00	N/R	-				
06/03/19		23.00	23.00	N/R	-				
07/03/19		23.00	23.00	N/R	-				
07/03/19		24.00	23.50	N/R	-				

All dimensions in metres Scale: **1:25**

Method Used: Inspection pit + Cable Percussion + Rotary open hole +	Plant Used: Dando 2000 + Comacchio GEO 205	Drilled By: Chris Dixon + W Whitelaw	Logged By: AMacLellan	Checked By:	
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- Location CAT scanned prior to excavation.
- GPR Survey undertaken prior to excavation.
- Hand excavated inspection pit from GL to 1.20m depth.
- Cable percussion drilling to 24.00m depth.
- Rotary open-hole drilling from 18.00-24.00m to clean out hole. Coring to 31.00m depth - borehole collapse at 27.80m; unable to advance casing. Core barrel refusal at 31m.
- Gas and groundwater monitoring standpipe installed



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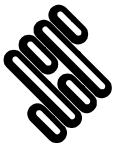
BOREHOLE LOG

Contract: BAE Govan		Client: Portakabin Ltd		Borehole: BH4
Contract Ref: 541558	Start: 05.03.19 End: 15.03.19	Ground Level (m AOD): 4.91	National Grid Co-ordinate: E:254679.3 N:666041.4	Sheet: 2 of 8

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Reduced Level	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
4.80	21	D	Tub+VL+J N=1							Soft greyish brown gravelly slightly sandy silty CLAY with low cobble content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of mixed lithologies including sandstone. Cobbles are subangular to subrounded of mixed lithologies including sandstone. Slight odour (of TCP). <i>(stratum copied from 4.00m from previous sheet)</i> ... 4.80m to 6.30m; driller notes hydrocarbon odour.	(2.30)		
5.00	22	ES											
5.00-5.45	23	SPT											
5.00	24	B											
5.80	25	D	Tub+VL+J 0% recovery							Soft greyish brown slightly gravelly slightly sandy clayey SILT. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of mixed lithologies including mudstone.	-1.39	6.30	
6.00	26	ES											
6.00-6.45	27	UT _(UT100)											
6.80	28	D	N=15								(3.50)		
7.00	29	D											
7.50-7.95	30	SPT											
7.50-7.95	31	B											
8.50	32	D											

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Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									on completion. 7. SPT hammer JB18 18-2018 (E _r = 45.00%) used.				
All dimensions in metres								Scale: 1:25					
Method Used:	Inspection pit + Cable Percussion + Rotary open hole +			Plant Used:	Dando 2000 + Comacchio GEO 205		Drilled By:	Chris Dixon + W Whitelaw	Logged By:	AMacLellan	Checked By:		



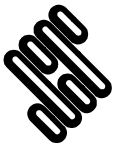
Contract: BAE Govan		Client: Portakabin Ltd		Borehole: BH4
Contract Ref: 541558	Start: 05.03.19 End: 15.03.19	Ground Level (m AOD): 4.91	National Grid Co-ordinate: E:254679.3 N:666041.4	Sheet: 3 of 8

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Reduced Level	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
9.00-9.45	33	SPT	N=9							Soft greyish brown slightly gravelly slightly sandy clayey SILT. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of mixed lithologies including mudstone. (stratum copied from 6.30m from previous sheet)	-4.89	9.80	
9.00-9.45	34	B											
10.50-10.95	35	SPT	N=29							Soft to firm brown very sandy slightly gravelly CLAY.	-6.04	10.95	
10.50-10.95	36	B											
12.00-12.45	37	SPT	N=32							Medium dense brown slightly gravelly slightly clayey fine to medium SAND. Gravel is subangular to subrounded fine to coarse of mixed lithologies including mudstone.			
12.00-12.45	38	B											

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Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
Method Used: Inspection pit + Cable Percussion + Rotary open hole +									All dimensions in metres Scale: 1:25
Plant Used: Dando 2000 + Comacchio GEO 205			Drilled By: Chris Dixon + W Whitelaw			Logged By: AMacLellan		Checked By:	



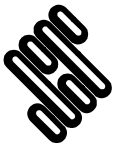


Contract: BAE Govan		Client: Portakabin Ltd		Borehole: BH4	
Contract Ref: 541558		Start: 05.03.19 End: 15.03.19	Ground Level (m AOD): 4.91	National Grid Co-ordinate: E:254679.3 N:666041.4	
				Sheet: 4 of 8	

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Reduced Level	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
13.50-13.95	39	SPT	N=25							Medium dense brown slightly gravelly slightly clayey fine to medium SAND. Gravel is subangular to subrounded fine to coarse of mixed lithologies including mudstone. <i>(stratum copied from 10.95m from previous sheet)</i>			
13.50-13.95	40	B											
14.50	41	D									(7.05)		
15.00-15.45	42	SPT	N=19										
15.00-15.45	43	B											
16.50-16.95	44	SPT	N=13										
16.50-16.95	45	B											
											-13.09	18.00	

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Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks						
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)							
Method Used: Inspection pit + Cable Percussion + Rotary open hole +								Plant Used: Dando 2000 + Comacchio GEO 205		Drilled By: Chris Dixon + W Whitelaw		Logged By: AMacLellan		Checked By:	
All dimensions in metres										Scale: 1:25					



Contract: BAE Govan		Client: Portakabin Ltd		Borehole: BH4
Contract Ref: 541558	Start: 05.03.19 End: 15.03.19	Ground Level (m AOD): 4.91	National Grid Co-ordinate: E:254679.3 N:666041.4	Sheet: 5 of 8

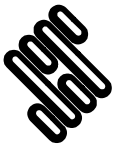
Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Reduced Level	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
18.00-18.45	46	SPT	N=38							Dense brown slightly gravelly silty fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of mixed lithologies including mudstone.			
18.00-18.45	47	B											
19.50-19.95	48	SPT	N=38										
19.50-19.95	49	B											
21.00-21.33	50	SPT	N=83*								(6.00)		
21.00-21.45	51	B											

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Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks						
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)							
Method Used: Inspection pit + Cable Percussion + Rotary open hole +								Plant Used: Dando 2000 + Comacchio GEO 205		Drilled By: Chris Dixon + W Whitelaw		Logged By: AMacLellan		Checked By:	

All dimensions in metres Scale: **1:25**





Contract: BAE Govan		Client: Portakabin Ltd		Borehole: BH4
Contract Ref: 541558	Start: 05.03.19 End: 15.03.19	Ground Level (m AOD): 4.91	National Grid Co-ordinate: E:254679.3 N:666041.4	Sheet: 6 of 8

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Reduced Level	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
22.50-22.73 22.50-22.95	52 53	SPT B	N=195*							Dense brown slightly gravelly silty fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of mixed lithologies including mudstone. <i>(stratum copied from 18.00m from previous sheet)</i>			
23.50-23.53 23.50-24.00	54 55	SPT B	N=1875*						... at 23.50m; stratum becomes gravelly.		-19.09	24.00	
25.00-26.50										Stiff dark grey sandy gravelly CLAY with low cobble content. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of mixed lithologies including mudstone and sandstone. Cobbles and boulders are subangular to subrounded of mixed lithologies including sandstone.		(4.00)	

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Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
Method Used: Inspection pit + Cable Percussion + Rotary open hole + Plant Used: Dando 2000 + Comacchio GEO 205 Drilled By: Chris Dixon + W Whitelaw Logged By: AMacLellan Checked By:									All dimensions in metres Scale: 1:25 	



Contract: Govan Dredging		Client: Offshore Workboats Ltd		Borehole: S1
Contract Ref: 540341	Start: 06.03.12	Ground Level (m CD): -4.00	National Grid Co-ordinate: E:254684.0 N:666204.0	Sheet: 1 of 1

Mechanical Log					Samples & Testing			Backfill	Water	Description of Strata	Reduced Level	Depth (Thickness)	Material Graphic Legend
Depth	TCR (%)	SCR (%)	RQD (%)	If (mm)	No	Type	Results						
0.00					1	ES	Tub+VL+J	[Cross-hatch pattern]	[Water level indicator]	Grey very silty fine to medium SAND with occasional fine gravel.	[Scale]	[Scale]	[Material legend]
0.50					1	D							
1.00					1	B							
1.00					2	ES	Tub+VL+J						
1.00					2	D							
1.50					3	D							
1.70					3	ES	Tub+VL+J						
Vibrocore terminated at -6.00 mCD.											-6.00	2.00	

GINT_LIBRARY_v8_04_GLBIDYNAMIC SAMPLING LOG | 540341 GOVAN DREDGING.GPJ - v8_04 | 08/03/12 - 14:55 | GD, Structural Soils Ltd, Branch Office - Glasgow: 65 Sussex Street, Glasgow, Scotland, G41 1DX, Tel: 0141 332 8440, Fax: 0141 332 8008, Web: www.soils.co.uk, Email: north@soils.co.uk.

Drilling Progress and Water Observations						General Remarks						
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth							
						1. Vibrocore location found using Trimble GeoXT. 2. Core logged from bed level.						
All dimensions in metres						Scale:	1:33					
Method Used:	Dynamic sampling		Plant Used:	Unknown		Drilled By:	ETS	Logged By:	GDavis	Checked By:		



STRUCTURAL SOILS

DRAFT VIBROCORE LOG

Contract: Govan Dredging		Client: Offshore Workboats Ltd		Borehole: S2
Contract Ref: 540341	Start: 06.03.12 End: 06.03.12	Ground Level (m CD): -4.00	National Grid Co-ordinate: E:254685.0 N:666228.0	Sheet: 1 of 1

Mechanical Log				Samples & Testing			Backfill	Water	Description of Strata	Reduced Level	Depth (Thickness)	Material Graphic Legend	
Depth	TCR (%)	SCR (%)	RQD (%)	If (mm)	No	Type							Results
0.00					1	ES	Tub+VL+J	Backfill	Water	Grey very silty fine to medium SAND with occasional fine black gravel.	(1.75)	Material Graphic Legend	
0.50					1	D							
1.00					1	B							
1.00					2	ES	Tub+VL+J						
1.00					2	D							
1.50					3	D							
1.70					3	ES	Tub+VL+J			Vibrocore terminated at -5.75 mCD.	-5.75	1.75	

GINT LIBRARY V8 04.GLB/DYNAMIC SAMPLING LOG | 540341 GOVAN DREDGING.GPJ - v8_04 | 08/03/12 - 14:56 | GD. Structural Soils Ltd, Branch Office - Glasgow, 65 Sussex Street, Glasgow, Scotland, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008, Web: www.soils.co.uk, Email: north@soils.co.uk.

Drilling Progress and Water Observations						General Remarks						
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth							
						1. Vibrocore location found using Trimble GeoXT. 2. Core logged from bed level.						
All dimensions in metres						Scale:	1:33					
Method Used:	Dynamic sampling		Plant Used:	Unknown		Drilled By:	ETS	Logged By:	GDavis	Checked By:		



Contract: Govan Dredging		Client: Offshore Workboats Ltd		Borehole: SS3
Contract Ref: 540341	Start: 05.03.12 End: 05.03.12	Ground Level (m CD): -3.50	National Grid Co-ordinate: E:254641.0 N:666020.0	Sheet: 1 of 1

Mechanical Log				Samples & Testing			Backfill	Water	Description of Strata	Reduced Level	Depth (Thickness)	Material Graphic Legend	
Depth	TCR (%)	SCR (%)	RQD (%)	If (mm)	No	Type							Results
0.00					1	ES	Tub+VL+J			Very soft black organic slightly sandy SILT with rootlets.			
0.20-2.30					1	B							
											-4.00	0.50	
										Soft black slightly sandy SILT with pockets of grey fine sand.			
												(3.70)	
2.50					2	ES	Tub+VL+J						
2.70-3.90					2	B							
4.10-4.50					3	B				Black and brown very silty fine SAND with pockets of silt.			
											-7.70	4.20	
												(0.40)	
											-8.10	4.60	
										Grey brown fine to medium very silty SAND.			
												(0.40)	
4.90					3	ES	Tub+VL+J			Vibrocore terminated at -8.50 mCD.			
											-8.50	5.00	

GINT LIBRARY_V8_04.GLB/DYNAMIC SAMPLING LOG | 540341 GOVAN DREDGING.GPJ - v8_04 | 08/03/12 - 14:56 | GD. Structural Soils Ltd, Branch Office - Glasgow, 65 Sussex Street, Glasgow, Scotland, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008, Web: www.soils.co.uk, Email: north@soils.co.uk.





Drilling Progress and Water Observations						General Remarks					
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth						
						1. Vibrocore location found using Trimble GeoXT. 2. Core logged from bed level.					
All dimensions in metres						Scale:	1:33				
Method Used:	Dynamic sampling		Plant Used:	Unknown		Drilled By:	ETS	Logged By:	GDavis	Checked By:	AGS

ASSESSMENT	SAMPLE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 09/05/00	TRIAL PIT NO TPK	
	DEPTH(m)	NUMBER	TYPE					END DATE: 09/05/00		Page 1 of 1
								CONTRACTOR: Raeburn		ELEVATION (m AOD): 8.34
								PLANT: JCB		COORDINATES: E 254482.789
								LOGGED BY: JM		N 666039.71
								CHECKED BY: DN		


							DESCRIPTION	COMMENTS
						MADE GROUND - dark brown gravelly sand.	NC	0.5
						MADE GROUND - dark grey black, medium to coarse gravelly sand with coke gravel, ash, and occasional concrete boulders.	NC	1.8
						MADE GROUND - red brown slag gravel and sand with large boulders of slag.	NC	2.5
						Trial pit terminated at 2.5mbgl.		

LOCATION/NOTES



Location: Raised building footprint to the south west of the basin. Surface: Building rubble from demolition - brick and concrete.

- LEGEND**
-  Water Sample
 -  Disturbed Sample
 -  Perched Groundwater
 -  Groundwater
 - * Headspace Analysis on Soil Sample

TRIAL PIT LOG

JOB TITLE: Stage II Environmental Site Investigation
LOCATION: Govan Shipyard Site, Glasgow
CLIENT: Clydeport / Marine
JOB NO: 44701-002
 DAMES & MOORE





NEUTRALIZATION ASSESSMENT	SAMPLE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 09/05/00	TRIAL PIT NO TPL Page 1 of 1	
	DEPTH(m)	NUMBER	TYPE					END DATE: 09/05/00		
								CONTRACTOR: Raeburn		
								PLANT: JCB		ELEVATION (m AOD): 8.61
								LOGGED BY: JM		COORDINATES: E 254503.705
								CHECKED BY: DN		N 666020.956

							DESCRIPTION	COMMENTS
							MADE GROUND - dark grey, black gravelly sand with much coke, sand and gravel.	NC
							Brown soft CLAY with some silt.	NC
							Trial pit terminated at 3.0mbgl.	

LOCATION/NOTES

Location: Raised building footprint to the south west of the basin. Surface: Building rubble from demolition - brick and concrete.

LEGEND

-  Water Sample
-  Disturbed Sample
-  Perched Groundwater
-  Groundwater
- * Headspace Analysis on Soil Sample

TRIAL PIT LOG

JOB TITLE: Stage II Environmental Site Investigation

LOCATION: Govan Shipyard Site, Glasgow


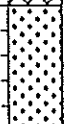

CLIENT: Clydeport / Marine

JOB NO: 44701-002



START DATE: 09/05/00
 END DATE: 09/05/00
 CONTRACTOR: Raeburn
 PLANT: JCB
 LOGGED BY: JM
 CHECKED BY: DN





TRIAL PIT NO TPM
 Page 1 of 1
 ELEVATION (m AOD): 8.82
 COORDINATES: E 254486.498
 N 666006.639

ASSESSMENT				SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	DESCRIPTION		COMMENTS	
DEPTH(m)	NUMBER	TYPE									
								MADE GROUND - dark grey black gravelly sand with some coke and ash.			NC
						1		Yellowish brown medium SAND with some silt.			NC
								Brown soft CLAY with some silt.		1.5	NC
						2					
						3		Trial pit terminated at 3.0mbgl.			
						4					
						5					


LOCATION/NOTES

Location: Raised building footprint to the south west of the basin. Surface: Building rubble from demolition - brick and concrete.

LEGEND






-  Water Sample
-  Disturbed Sample
-  Perched Groundwater
-  Groundwater
- * Headspace Analysis on Soil Sample

TRIAL PIT LOG

JOB TITLE: Stage II Environmental Site Investigation
 LOCATION: Govan Shipyard Site, Glasgow
 CLIENT: Clydeport / Marine
 JOB NO: 44701-002
 DAMES & MOORE

CONTAMINATION	ASSESSMENT	SAMPLE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 09/05/00	TRIAL PIT NO TPN
									END DATE: 09/05/00	
	CONTRACTOR: Raeburn		ELEVATION (m AOD): 8.02							
	PLANT: JCB		COORDINATES: E 254514.451							
	LOGGED BY: JM		N 666035.253							
	CHECKED BY: DN									

								DESCRIPTION	COMMENTS
							MADE GROUND - dark brown / black gravelly sand with much coke sand and gravel with occasional cobbles and boulders.	NC	
						1			
							Brown medium SAND with some clay.	NC	
						2			
							Dark brown stiff CLAY.	NC	
						3	Trial pit terminated at 3.0mbgl.		
						4			
						5			

<p>LOCATION/NOTES</p> <p>Location: Raised building footprint to the south west of the basin. Surface: Building rubble from demolition - brick and concrete.</p>	<p>LEGEND</p> <ul style="list-style-type: none">  Water Sample  Disturbed Sample  Perched Groundwater  Groundwater * Headspace Analysis on Soil Sample 	TRIAL PIT LOG	
		JOB TITLE: Stage II Environmental Site Investigation	
		LOCATION: Govan Shipyard Site, Glasgow	
		CLIENT: Clydeport / Marine	
		JOB NO: 44701-002	
 DAMES & MOORE			





TERMINATION ASSESSMENT	SAMPLE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 09/05/00	TRIAL PIT NO TPO
	DEPTH(m)	NUMBER	TYPE					END DATE: 09/05/00	
								CONTRACTOR: Raeburn	ELEVATION (m AOD): 8.93
								PLANT: JCB	COORDINATES: E 254512.177
								LOGGED BY: JM	N 666001.325
CHECKED BY: DN									

							DESCRIPTION	COMMENTS
						MADE GROUND - dark brown black gravelly sand with much coke sand and gravel and occasional cobbles of concrete and brick.	NC	
						Yellow brown SAND with some subrounded gravel interbedded with thick grey brown CLAY layers.	NC	
						Trial pit terminated at 3.2mbgl.		

LOCATION/NOTES

Location: Raised building footprint to the south west of the basin. Surface: Building rubble from demolition - brick and concrete.

LEGEND

-  Water Sample
-  Disturbed Sample
-  Perched Groundwater
-  Groundwater
- * Headspace Analysis on Soil Sample

TRIAL PIT LOG

JOB TITLE: Stage II Environmental Site Investigation
 LOCATION: Govan Shipyard Site, Glasgow
 CLIENT: Clydeport / Marine
 JOB NO: 44701-002



WELL CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 11/04/00	BOREHOLE NO BH110		
	DEPTH(m)	NUMBER					TYPE		END DATE: 11/04/00	Page 1 of 2
									METHOD: Shell and Auger	BOREHOLE DIAMETER(mm): 150
									LOGGED BY: CM	SCREEN TYPE(mm): 50 and 19
									CHECKED BY: DN	ELEVATION (mAOD): 9.38

DEPTH (m)	DESCRIPTION	COMMENTS
0.5-0.6	MADE GROUND - grey hardcore gravel. MADE GROUND - dark brown, medium to coarse ashly sand and fine to medium gravel with a little concrete and brick rubble and occasional metaliferous slag and pieces of metal.	NC 0.12
1.5-1.7	MADE GROUND - medium brown slightly clayey, slightly silty, gravelly sand with occasional brown slag.	NC 1.9
2.9-3.2	MADE GROUND - grey-orange-brown mottled, slightly sandy, clayey silt with a little coarse subangular gravel and occasional brown slag.	NC 2.4
4.6-4.8	MADE GROUND - band of wood fragments. MADE GROUND - grey brown, slightly sandy, fine to medium gravel with much fine to coarse brown slag, fibrous material occasional wood fragments and metal fragments.	NC 2.9 NC 3.2
	MADE GROUND - stiff grey brown clay with some ash.	NC 4
	Grey, brown and orange, fine to medium slightly silty SAND with a little subangular to subrounded gravel.	NC 4.6

LOCATION/NOTES

North of Timber Steel storage yard. Borehole dry on completion.

LEGEND

- ☒ Disturbed Sample
- ▽ Perched Groundwater
- ▼ Groundwater
- * Headspace Analysis on Soil Sample

BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation
LOCATION: Govan Shipyard Site, Glasgow
CLIENT: Clydeport / Marine
JOB NO: 44701-002



WELL CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 11/04/00	BOREHOLE NO BH110	
							END DATE: 11/04/00		
							DRILLER: Raeburn		Page 2 of 2
	DEPTH(m)	NUMBER					METHOD: Shell and Auger		BOREHOLE DIAMETER(mm): 150
							LOGGED BY: CM		SCREEN TYPE(mm): 50 and 19
		CHECKED BY: DN	ELEVATION (mAOD): 9.38						

						DEPTH (m)	DESCRIPTION	COMMENTS
WELL CONSTRUCTION	DEPTH(m)	NUMBER	TYPE	SOIL VAPOUR (ppm)	GROUNDWATER	7	Grey brown, slightly silty fine to medium SAND with some subangular to subrounded gravel.	NC
						8	Soft to firm, grey brown silty CLAY with thin bands of fine pale brown silty sand.	7.5
						11	Borehole terminated at 11mbgl.	NC

LOCATION/NOTES

North of Timber Steel storage yard. Borehole dry on completion.

- LEGEND**
- Disturbed Sample
 - Perched Groundwater
 - Groundwater
 - * Headspace Analysis on Soil Sample


BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation

LOCATION: Govan Shipyard Site, Glasgow

CLIENT: Clydeport / Marine

JOB NO: 44701-002

 **DAMES & MOORE**

WELL CONSTRUCTION	SAMPLE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 02/05/00	BOREHOLE NO BH112A	
	DEPTH(m)	NUMBER	TYPE					END DATE: 02/05/00		Page 1 of 1
								METHOD: Window Sampler		BOREHOLE DIAMETER(mm): 60/50
								LOGGED BY: CM		SCREEN TYPE(mm): 19
								CHECKED BY: DN		ELEVATION (mAOD): 9.39

DEPTH (m)	NUMBER	TYPE	SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	DESCRIPTION	COMMENTS
0.5-0.7		X	*300		1	MADE GROUND - topsoil.		NC 0.15
						MADE GROUND - grey hardcore.		NC 0.3
						MADE GROUND - dark grey ash and orange-brown cinders with much red-brown vesicular slag with hydrogen sulphide odour.		NC 0.75
1.3-1.5		X	*20		1	MADE GROUND - red-brown, fine to medium, sandy gravel of slag with occasional wood.		NC 0.9
						MADE GROUND - dark grey ash and orange-brown cinders with a little red-brown and pale yellow-grey slag and a little wood fragments.		
			*500		2			NC
			*300					
2.8-3.0		X	*80		3	2.8m: with a band of red-brown fibrous material.		
						Soft to firm, dark grey clayey SILT with some organic fibres and organic odour.		
3.2-3.5		X				3.5m: becomes grey-brown in colour with occasional fine to subangular to subrounded gravel.		NC
			*<10		4	Fine, red-brown clayey SAND becoming less clayey with depth.		
						4.7m: grades to fine, light brown SAND.		NC
					5	Borehole terminated at 5.0mbgl.		

LOCATION/NOTES
 Located on grass to west of maintenance building and to south of tip.

- LEGEND**
- X Disturbed Sample
 - ∇ Perched Groundwater
 - ▼ Groundwater
 - * Headspace Analysis on Soil Sample


BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation

LOCATION: Govan Shipyard Site, Glasgow

CLIENT: Clydeport / Marine

JOB NO: 44701-002

 DAMES & MOORE

	DEPTH(m)	NUMBER	TYPE	SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	DESCRIPTION	COMMENTS
	0.9-1.1		X	* <10 * <10		1		MADE GROUND - dark grey-brown, fine to medium, slightly clayey, gravelly sand with much brick and brick fragments. 1.0m: grades with no brick, equal quantities of sand and fine to medium assorted gravel and some red shale.	NC
	1.5-1.7		X	* <10					
	2.0-2.2		X	* <10		2		MADE GROUND - grey-brown, very sandy clay with a little fine to coarse gravel and occasional clumps of white fibrous material (suspect asbestos containing material) 2.5m: with pockets of firm, pale grey silt.	
				* <10		3		3.0m: with much wood and wood fragments and a little metal and a large bolt (metal). 3.5m: with occasional cobbles.	NC
	4.0-4.2		X	*40 *20		4		MADE GROUND - fine to coarse, dark brown, slightly ashy sand with a little fine to medium gravel, some wood fragments, metal wire and a little softened fibrous board (suspected asbestos containing material). 4.5m: with a little red-brown slag and metal, less asbestos containing material.	
				*15		5		5.0m: as above but becoming clayey and grey-brown in colour with no suspected asbestos containing material. 5.5m: with occasional wood and copper wire and few cinders but no slag.	NC
				* <10		6			

LOCATION/NOTES

Located on grass at edge of trees in south east of tip area. Randomly discarded rope, wood, scaffolding and portacabins located to north, west and south west.

LEGEND

- ☒ Disturbed Sample
- ▽ Perched Groundwater
- ▼ Groundwater
- * Headspace Analysis on Soil Sample

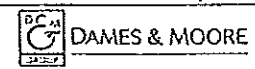
BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation

LOCATION: Govan Shipyard Site, Glasgow

CLIENT: Clydeport / Marine

JOB NO: 44701-002




WELL CONSTRUCTION	SAMPLE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 05/05/00	BOREHOLE NO BH120	
	DEPTH(m)	NUMBER	TYPE					END DATE: 06/05/00		Page 2 of 2
								METHOD: Shell and Auger		BOREHOLE DIAMETER(mm): 150
								LOGGED BY: CM		SCREEN TYPE(mm): 50 and 19
								CHECKED BY: DN		ELEVATION (mAOD): 11.40

							DESCRIPTION	COMMENTS
			* <10				MADE GROUND - soft grey-brown and orange-brown mottled, silty clay with thin bands of orange-brown medium sand and occasional wood fragments.	NC
	7.5-7.7		* <10				MADE GROUND - soft to firm, grey-brown, slightly sandy, silty clay with a little fine to medium gravel.	NC
							Fine to medium, mid brown SAND with occasional bands of soft grey-brown silty clay.	7.5
			* <10					NC
			* <10				Fine to medium, mid brown SAND with a little fine subangular to rounded gravel.	9
								NC
							Borehole terminated at 11.0mbgl.	11

LOCATION/NOTES
 Located on grass at edge of trees in south east of tip area. Randomly discarded rope, wood, scaffolding and portacabins located to north, west and south west.

- LEGEND**
- ☒ Disturbed Sample
 - ▽ Perched Groundwater
 - ▼ Groundwater
 - * Headspace Analysis on Soil Sample

BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation
LOCATION: Govan Shipyard Site, Glasgow
CLIENT: Clydeport / Marine
JOB NO: 44701-002
 DAMES & MOORE

CONSTRUCTION	DEPTH(m)	NUMBER	TYPE	SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	DESCRIPTION	COMMENTS
	0.8-1.0		✕	*<10		1		MADE GROUND - dark grey/brown coarse to medium gravelly sand with well graded mixed gravel and some to much coke and ash, dry.	NC
	2.7-3.0		✕	*<10		3		MADE GROUND - light yellow brown medium to coarse clayey sand with some fine to medium coke and sandstone gravel and traces of brick and coal fragments, dry (possibly re-worked natural).	NC
	4.8-5.0		✕	*<10		5		MADE GROUND - light yellowish grey/brown sandy clay with traces of slag gravel and medium sand, moist (possibly re-worked natural).	NC
	5.5-5.7		✕	*<10				Light yellow brown fine SAND with some to much clay, dry.	NC

LOCATION/NOTES

Soft uneven rubble and fill surface on razed building footprint south east of basin. No groundwater noted in casing left overnight at 6.0m below ground level. Slight groundwater seepage noted at 6.3m below ground level.

LEGEND

- ✕ Disturbed Sample
- ▽ Perched Groundwater
- ▼ Groundwater
- * Headspace Analysis on Soil Sample

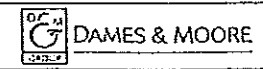
BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation

LOCATION: Govan Shipyard Site, Glasgow

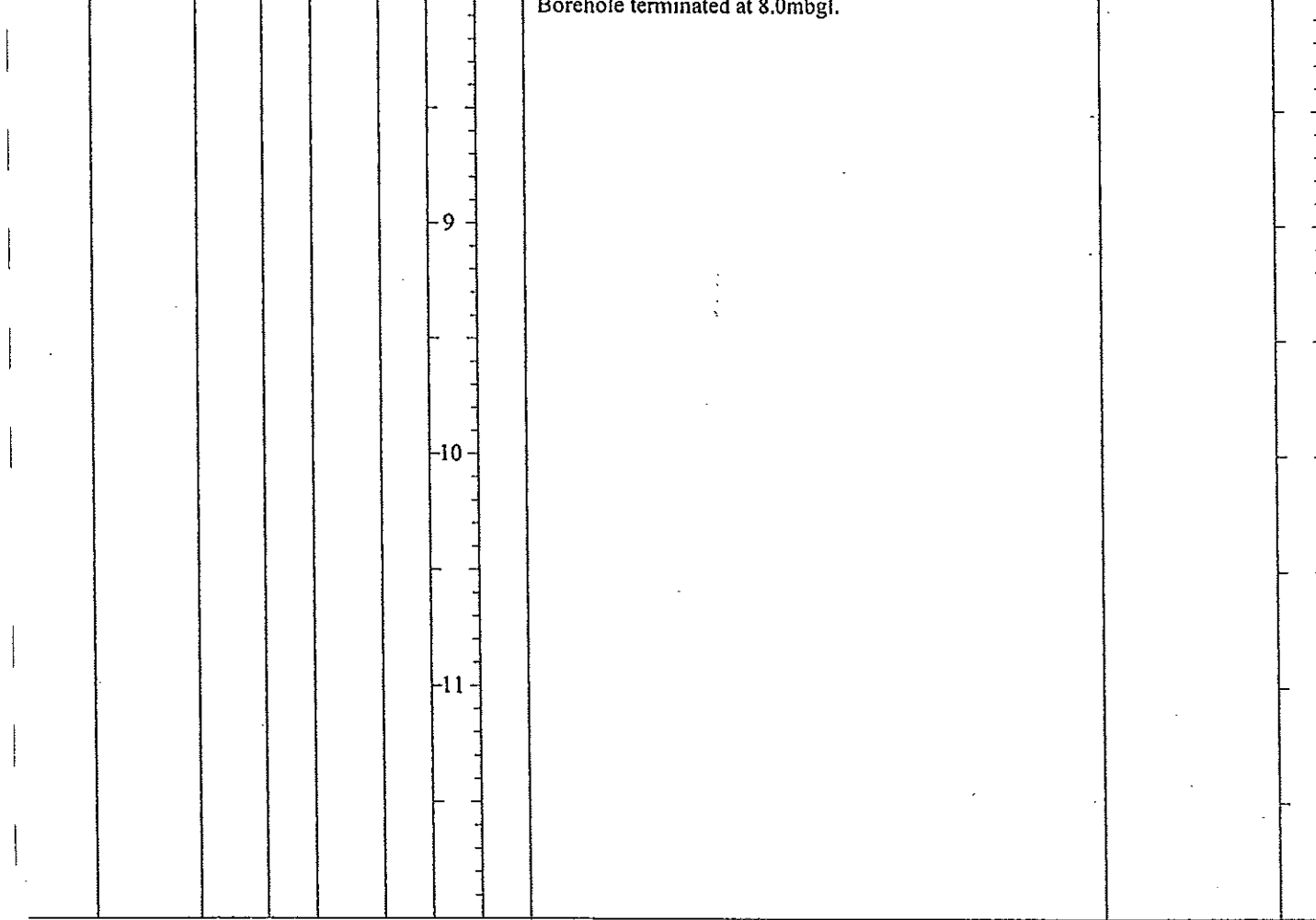
CLIENT: Clydeport / Marine

JOB NO: 44701-002



WELL CONSTRUCTION	SAMPLE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 19/04/00	BOREHOLE NO BH121	
	DEPTH(m)	NUMBER	TYPE					END DATE: 20/04/00		Page 2 of 2
								METHOD: Shell and Auger		BOREHOLE DIAMETER(mm): 150
								LOGGED BY: JD		SCREEN TYPE(mm): 50
								CHECKED BY: DN		ELEVATION (mAOD): 8.92

							DESCRIPTION	COMMENTS
			* <10	▼			Dark brown silty fine to medium SAND with traces of fine to medium rounded gravel. 6.3m: increasing gravel content.	NC 6.1
			* <10				Dark grey brown soft clayey SILT with some fine sand and occasional fine rounded gravel.	NC 6.6
			* <10		7			
	7.5-7.7		* <10	⊗			7.5m: as above without gravel.	NC
					8		Borehole terminated at 8.0mbgl.	8



LOCATION/NOTES

Soft uneven rubble and fill surface on razed building footprint south east of basin. No groundwater noted in casing left overnight at 6.0m below ground level. Slight groundwater seepage noted at 6.3m below ground level.

- LEGEND**
- ⊗ Disturbed Sample
 - ▼ Perched Groundwater
 - ▼ Groundwater
 - * Headspace Analysis on Soil Sample


BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation

LOCATION: Govan Shipyard Site, Glasgow

CLIENT: Clydeport / Marine

JOB NO: 44701-002





DAMES & MOORE

WELL CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 02/05/00	BOREHOLE NO BH122	
	DEPTH(m)	NUMBER	TYPE				END DATE: 02/05/00		Page 1 of 1
							DRILLER: Raeburn		BOREHOLE DIAMETER(mm): 150
							METHOD: Window Sampler		SCREEN TYPE(mm): 19
							LOGGED BY: CM		ELEVATION (mAOD): 9.03
				CHECKED BY: DN					

						DEPTH (m)	DESCRIPTION	COMMENTS	
WELL CONSTRUCTION	DEPTH(m)	NUMBER	TYPE	SOIL VAPOUR (ppm)	GROUNDWATER	0.3	MADE GROUND - grey hardcore.	NC	
						0.5-0.7	*<10	MADE GROUND - dark brown, medium to coarse, slightly gravelly, ashy sand with some black slag and occasional wood fragments.	NC
						1.5-1.7	*<10	1.5m: with much wood, less gravel.	NC
						3.3-3.6	*<10	Fine to medium, pale brown SAND with a little subrounded gravel at top and bands of soft to firm brown clay.	NC
						3.8-4.0m: damp.	*<10	Soft grey-brown CLAY.	NC
								Fine, orange-brown and pale brown SAND.	NC
						5	Borehole terminated at 5.0mbgl.		

LOCATION/NOTES

Hardcore surface north of transformer and electricity substation west of pipe store.

- LEGEND**
-  Disturbed Sample
 -  Perched Groundwater
 -  Groundwater
 - * Headspace Analysis on Soil Sample


BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation

LOCATION: Govan Shipyard Site, Glasgow

CLIENT: Clydeport / Marine

JOB NO: 44701-002

 DAMES & MOORE

START DATE: 06/05/00
 END DATE: 06/05/00
 DRILLER: Raeburn
 METHOD: Window Sampler
 LOGGED BY: JD
 CHECKED BY: DN

BOREHOLE DIAMETER(mm): 60/50
 SCREEN TYPE(mm): 19
 ELEVATION (mAOD): 8.48

WELL CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY
	DEPTH(m)	NUMBER				
	0.5-0.8		* <10		1	
			* <10			
			* <10		2	
			* <10			
	2.5-3.0		* <10		3	
			* <10			
			* <10		4	
			* <10			
	3.5-4.0		* <10		5	
			* <10			
5.0-5.5		* <10				

DESCRIPTION	COMMENTS
MADE GROUND - dark brown medium to coarse gravelly sand with some clay, ash, traces of glass fragments and traces of fibrous material (possible asbestos containing material), dry.	NC
MADE GROUND - light brown silt with much fine sand, dry.	1.1
	NC
MADE GROUND - dark brown clay with some coke, gravel and blaes, dry.	3
	NC
Grey brown SILT, moist.	3.5
Light yellowish brown fine to medium SAND, dry.	3.65
	NC
Light reddish brown medium to coarse SAND with much fine to medium rounded gravel, dry.	4.4
	NC
Borehole terminated at 5.5m.	

LOCATION/NOTES

Container park area. Hardcore gravel surface. Perched groundwater encountered at 2.5m.

LEGEND

- Disturbed Sample
- Perched Groundwater
- Groundwater
- * Headspace Analysis on Soil Sample

BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation
 LOCATION: Govan Shipyard Site, Glasgow
 CLIENT: Clydeport / Marine
 JOB NO: 44701-002



WELL CONSTRUCTION	SAMPLE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 26/04/00	BOREHOLE NO BH127C	
	DEPTH(m)	NUMBER	TYPE					END DATE: 26/04/00		Page 1 of 2
								METHOD: Shell and Auger		BOREHOLE DIAMETER(mm): 200/150
								LOGGED BY: CM		SCREEN TYPE(mm): 50
								CHECKED BY: DN		ELEVATION (mAOD): 12.33

							DESCRIPTION	COMMENTS
	0.4-0.6		X	*<10			MADE GROUND - dark brown fine to coarse sand and medium to coarse gravel with some brick, metal, and wood, and occasional cobbles (at top), glass and electrical wire.	
	1.4-1.5		X	*<10				
				*20				
				*<10			2.5m: with occasional brown cinders and coal fragments.	
				*<10				
				*<10				
				*<10			4.4m: with much concrete rubble.	
				*<10				NC

LOCATION/NOTES

Located in north east corner of tip area. Borehole terminated due to obstruction.

- LEGEND**
- X Disturbed Sample
 - ∇ Perched Groundwater
 - ▼ Groundwater
 - * Headspace Analysis on Soil Sample

BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation

LOCATION: Govan Shipyard Site, Glasgow

CLIENT: Clydeport / Marine

JOB NO: 44701-002




DAMES & MOORE

WELL CONSTRUCTION	SAMPLE			SOIL VAPOUR (ppm)	GROUND WATER	DEPTH (m)	GEOLOGY	START DATE: 26/04/00	BOREHOLE NO BH127C	
	DEPTH(m)	NUMBER	TYPE					END DATE: 26/04/00		Page 2 of 2
								METHOD: Shell and Auger		BOREHOLE DIAMETER(mm): 200/150
								LOGGED BY: CM		SCREEN TYPE(mm): 50
								CHECKED BY: DN		ELEVATION (mAOD): 12.33

							DESCRIPTION	COMMENTS
6.6-6.8	X	* < 10	* < 10	* < 10	* < 10	* < 10	6.6m: with a little suspected asbestos containing fibres at 6.6-6.8m.	
							7.9m: with much concrete rubble from 7.9m.	
							Borehole terminated at 9.35mbgl.	

LOCATION/NOTES

Located in north east corner of tip area. Borehole terminated due to obstruction.

- LEGEND**
-  Disturbed Sample
 -  Perched Groundwater
 -  Groundwater
 - * Headspace Analysis on Soil Sample


BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation

LOCATION: Govan Shipyard Site, Glasgow

CLIENT: Clydeport / Marine




JOB NO: 44701-002

 **DAMES & MOORE**

WELL CONSTRUCTION	SAMPLE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 08/05/00	BOREHOLE NO BH128	
	DEPTH(m)	NUMBER	TYPE					END DATE: 08/05/00		Page 1 of 1
								METHOD: Shell and Auger		BOREHOLE DIAMETER(mm): 150
								LOGGED BY: JD		SCREEN TYPE(mm):
								CHECKED BY: DN		ELEVATION (mAOD): 4.91

							DESCRIPTION	COMMENTS
1.0-1.8	X				1	MADE GROUND - concrete.	MADE GROUND - red blaes, gravel and sand, dry and very compacted.	0.25
								NC
					2	2.4m: very hard		
					3	Borehole terminated at 2.5mbgl.		2.5
					4			
					5			

LOCATION/NOTES
 On wharf at north west corner of basin. Shallow refusal in dense red blaes.

- LEGEND**
-  Disturbed Sample
 -  Perched Groundwater
 -  Groundwater
 - * Headspace Analysis on Soil Sample


BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation

LOCATION: Govan Shipyard Site, Glasgow

CLIENT: Clydeport / Marine

JOB NO: 44701-002

 DAMES & MOORE




WELL CONSTRUCTION	SAMPLE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 09/05/00	BOREHOLE NO BH128A
	DEPTH(m)	NUMBER	TYPE					END DATE: 10/05/00	
								DRILLER: Raeburn	BOREHOLE DIAMETER(mm): 150
								METHOD: Shell and Auger	SCREEN TYPE(mm): 50 and 19
								LOGGED BY: CM	ELEVATION (mAOD): 4.91
			CHECKED BY: DN						

WELL CONSTRUCTION		SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	DESCRIPTION	COMMENTS																											
0.5-0.7	X	X	* <10	* <10	1	1	MADE GROUND - Greyish brown fine to medium sand with some assorted medium gravel and occasional brick, glass and wood fragments.		NC																											
										1.5-1.7	X	* <10	* <10	2	2	MADE GROUND - Dark brown, slightly clayey, fine to medium sand with much brick and concrete rubble and occasional fibres (possible asbestos containing material) and a slight creosote odour.		LC																		
																			3.5-3.7	X	* <10	* <10	3	3	No recovery - pushing piece of wood (2.7-3.5m).											
																												5.0-5.2	X	* <10	* <10	4	4	MADE GROUND - Greenish brown, fine to coarse, clayey sand with much glass and wood fragments and occasional fine to medium angular to sub angular gravel.		NC
5.0-5.2	X	* <10	* <10	5	5	Greenish brown, fine, silty SAND with a little fine subangular and subrounded gravel, becomes damp.		NC																												
									5.0-5.2	X	* <10	* <10	5	5	Grey green fine silty SAND with bands of grey fine sand, damp.		NC																			

LOCATION/NOTES

Located on a gravelly surface adjacent to the bottom of the slope at the edge of the tip and south west of a substation.

LEGEND

-  Disturbed Sample
-  Perched Groundwater
-  Groundwater
- * Headspace Analysis on Soil Sample

BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation
 LOCATION: Govan Shipyard Site, Glasgow
 CLIENT: Clydeport / Marine
 JOB NO: 44701-002



DAMES & MOORE

WELL CONSTRUCTION	SAMPLE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 09/05/00	BOREHOLE NO BH128A	
	DEPTH(m)	NUMBER	TYPE					END DATE: 10/05/00		Page 2 of 2
								DRILLER: Raeburn		BOREHOLE DIAMETER(mm): 150
								METHOD: Shell and Auger		SCREEN TYPE(mm): 50 and 19
								LOGGED BY: CM		ELEVATION (mAOD): 4.91
								CHECKED BY: DN		

							DESCRIPTION	COMMENTS
			* <10				6.0m: becomes only slightly silty and brown in colour. Becomes wet although no definite water strike.	
			* <10		7		7.0m: no longer silty.	NC
			* <10		8			
			* <10		9			
			* <10		10		Borehole completed at 10.0mbgl.	
					11			

LOCATION/NOTES

Located on a gravelly surface adjacent to the bottom of the slope at the edge of the tip and south west of a substation.

- LEGEND**
- Disturbed Sample
 - Perched Groundwater
 - Groundwater
 - * Headspace Analysis on Soil Sample

BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation

LOCATION: Govan Shipyard Site, Glasgow

CLIENT: Clydeport / Marine

JOB NO: 44701-002

DAMES & MOORE


WELL CONSTRUCTION	SAMPLE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 08/05/00	BOREHOLE NO BH129	
	DEPTH(m)	NUMBER	TYPE					END DATE: 08/05/00		Page 1 of 2
								DRILLER: Raeburn		BOREHOLE DIAMETER(mm): 150
								METHOD: Shell and Auger		SCREEN TYPE(mm): 50
								LOGGED BY: JD		ELEVATION (mAOD): 7.20
								CHECKED BY: DN		

								DESCRIPTION	COMMENTS
								MADE GROUND - tarmac. MADE GROUND - cobbles.	0.1
	0.5-0.7		X	*<10			MADE GROUND - dark grey brown gravelly sand with some ash and some brick fragments, dry.	NC	0.4
				*<10	1		MADE GROUND/REWORKED NATURAL - light brown/mottled greysilty clay with some medium to fine sand horizons, traces of ash and coke, moist.	NC	1
				*<10			Light yellow brown sandy CLAY with traces of organic/coal like fragments, moist-wet.	NC	1.7
	2.0-2.3		X	*<10	2			NC	
				*<10					
				*<10	3				
	3.5-3.7		X	*<10			Yellow brown fine SAND with some silt, dry.	3.5m: adding water.	3.5
				*<10	4				
				*<10					
				*<10	5			NC	
	5.8-6.0		X	*<10					

LOCATION/NOTES
 Flat tarmac road adjacent to wharf on west side of basin. Groundwater encountered at 6.0mbgl.

- LEGEND**
- X Disturbed Sample
 - ▽ Perched Groundwater
 - ▼ Groundwater
 - * Headspace Analysis on Soil Sample

BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation
LOCATION: Govan Shipyard Site, Glasgow
CLIENT: Clydeport / Marine
JOB NO: 44701-002
 DAMES & MOORE

DEPTH(m)	NUMBER	TYPE	SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	DESCRIPTION	COMMENTS
0.5-0.7		X	* <10		0.5		MADE GROUND - mid to dark brown, medium to coarse, clayey sand with much fine to medium sub angular to angular gravel and a little wood fragments, ash and brown black vesicular slag, occasional concrete rubble and cobbles of red brown - dark grey vesicular slag.	NC
			* <10		1.0		1.0m: with only a little metaliferous slag and occasional pieces of wood, no rubble.	
1.5-1.7		X	* <10		1.5		MADE GROUND - dark grey - black, medium to coarse sand with some fine to medium, angular to sub angular gravel.	NC
			* <10		2.0		MADE GROUND - dark grey and orange brown, fine to coarse, slightly clayey sand with a little fine to medium, angular to sub rounded gravel.	
			* <10		3.0		Firm, mid brown sandy CLAY with a little fine sub angular gravel, coal fragments and fine orange - brown and grey clayey sand.	NC
3.5-3.7		X	* <10		3.5		Orange-brown fine to medium SAND with a little fine to medium, subangular to subrounded gravel.	NC
			* <10		4.4		Dark brown fine to coarse SAND with some fine to medium subrounded to rounded gravel.	
			* <10		5.0			NC

LOCATION/NOTES
 Located within footprint of raised building, surface covered in demolition rubble. 1m inspection pit excavated prior to drilling.

- LEGEND**
- X Disturbed Sample
 - ▽ Perched Groundwater
 - ▼ Groundwater
 - * Headspace Analysis on Soil Sample


BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation

LOCATION: Govan Shipyard Site, Glasgow

CLIENT: Clydeport / Marine

JOB NO: 44701-002

 DAMES & MOORE

WELL CONSTRUCTION	SAMPLE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 10/05/00	BOREHOLE NO BH130A	
	DEPTH(m)	NUMBER	TYPE					END DATE: 11/05/00		Page 2 of 2
								DRILLER: Raeburn		BOREHOLE DIAMETER(mm): 150
								METHOD: Shell and Auger		SCREEN TYPE(mm): 50
								LOGGED BY: CM		ELEVATION (mAOD): 7.87
CHECKED BY: DN										

							DESCRIPTION	COMMENTS
							6.0m: becomes damp.	
							Mid brown, fine, slightly silty SAND. Becomes saturated.	6.5
							7.5m: becoming very slightly silty.	
							Borehole completed 10.0mbgl.	10
								NC

LOCATION/NOTES

Located within footprint of raised building, surface covered in demolition rubble. 1m inspection pit excavated prior to drilling.

- LEGEND**
- Disturbed Sample
 - Perched Groundwater
 - Groundwater
 - * Headspace Analysis on Soil Sample

BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation

LOCATION: Govan Shipyard Site, Glasgow

CLIENT: Clydeport / Marine

JOB NO: 44701-002

DAMES & MOORE




WELL	CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 18/04/00	BOREHOLE NO BH132	
		DEPTH(m)	NUMBER					END DATE: 18/04/00		Page 1 of 2
			TYPE					DRILLER: Raeburn		
								METHOD: Shell and Auger		BOREHOLE DIAMETER(mm): 150
								LOGGED BY: CM		SCREEN TYPE(mm): 50
		CHECKED BY: DN	ELEVATION (mAOD): 6.37							

							DESCRIPTION	COMMENTS
							TARMAC MADE GROUND - hardcore.	NC 0.1
							MADE GROUND - old 6" steel pipe and concrete.	NC 0.7
							MADE GROUND - silty brown sand.	NC 0.9
	1.3-1.7		*<10				MADE GROUND - mid brown fine to coarse clayey sand with traces of coal.	1.4
	1.7-2.1		*<10				MADE GROUND - obstruction pushed 1.7 to 2.4 metres (Very little sample recovered).	1.7 NC
			*<10				Pale brown fine SAND - weathered appearance at top.	2.4
	3.0-3.2		*<10				3.0m: with occasional fine to medium rounded - subangular gravel.	
			*<10				4.0m: becoming slightly silty.	
			*<10					NC

LOCATION/NOTES

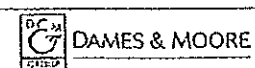
South west corner of basin. TP excavated to 1.7mbgl to breakout concrete prior to drilling.

LEGEND

-  Disturbed Sample
-  Perched Groundwater
-  Groundwater
- * Headspace Analysis on Soil Sample


BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation
LOCATION: Govan Shipyard Site, Glasgow
CLIENT: Clydeport / Marine
JOB NO: 44701-002



WELL CONSTRUCTION	SAMPLE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 18/04/00	BOREHOLE NO BH132
								END DATE: 18/04/00	
	DRILLER: Raeburn	Page 2 of 2							
	METHOD: Shell and Auger	BOREHOLE DIAMETER(mm): 150							
	LOGGED BY: CM	SCREEN TYPE(mm): 50							
CHECKED BY: DN	ELEVATION (mAOD): 6.37								

							DESCRIPTION	COMMENTS
						7	6.0m: becoming silty.	
						8		
						9		
						9	Borehole complete at 9.0 mbgl.	
						-10		
						-11		

<p>LOCATION/NOTES</p> <p>South west corner of basin. TP excavated to 1.7mbgl to breakout concrete prior to drilling.</p>	<p>LEGEND</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Disturbed Sample <input checked="" type="checkbox"/> Perched Groundwater <input checked="" type="checkbox"/> Groundwater * Headspace Analysis on Soil Sample 	BOREHOLE LOG
		JOB TITLE: Stage II Environmental Site Investigation
		LOCATION: Govan Shipyard Site, Glasgow
		CLIENT: Clydeport / Marine
		JOB NO: 44701-002
		 DAMES & MOORE




WELL CONSTRUCTION	SAMPLE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 14/04/00	BOREHOLE NO BH133	
	DEPTH(m)	NUMBER	TYPE					END DATE: 17/04/00		Page 1 of 2
								DRILLER: Raeburn		BOREHOLE DIAMETER(mm): 150
								METHOD: Shell and Auger		SCREEN TYPE(mm): 50
								LOGGED BY: CM		ELEVATION (mAOD): 6.33
CHECKED BY: DN										

							DESCRIPTION	COMMENTS
							MADE GROUND - tarmac	NC 0.15
	0.5-0.9		*<10				MADE GROUND - brown gravelly sand with cobbles of concrete, brick and timber beams (general rubble). Slight creosote odour.	LC
	1.05-1.3		*<10				MADE GROUND - brown silty sand with gravel.	NC 1.3
	1.6-1.8		*1000				MADE GROUND - dark brown, ashy, slightly clayey, fine to medium sand with much assorted fine to medium gravel, some brick and concrete rubble and occasional wood fragments.	NC 1.6
	2.4-2.6		*400				Firm brown, slightly sandy, silty CLAY with some black ash and occasional fine rounded gravel (possible made ground).	NC
			*500				Pale brown and orange-brown, slightly clayey, fine to medium SAND with occasional subrounded gravel.	NC 2.6
	3.7-4.0		*300				Fine, pale brown SAND with occasional subrounded gravel and pockets of grey-orange mottled clayey sand.	NC 3
			*70					NC
	5.8-6.0		*<10					

LOCATION/NOTES

Located on tarmac roadway in south east corner of basin. Trial pit excavated to 1.3mbgl. prior to drilling. Drilled at high tide.

LEGEND

-  Disturbed Sample
-  Perched Groundwater
-  Groundwater
- * Headspace Analysis on Soil Sample

BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation
LOCATION: Govan Shipyard Site, Glasgow
CLIENT: Clydeport / Marine
JOB NO: 44701-002



ALL

CONSTRUCTION	SAMPLE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 14/04/00	BOREHOLE NO BH133	
	DEPTH(m)	NUMBER	TYPE					END DATE: 17/04/00		Page 2 of 2
								METHOD: Shell and Auger		BOREHOLE DIAMETER(mm): 150
								LOGGED BY: CM		SCREEN TYPE(mm): 50
								CHECKED BY: DN		ELEVATION (mAOD): 6.33

							DESCRIPTION	COMMENTS
			* <10		7			
			* <10		8			
					9	Borehole terminated at 9.0m below ground level.		
					10			
					11			

LOCATION/NOTES
 Located on tarmac roadway in south east corner of basin. Trial pit excavated to 1.3mbgl. prior to drilling. Drilled at high tide.

- LEGEND**
- Disturbed Sample
 - Perched Groundwater
 - Groundwater
 - * Headspace Analysis on Soil Sample

BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation

LOCATION: Govan Shipyard Site, Glasgow

CLIENT: Clydeport / Marine

JOB NO: 44701-002




DAMES & MOORE

WELL CONSTRUCTION	SAMPLE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 13/05/00	BOREHOLE NO BH134	
	DEPTH(m)	NUMBER	TYPE					END DATE: 13/05/00		
								DRILLER: Raeburn		Page 1 of 1
								METHOD: Window Sampler		BOREHOLE DIAMETER(mm): 60/50
								LOGGED BY: JD		SCREEN TYPE(mm): 19
			CHECKED BY: DN	ELEVATION (mAOD): 6.61						

								DESCRIPTION	COMMENTS	
								MADE GROUND - concrete.		
								MADE GROUND - brick foundation.	NC	0.2
								MADE GROUND - brown/black medium to coarse gravelly sand with much coke and ash, dry.	NC	0.5
0.5-1.0			* <10							
			* <10							
			* <10							
			* <10							
			* <10							
			* <10							
3.5-4.0			*20							
			*20					LC		
4.3-4.5			*25				4.2m: wet, very strong hydrocarbon odour and oily sheen.	MC		
								Borehole terminated at 4.5mbgl.		

LOCATION/NOTES

Borehole terminated on solid object/concrete.

- LEGEND**
-  Disturbed Sample
 -  Perched Groundwater
 -  Groundwater
 - * Headspace Analysis on Soil Sample


BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation

LOCATION: Govan Shipyard Site, Glasgow

CLIENT: Clydeport / Marine

JOB NO: 44701-002

 **DAMES & MOORE**

CONSTRUCTION

SAMPLE

START DATE: 03/05/00
 END DATE: 06/05/00
 DRILLER: Raeburn
 METHOD: Shell and Auger
 LOGGED BY: JD
 CHECKED BY: DN

BOREHOLE NO BH136
 Page 1 of 4
 BOREHOLE DIAMETER(mm): 200/150
 SCREEN TYPE(mm): 50 and 19
 ELEVATION (mAOD): 6.42

DEPTH(m)	NUMBER	TYPE
1.5-1.7		*<10
2.0-2.2		*400
3.4-3.8		*250
4.8-5.1		*40

SOIL VAPOUR (ppm)
 GROUNDWATER

DEPTH (m)
 GEOLOGY

DESCRIPTION COMMENTS

				MADE GROUND - tarmac		0.15
				MADE GROUND - type 1 hardcore gravel	NC	
				MADE GROUND - cobbles	NC	0.4
				MADE GROUND - concrete	NC	0.6
				MADE GROUND - red brick foundation	NC	0.8
			1	MADE GROUND - brown medium to coarse gravelly sand with some brick fragments.	NC	1
1.5-1.7		*<10		MADE GROUND - brown sandy clay with some brick fragments, trace blaes and coal.	NC	1.5
2.0-2.2		*400	2	2.0m: grades with no brick fragments.		
				No recovery - pushing boulder (2.5-3.0m).		2.5
		*300	3	MADE GROUND - as above.		3
3.4-3.8		*250		Yellowish brown fine to medium silty SAND with much fine rounded gravel.	NC	3.2
		*200	4	4.0m: with some angular to sub-rounded cobbles.		
		*250		4.5m: with no cobbles and some fine to medium rounded gravel.	NC	
4.8-5.1		*40	5			

LOCATION/NOTES

Flat tarmac road at south end of basin. Sand rising between 150mm and 200mm casing. Both casings jammed together. Borehole re-drilled to 17.0m to install monitoring wells.

LEGEND

- Disturbed Sample
- Perched Groundwater
- Groundwater
- * Headspace Analysis on Soil Sample

BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation
 LOCATION: Govan Shipyard Site, Glasgow
 CLIENT: Clydeport / Marine
 JOB NO: 44701-002



WELL

START DATE: 03/05/00
END DATE: 06/05/00
DRILLER: Raeburn
METHOD: Shell and Auger
LOGGED BY: JD
CHECKED BY: DN

BOREHOLE NO BH136
Page 2 of 4
BOREHOLE DIAMETER(mm): 200/150
SCREEN TYPE(mm): 50 and 19
ELEVATION (mAOD): 6.42

CONSTRUCTION	DEPTH(m)	NUMBER	TYPE	SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	DESCRIPTION	COMMENTS
				*100				6.0m: with traces of wood fragments and traces of gravel.	NC
				*50		7		7.0m: with no gravel to become silty SAND.	NC
	8.0-8.2		X	*50		8			
				*20		9			
						10			
						11			

LOCATION/NOTES

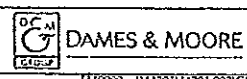
Flat tarmac road at south end of basin. Sand rising between 150mm and 200mm casing. Both casings jammed together. Borehole re-drilled to 17.0m to install monitoring wells.

LEGEND

- X Disturbed Sample
- ▽ Perched Groundwater
- ▼ Groundwater
- * Headspace Analysis on Soil Sample

BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation
LOCATION: Govan Shipyard Site, Glasgow
CLIENT: Clydeport / Marine
JOB NO: 44701-002



WELL CONSTRUCTION	SAMPLE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 03/05/00	BOREHOLE NO BH136	
	DEPTH(m)	NUMBER	TYPE					END DATE: 06/05/00		Page 3 of 4
								DRILLER: Raeburn		BOREHOLE DIAMETER(mm): 200/150
								METHOD: Shell and Auger		SCREEN TYPE(mm): 50 and 19
								LOGGED BY: JD		ELEVATION (mAOD): 6.42
								CHECKED BY: DN		

								DESCRIPTION	COMMENTS

LOCATION/NOTES

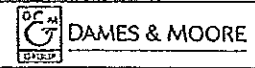
Flat tarmac road at south end of basin. Sand rising between 150mm and 200mm casing. Both casings jammed together. Borehole re-drilled to 17.0m to install monitoring wells.

LEGEND

- Disturbed Sample
- Perched Groundwater
- Groundwater
- * Headspace Analysis on Soil Sample


BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation
LOCATION: Govan Shipyard Site, Glasgow
CLIENT: Clydeport / Marine
JOB NO: 44701-002







WELL CONSTRUCTION	SAMPLE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 03/05/00	BOREHOLE NO BH136
								END DATE: 06/05/00	
	DRILLER: Raeburn		BOREHOLE DIAMETER(mm): 200/150						
	METHOD: Shell and Auger		SCREEN TYPE(mm): 50 and 19						
	LOGGED BY: JD		ELEVATION (mAOD): 6.42						
DEPTH(m)		CHECKED BY: DN							
NUMBER									
TYPE									

							DESCRIPTION		COMMENTS	
19					20					
										20.5
							Borehole terminated at 20.5 mbgl			
					21					
					22					
					23					

<p style="text-align: center;">LOCATION/NOTES</p> <p>Flat tarmac road at south end of basin. Sand rising between 150mm and 200mm casing. Both casings jammed together. Borehole re-drilled to 17.0m to install monitoring wells.</p>	<p style="text-align: center;">LEGEND</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Disturbed Sample <input checked="" type="checkbox"/> Perched Groundwater <input checked="" type="checkbox"/> Groundwater * Headspace Analysis on Soil Sample 	<p style="text-align: center; font-size: 1.2em;">BOREHOLE LOG</p> <p>JOB TITLE: Stage II Environmental Site Investigation</p> <p>LOCATION: Govan Shipyard Site, Glasgow</p> <p>CLIENT: Clydeport / Marine</p> <p>JOB NO: 44701-002</p> <div style="text-align: right;">  DAMES & MOORE </div>
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CONSTRUCTION	SAMPLE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 12/05/00	BOREHOLE NO BH138		
								END DATE: 12/05/00		Page 1 of 1	
	DEPTH(m)	NUMBER	TYPE					DRILLER: Raeburn		BOREHOLE DIAMETER(mm): 60/50	
								METHOD: Window Sampler			SCREEN TYPE(mm): 19
								LOGGED BY: CM			ELEVATION (mAOD): 6.58
								CHECKED BY: DN			

								DESCRIPTION	COMMENTS
								MADE GROUND - concrete.	
				* <10				MADE GROUND - mid brown, fine to coarse, gravelly sand with some brick fragments at the top.	NC 0.35
0.7-1.0		X		* <10				MADE GROUND - fine to medium gravel of black ash with a little red brown slag and metaliferous slag.	NC 0.65
					1			MADE GROUND - soft, dark grey and mid brown, sandy clay with a little fine angular gravel.	NC 1
								Mid brown, soft to firm sandy CLAY.	NC 1.2
1.5-1.9		X		* <10				1.5m: grades to grey brown and orange brown, slightly clayey fine sand.	
					2			2.0m: grades to pale brown and orange brown fine to medium SAND.	
2.5-2.9		X		* <10				2.5m: becomes medium grained with occasional weathered, medium subrounded gravel.	
					3				NC
					4			4.0m: with occasional bands of firm grey silt.	
				* <10				4.5m: band of firm grey SILT over soft brown CLAY.	NC 4.6
								Pale brown fine SAND, moist.	
					5			4.9m: becomes wet.	NC 5
								Borehole terminated at 5.0mbgl.	

LOCATION/NOTES Located on tarmac outside Medical Centre and Unit Hall.	LEGEND  Disturbed Sample  Perched Groundwater  Groundwater * Headspace Analysis on Soil Sample	BOREHOLE LOG
		JOB TITLE: Stage II Environmental Site Investigation
		LOCATION: Govan Shipyard Site, Glasgow
		CLIENT: Clydeport / Marine
		JOB NO: 44701-002
 DAMES & MOORE		

DEPTH(m)	NUMBER	TYPE	SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	DESCRIPTION	COMMENTS
							MADE GROUND - concrete.	NC
							MADE GROUND - type 1 hardcore gravel.	0.5
1.3-1.5		⊗	*<10		1		1.0m: with some sand and traces of clay.	NC
			*<10				MADE GROUND - dark yellow brown fine sandy clay with much angular medium to coarse gravel (hardcore) and traces of clay.	1.4
			*<10		2		2.0m: with traces of fine angular gravel (no hardcore, reworked natural).	NC
2.5-2.7		⊗	*<10				Light yellow brown mottled grey CLAY with some silt, dry to moist, no odour.	2.5
			*<10		3		Light yellow brown fine sandy CLAY, dry, no odour.	NC
			*<10				Light yellow brown very silty SAND, moist, no odour.	3.6
4.0-4.2		⊗	*<10		4		4.5m: becoming greyish brown, wet.	
			*<10		5			

LOCATION/NOTES

Inside tank assembly shop. Centre of building, bay 2.

LEGEND

- ⊗ Disturbed Sample
- ▽ Perched Groundwater
- ▼ Groundwater
- * Headspace Analysis on Soil Sample

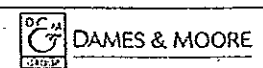
BOREHOLE LOG

JOB TITLE: Stage II Environmental Site Investigation

LOCATION: Govan Shipyard Site, Glasgow


CLIENT: Clydeport / Marine

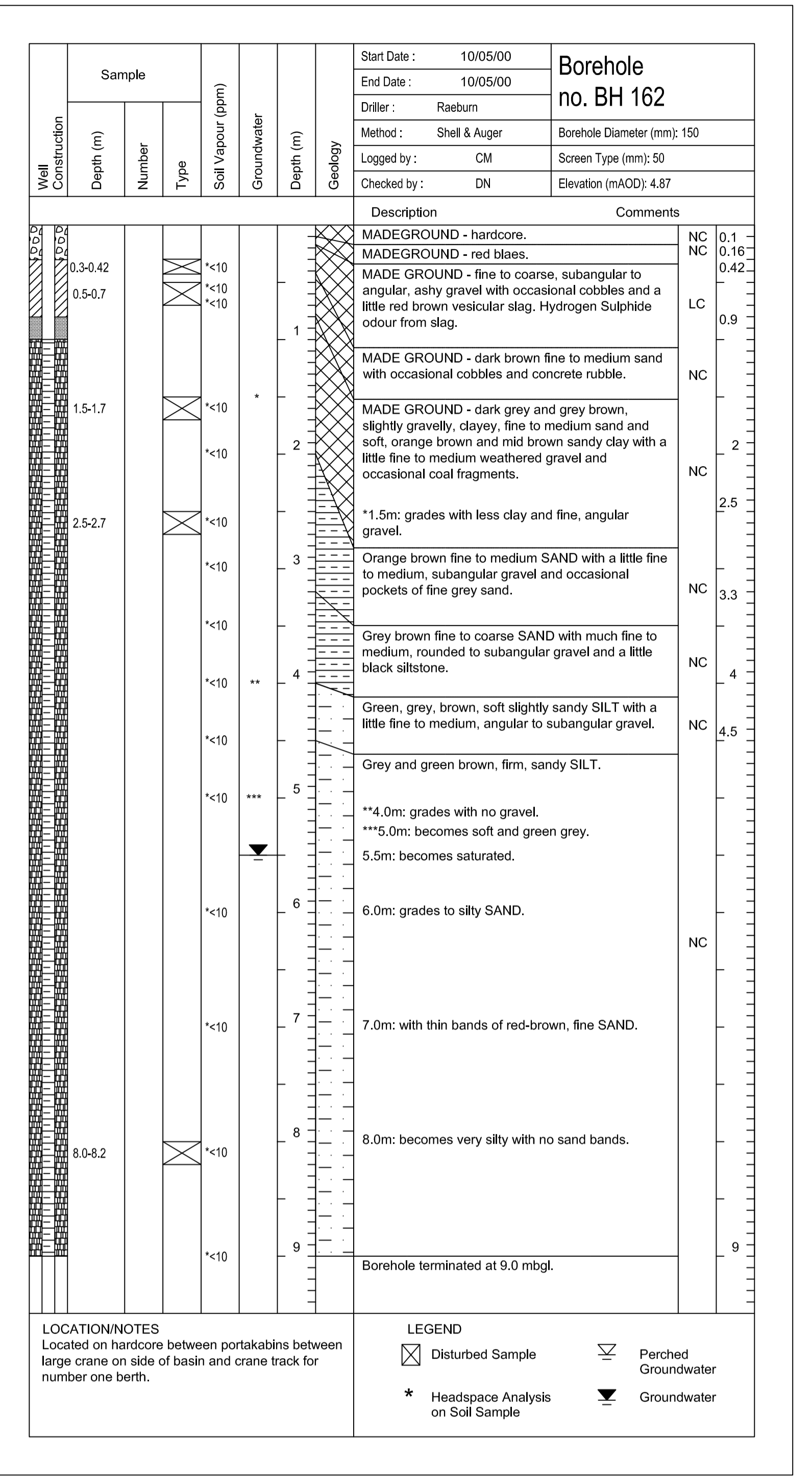
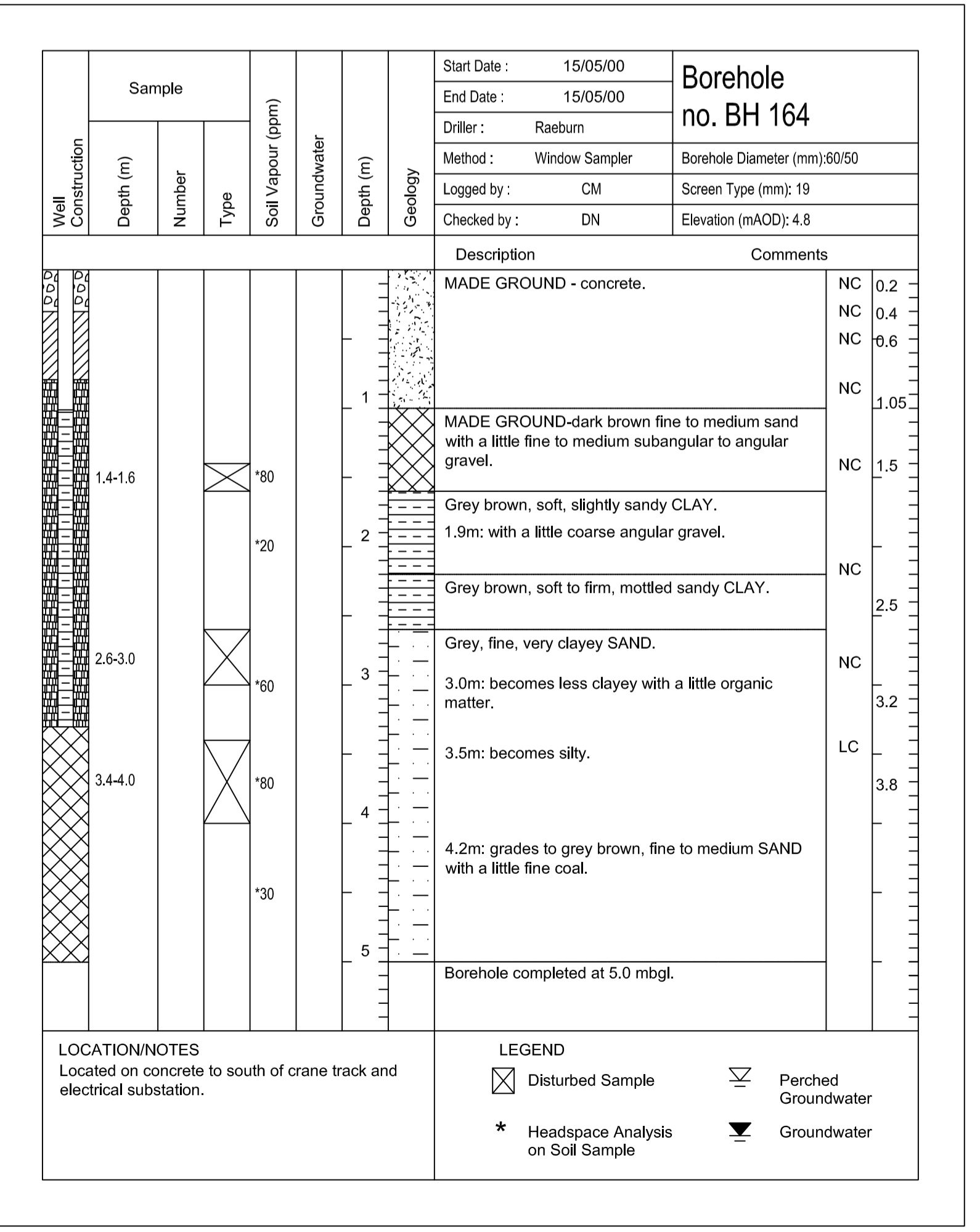
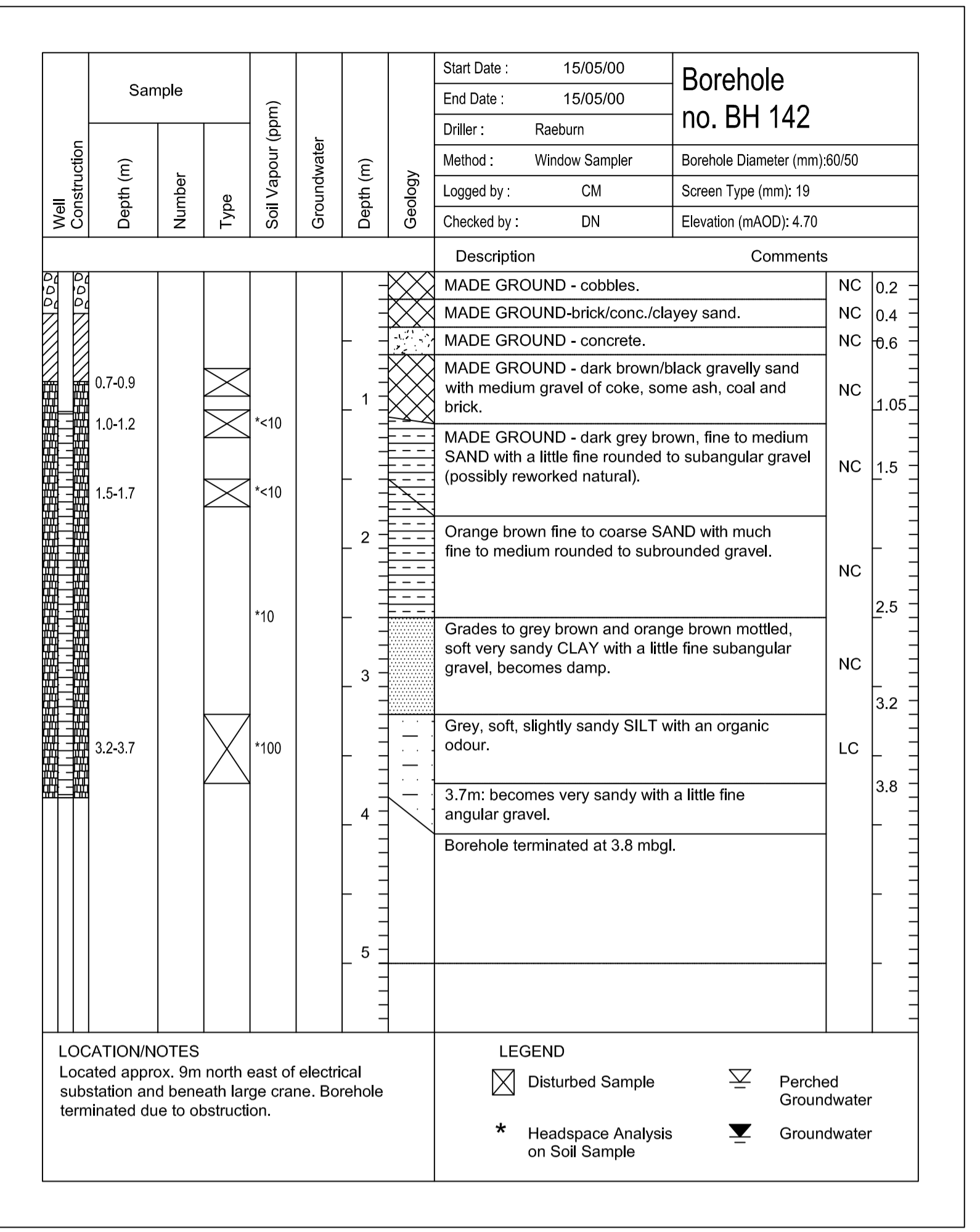
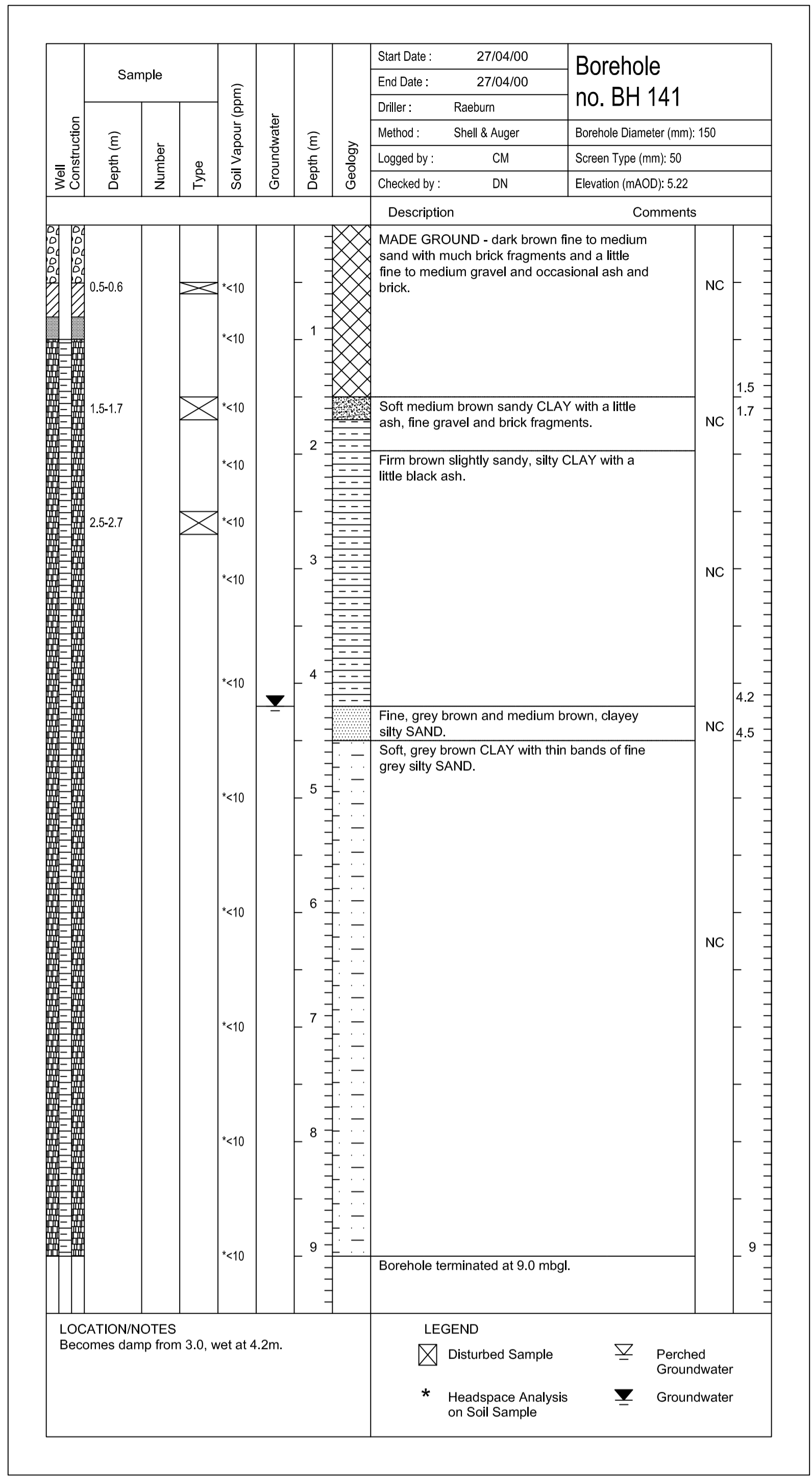
JOB NO: 44701-002



WELL CONSTRUCTION	SAMPLE			SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	START DATE: 26/04/00	BOREHOLE NO BH139	
	DEPTH(m)	NUMBER	TYPE					END DATE: 26/04/00		Page 2 of 2
								DRILLER: Raeburn		BOREHOLE DIAMETER(mm): 150
								METHOD: Shell and Auger		SCREEN TYPE(mm): 50
								LOGGED BY: JD		ELEVATION (mAOD): 5.33
CHECKED BY: DN										

								DESCRIPTION	COMMENTS
7				* <10		7	X		NC
8				* <10		8	X	Borehole terminated at 8.0mbgl.	
9						9			
10						10			
11						11			

<p>LOCATION/NOTES</p> <p>Inside tank assembly shop. Centre of building, bay 2.</p>	<p>LEGEND</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Disturbed Sample <input checked="" type="checkbox"/> Perched Groundwater <input checked="" type="checkbox"/> Groundwater * Headspace Analysis on Soil Sample 	BOREHOLE LOG
		JOB TITLE: Stage II Environmental Site Investigation
		LOCATION: Govan Shipyard Site, Glasgow
		CLIENT: Clydeport / Marine
		JOB NO: 44701-002
 DAMES & MOORE		



* Information for Boreholes 141, 142, 162 & 164 taken from Dames & Moore Site Investigation material. Job no. 44701-002. Client: Clydeport/Marine.

Information below was extracted from the Executive Summary:

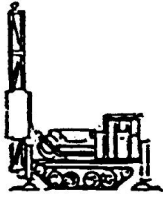
Final Interpretative Report for Clydeport PLC and BAE Systems Marine YSL by Dames and Moore.

Site Investigation

The intrusive site investigation and associated monitoring was carried out between 4 April and 23 June 2000 and comprised the following:

- Drilling of 49 No. Shell & Auger boreholes to a maximum depth of 31.8mbgl;
- Drilling of 26 Window Sampler boreholes to a maximum depth of 7mbgl;
- Installation of 23 No. 50mm nominal diameter high density polyethylene (HDPE) combined groundwater/gas monitoring wells within the Shell & Auger locations;
- Installation of 25 No. 19mm nominal diameter HDPE combined groundwater/gas monitoring wells within the Window Sampler locations;
- Installation of 17 No. dual installations comprising 1 No. 19mm and 1 No. 50mm nominal diameter HDPE groundwater monitoring wells within the Shell & Auger locations;
- Collection of a total of 227 No. soil and 62 No. groundwater samples from the borehole locations for chemical analysis. Three of these groundwater samples were taken from three existing wells (BH202-203) located at the southern end of the car park on the west of the site;
- Excavation of 15 No. trial pits;
- Monitoring of groundwater conditions across the site;
- Undertaking of aquifer hydraulic conductivity tests in 12 No. wells;
- Monitoring of gas conditions across the site; and
- Completion of a monitoring well levelling survey.

A	6.7.05	Drawing changed	DK
REV	DATE	REVISION	BY
<p>ARCH HENDERSON <small>ESTABLISHED 1919</small></p> <p>ARCH HENDERSON <small>CIVIL and STRUCTURAL ENGINEERS ARCHITECTS and PLANNING SUPERVISORS GEOTECHNICAL & ENVIRONMENTAL SERVICES</small></p> <p>4 Blair Court, Clydebank Business Park, Clydebank G81 2LA. Tel : 0141 951 8171 - Fax : 0141 951 8220 email : clydebank@arch-henderson.co.uk</p> <p>ABERDEEN . LERWICK . KIRKWALL . THURSO . DUNDEE . CLYDEBANK</p>			
PROJECT : BAE SYSTEMS - GOVAN MODIFICATIONS TO No. 1 SLIPWAY			
DRAWING TITLE : Borehole Logs Sheet 3			
DRAWN : A.S.	DRAWING STATUS : TENDER		
CHECKED :	SCALE : (A1) 1:100	DATE : May 05	
APPROVED :	DRAWING No : 05099-10 REV : A		



HYDRACRAT LTD

GEO TECHNICAL SERVICES

DAILY DRILL LOG

SHEET: OF:

RIG No. D27 JOB No. 4896

BOREHOLE No. 4 SITE: Kvaerner Govan DATE: 19/3/90

TEL: 0698 748832

FAX: 0698 746307

TELEX: 772098

FROM	TO	THICKNESS	CORE RECOVERY	DESCRIPTION OF STRATA
GL	0.10	0.10		Concrete
0.10	0.30	0.20		Made Up Ground
0.30	1.70	1.40		Old Foundations
1.70	2.30	0.60		Brown Sandy Clay
2.30	26.40	24.10		Sand
26.40	30.20	3.80		Clay & Gravel
30.20	30.50	0.30		Mudstone
30.50	33.50	3.00	2.20	Mudstone (Glacial Till)
33.50	35.87	2.37	0.50	Mudstone (Glacial Till)
35.86	36.75	0.88	0.88	Mudstone (Glacial Till)
36.75	36.80	0.05	0.05	Ironstone
36.80	39.80	3.00		Mudstone, dark grey silty MUSTONE, with sandstone laminae to 38m, strong
				RQD 75%
39.80	41.00	1.20	0.00	Mudstone (Core lost broken spring)
				Bore Complete

CASING SIZE

CASING DEPTH 36.00

WATER LEVELS 1: 37.00 2: 3:

SITE TIME ON: OFF:

DOWN TIME FROM: TO:

COMMENTS:

TRIAL PIT LOG TP 1

Sample			Groundwater	Depth	Geology	Description	Comments
Depth	Number	Type					
1.0m	S1	☒		1		MADE GROUND (Tar)	NC
						MADE GROUND ('Dense' grey cobbles)	NC
						MADE GROUND (Grey, angular cobbles)	NC
						MADE GROUND ('Soft', pale yellow, sand)	NC
						MADE GROUND (Concrete)	NC
						Loose yellow/brown SAND with occasional wood lengths. Solvent odour and old iron pipe?? Occasional rounded medium gravels @2.2m.	LC
2.0m	S2	☒		2		Soft' grey slightly silty CLAY.	NC
				3		Trial pit terminated at 3.00m Excavation remained dry and stable Consistencies assessed visually in-situ	
				4			

TRIAL PIT NO: TP 1
 Page: 1 of 1
 Project: Govan Geotech SI
 Proj. no: 1121
 Location: Govan
 Client: BAE Systems

Date: 20-Oct-03
Time:
Contractor: IKM Consulting
Plant: JCB
Logged by: C. Sandground
Checked by: A. Kean

Legend
 ☒ Disturbed sample
 ▽ Perched groundwater
 ▼ Groundwater
 ☆ Sample for TVOC analysis
 NC No evidence (odour, visual) of contamination
 Similarly moderate contam., heavy contam.

TRIAL PIT LOG TP 2

Sample		Groundwater	Depth	Geology	Description	Comments
Depth	Number					
					MADE GROUND (asphalt over grey angular cobbles)	NC
					MADE GROUND (asphalt)	NC
1.0m	S1	⊗	1		Loose yellow SAND with a little rounded medium gravels at 1.7m. Sewer/organic odours.	LC
2.0m	S2	⊗	2			
					Soff' to 'firm' brown CLAY.	NC
3.5m	S3	⊗	3			
					Trial pit terminated at 3.50m Excavation remained dry and stable Consistencies assessed visually in-situ	
			4			

TRIAL PIT NO: TP 2
Page: 1 of 1
Project: Govan Geotech SI
Proj. no: 1121
Location: Govan
Client: BAE Systems

Date: 20-Oct-03
Time:
Contractor: IKM Consulting
Plant: JCB
Logged by: C. Sandground
Checked by: A. Kean

Legend
 ⊗ Disturbed sample
 ▽ Perched groundwater
 ▼ Groundwater
 ☆ Sample for TVOC analysis
 NC No evidence (odour, visual) of contamination
 Similarly moderate contam., heavy contam.

TRIAL PIT LOG TP 3

Sample		Groundwater	Depth	Geology	Description	Comments
Depth	Number					
			0		MADE GROUND (asphalt over grey angular gravel)	NC
1.3	S1	⊗	1		MADE GROUND (loose, yellow sand, with some angular stone gravels)	NC
2.6	S2	⊗	2		MADE GROUND (yellow sand, with much hard red brick)	NC
			3		Trial pit terminated at 2.60m due to presence of wall. Excavation remained dry and stable Consistencies assessed vicusally in-situ	
			4			

TRIAL PIT NO: TP 3
Page: 1 of 1
Project: Govan Geotech SI
Proj. no: 1121
Location: Govan
Client: BAE Systems

Date: 21-Oct-03
Time:
Contractor: IKM Consulting
Plant: JCB
Logged by: C. Sandground
Checked by: A. Kean

Legend
 ⊗ Disturbed sample
 ▽ Perched groundwater
 ▼ Groundwater
 ☆ Sample for TVOC analysis
 NC No evidence (odour, visual) of contamination
 Similarly moderate contam., heavy contam.

TRIAL PIT LOG TP 4

Sample		Groundwater	Depth	Geology	Description	Comments
Depth	Number					
					MADE GROUND (asphalt over grey angular gravel)	NC
					MADE GROUND ('Very dense' brown fine to medium angular gravel, with some red cemented brickwork. Old lead conduct at 0.7m)	NC
0.9	S1	☒			MADE GROUND ('Dense' yellow sand with an old redundant pipe running northwest)	NC
					Dense' yellow/brown slightly clasy SAND.	NC
					Trial pit terminated at 2.20m Excavation remained dry and stable Consistencies assessed visually in-situ	

TRIAL PIT NO: TP 4
Page: 1 of 1
Project: Govan Geotech SI
Proj. no: 1121
Location: Govan
Client: BAE Systems

Date: 20-Oct-03
Time:
Contractor: IKM Consulting
Plant: JCB
Logged by: C. Sandground
Checked by: A. Kean

Legend
 ☒ Disturbed sample
 ▽ Perched groundwater
 ▼ Groundwater
 ☆ Sample for TVOC analysis
 ☆ No evidence (qdour, visual) of contamination
 NC Similarly moderate contam., heavy contam.

Borehole Log

Drilled by JB Logged by SH Checked by KES		Start 04/11/2003 End 14/11/2003		Equipment, Methods and Remarks Cable percussion boring		Depth from 0.00m to 19.00m 19.00m 27.80m		Diameter 200mm 150mm		Casing Depth 19.00m 27.80m		Ground Level Coordinates National Grid	
Samples and Tests						Strata							
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)	Legend	Backfill/ Instruments					
			04/11/2003	0800	Clay and hardcore backfill (Foreman's description). (MADE GROUND)	(3.80)							
			04/11/2003	1600									
			05/11/2003	0800									
4.00-4.45	SPTS D 3 B 4	N=14 (3,4/3,3,4,4)	4.00	dry	Uncompact grey brown slightly sandy slightly gravelly SILT with occasional cobbles. Sand is fine to coarse. (ALLUVIAL DEPOSITS)	3.80							
5.00-5.45	U 5	16 blows	5.00	dry									
5.45	D 6												
6.50-6.95	SPTS W 7 D 8 B 9	N=20 (4,6/6,4,5,5)	05/11/2003 6.50 06/11/2003 6.50	1600 dry 0.00 0.00									
8.00-8.45	SPTS D 10 B 11	N=21 (5,5/5,5,7,4)	8.00	0.00									
8.50-8.95	SPTS D 12 B 13	N=23 (4,4/6,6,4,7)	8.50	0.00	Medium dense becoming below 11.00 m dense brown silty mainly fine SAND with a trace of subangular fine to coarse gravel of various lithologies.	8.40							
9.50-9.95	SPTS D 14 B 15	N=27 (8,7/6,8,8,7)	9.50	0.00									
Stratum continued next sheet													
Depth	Type & No	Records	Date Casing	Time Water									
Groundwater Entries					Depth Related Remarks		Chiselling						
No.	Struck (m)	Post strike behaviour	Depth sealed (m)		From (m)	to (m)	Depths (m)	Time	Tools used				
1	6.00	Entered overnight			0.00	3.00							
					8.00	27.80			Backfilled trial pit Water added and maintained at ground level				
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.			Project		GOVAN SHIPYARD			Borehole					
			Project No.		C3133			BH 1					
			Carried out for		BAE SYSTEMS			Sheet 1 of 3					
Scale 1:50			(c) MESA HB1 (285), 03/02/2004 14.12.37										

Borehole Log

Drilled by JB Logged by SH Checked by KES		Start 04/11/2003 End 14/11/2003		Equipment, Methods and Remarks		Depth from 0.00m 19.00m		to 19.00m 27.80m		Diameter 200mm 150mm		Casing Depth 19.00m 27.80m		Ground Level Coordinates National Grid	
Samples and Tests					Strata					Depth, Level (Thickness)		Legend	Backfill/ Instruments		
Depth	Type & No	Records	Date Casing	Time Water	Description										
11.00-11.45 11.00-11.45 11.00-11.45	SPT S D 16 B 17	N=31 (8,8,9,8,7,7)	11.00	0.00	Medium dense becoming below 11.00 m dense brown silty mainly fine SAND with a trace of subangular fine to coarse gravel of various lithologies.							SP			
13.00-13.45 13.00-13.45 13.00-13.45	SPT S D 18 B 19	N=34 (9,9,9,10,7,8)	13.00	0.00											
14.50-14.95 14.50-14.95 14.50-14.95	SPT S D 20 B 21	N=35 (10,9,9,8,9,9)	05/11/2003 14.50 14.50 07/11/2003 14.50	1800 3.00 0.00 0800 3.00						(13.60)					
16.00-16.45 16.00-16.45 16.00-16.45	SPT S D 22 B 23	N=39 (9,11/10,10,9,10)	16.00	0.00											
18.00-18.45 18.00-18.45 18.00-18.45	SPT S D 24 B 25	N=40 (10,11/11,9,9,11)	18.00	0.00											
19.50-19.95 19.50-19.95 19.50-19.95	SPT S D 26 B 27	N=44 (12,10/10,12,11,11)	07/11/2003 19.00 11/11/2003 19.00	1800 3.00 0800 3.00											
Stratum continued next sheet															
Groundwater Entries	No. Struck	Post strike behaviour	Depth sealed (m)	Depth Related Remarks	From	to (m)	Chiselling	Depths (m)	Time	Tools used					
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.			Project		GOVAN SHIPYARD		Borehole								
Scale 1:50			Project No.		C3133		BH 1								
Scale 1:50			Carried out for		BAE SYSTEMS		Sheet 2 of 3								

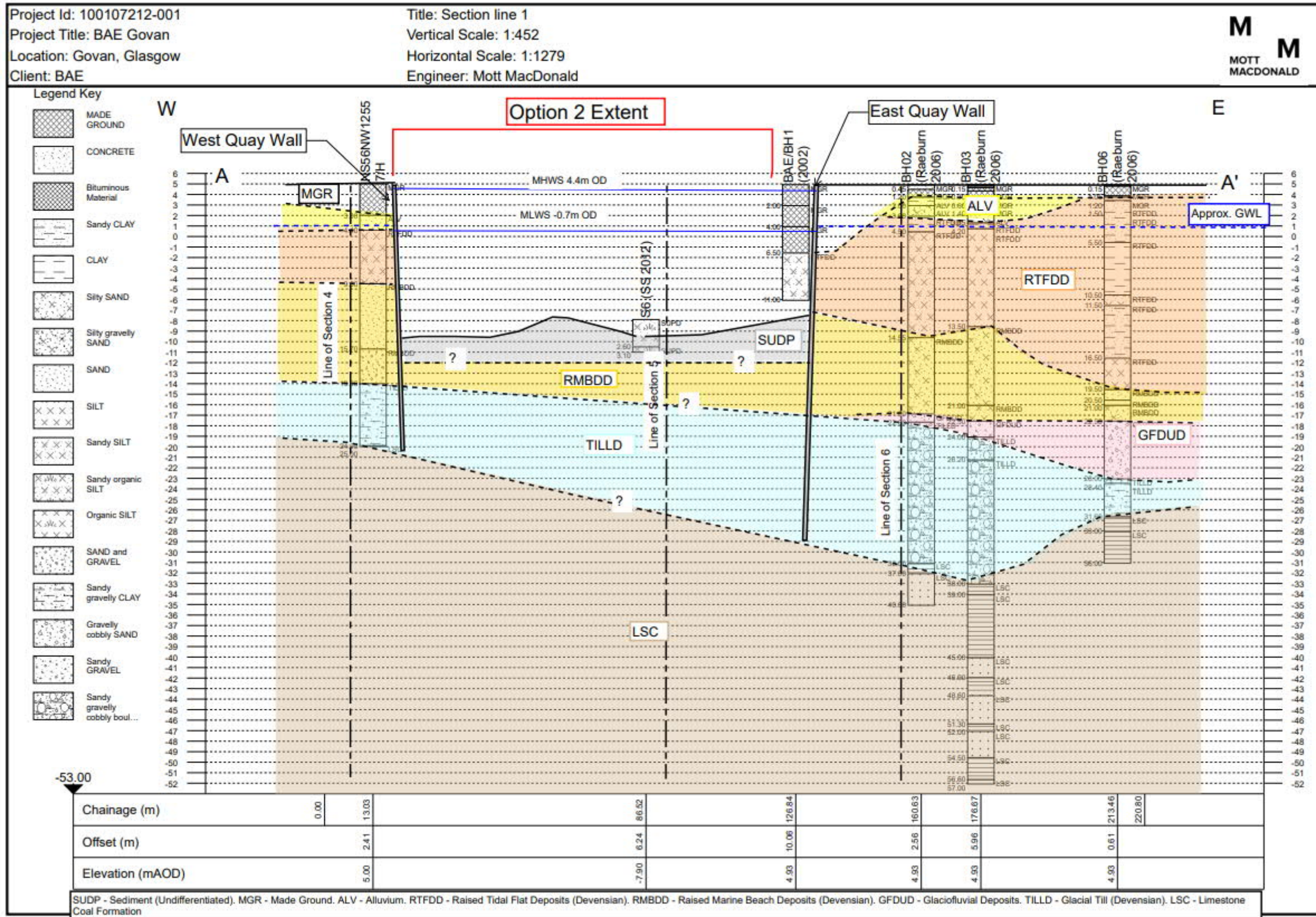
Borehole Log

Drilled by JB Logged by SH Checked by KES		Start 04/11/2003 End 14/11/2003		Equipment, Methods and Remarks		Depth from 0.00m 19.00m		to 19.00m 27.80m		Diameter 200mm 150mm		Casing Depth 19.00m 27.80m		Ground Level Coordinates National Grid							
Samples and Tests						Strata						Depth, Level (Thickness)		Legend		Backfill/ Instruments					
Depth		Type & No		Records		Date Casing		Time Water		Description											
21.00-21.45 21.00-21.45 21.00-21.45		SPT S D28 B29		N=48 (10,12,12,12,13,11)		11/11/2003 1600 21.00 3.00 24.00 0.00 12/11/2003 0800 21.00 3.00				Medium dense becoming below 11.00 m dense brown silty mainly fine SAND with a trace of subangular fine to coarse gravel of various lithologies.											
22.00-22.45 22.00-22.45		SPT C B30		N=65 (15,17,17,18,15,15)		22.00		0.00		Very dense brown silty sandy to very sandy GRAVEL with occasional cobbles. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of various lithologies. Cobbles are subrounded of various lithologies.						22.00					
24.00-24.45 24.00-24.45		SPT C B31		N=75 (16,16,19,18,18,20)		24.00		0.00													
25.50-25.95 25.50-25.95		SPT S B32		N=74 (17,20,18,18,19,19)		25.50		0.00								(5.80)					
27.00-27.45 27.00-27.50		SPT S B33		N=81 (18,16,22,20,19,20)		27.00		0.00													
						12/11/2003 1600 26.00 0.00															
						13/11/2003 0800 25.00 3.00															
						13/11/2003 1600 27.50 2.00															
						14/11/2003 1600 27.60 0800 27.50 3.00										27.80					
EXPLORATORY HOLE ENDS AT 27.80 m																					
Groundwater Entries		No. Struck		Post strike behaviour		Depth sealed (m)		Depth Related Remarks						Chiselling		Time		Tools used			
														27.80-27.60		60 mins					
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Project GOVAN SHIPYARD						Borehole									
Scale 1:50						Project No. C3133						BH 1									
M ESO H311 (259), 03/02/2004 14:12:44						Carried out for BAE SYSTEMS						Sheet 3 of 3									

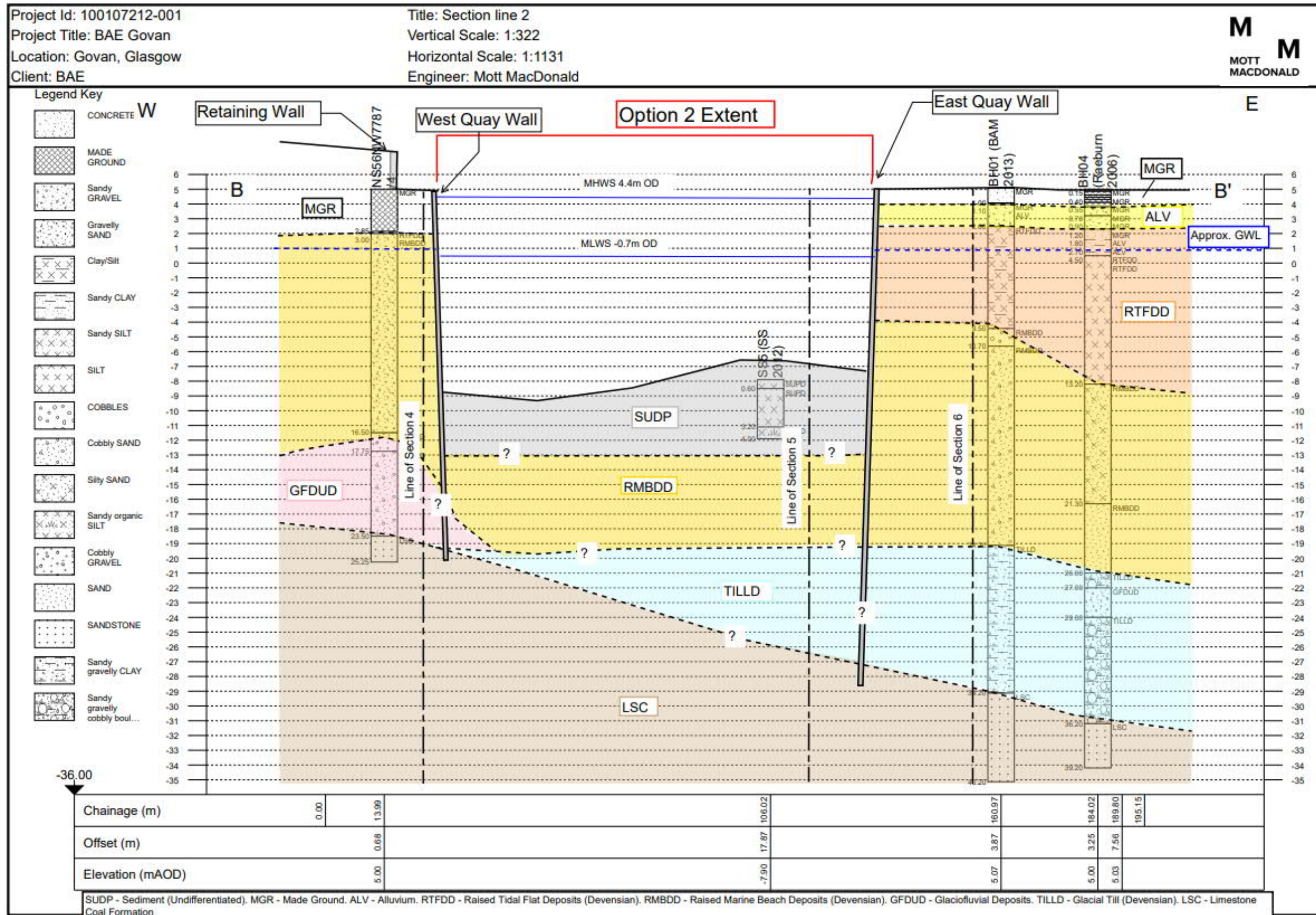
G. Illustrative Geological Profiles

Figure G.2: Geological Section Plan Locations

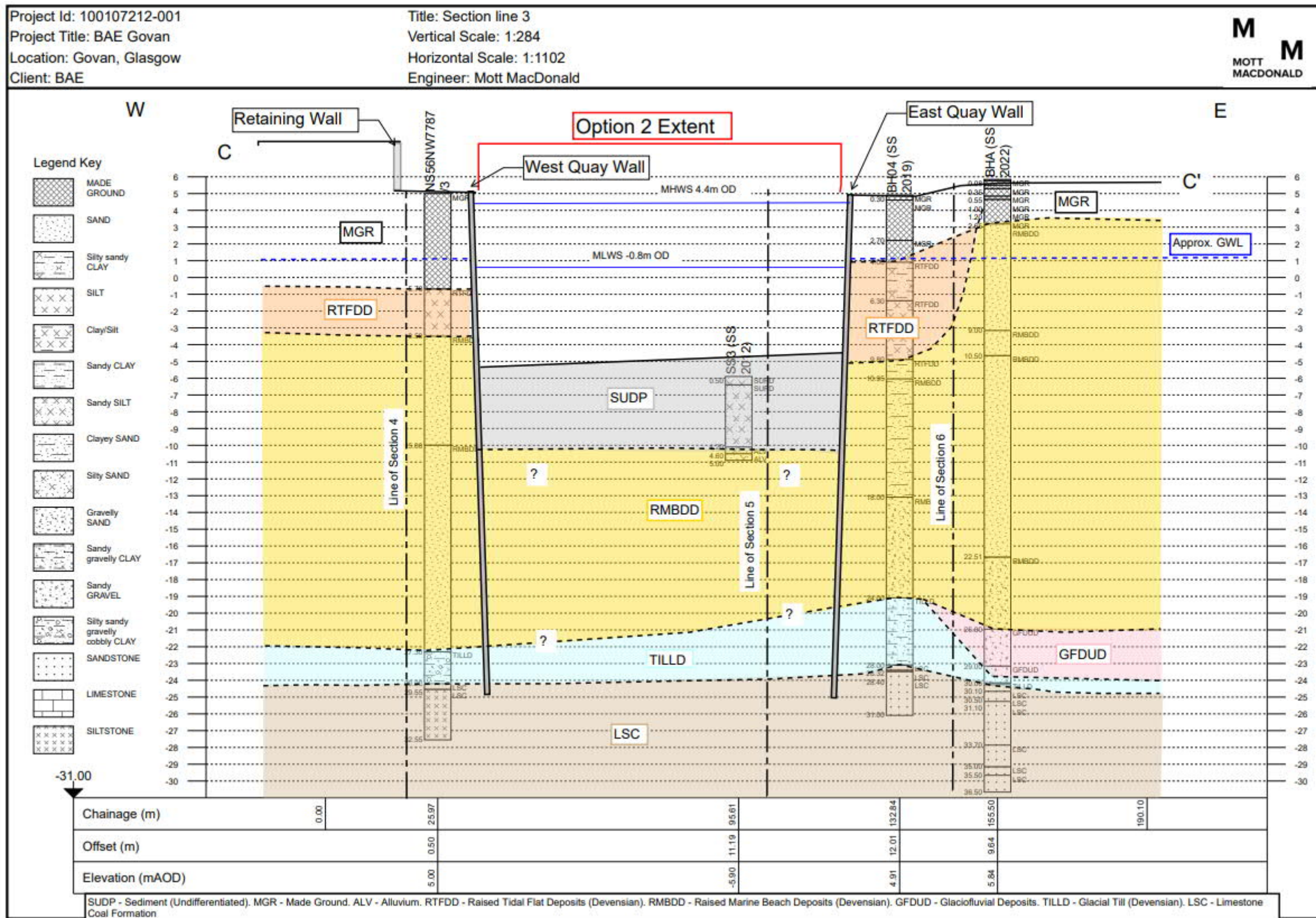




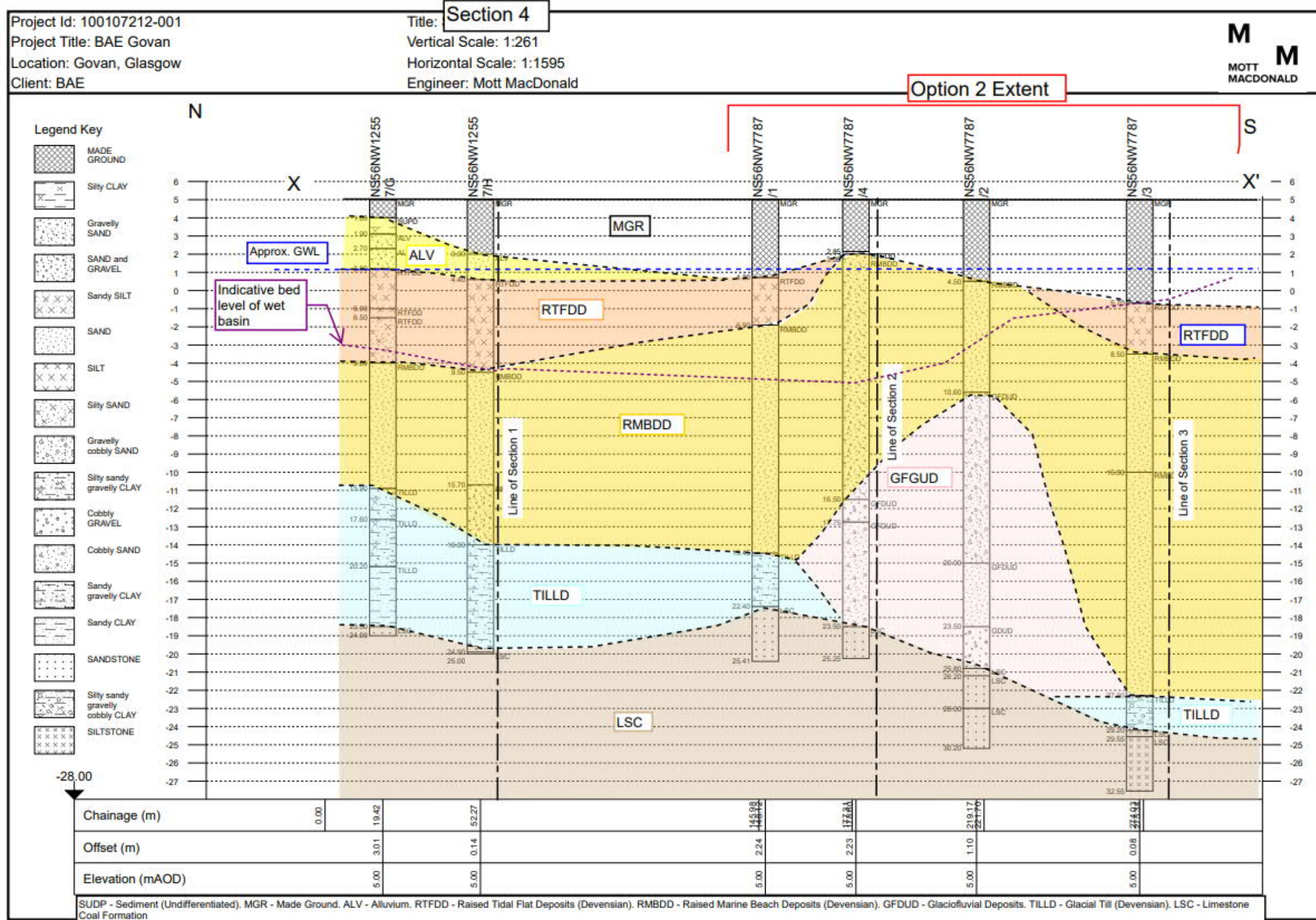
Section A-A' Conjectured Ground Profile



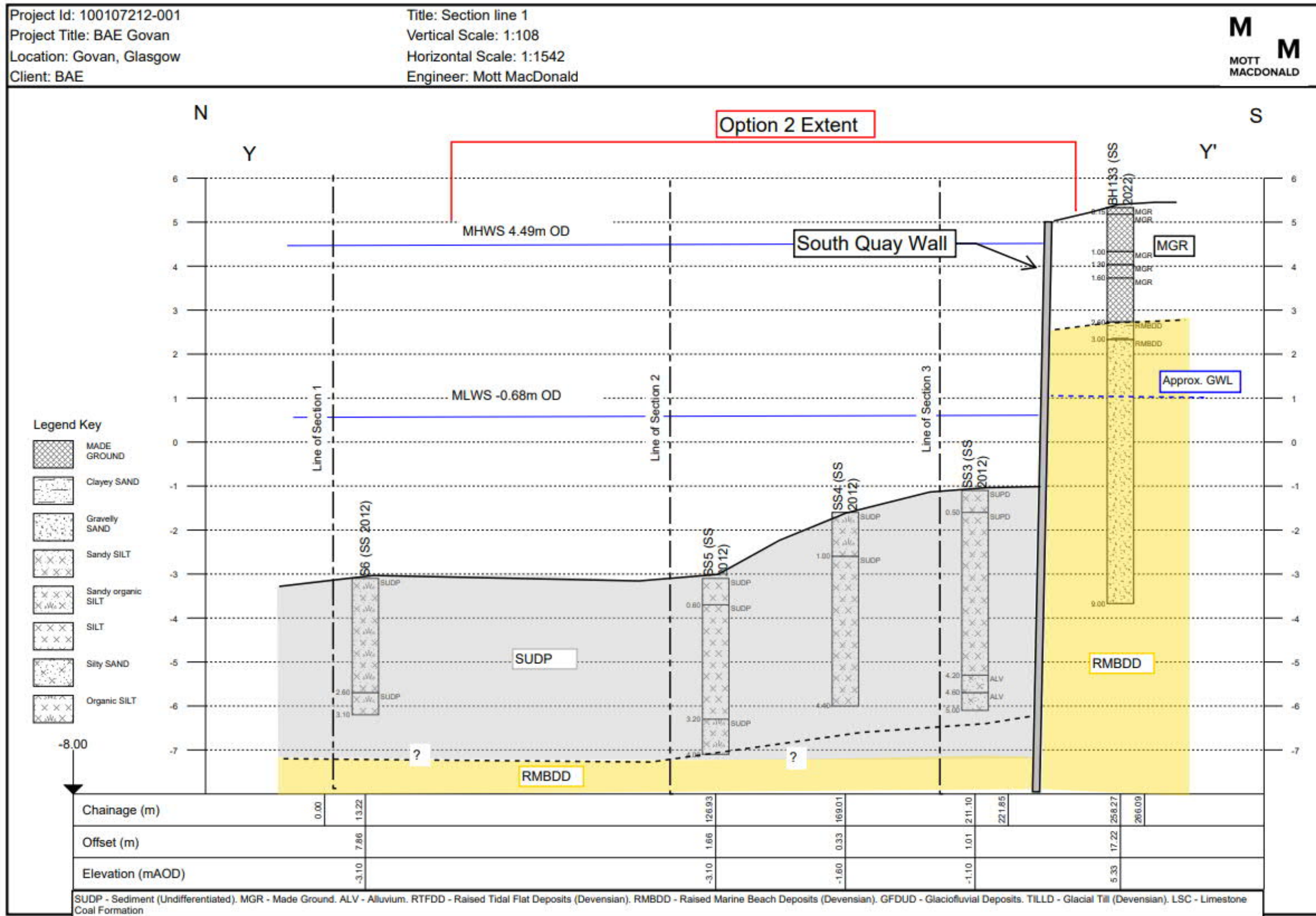
Section B-B' Conjectured Ground Profile



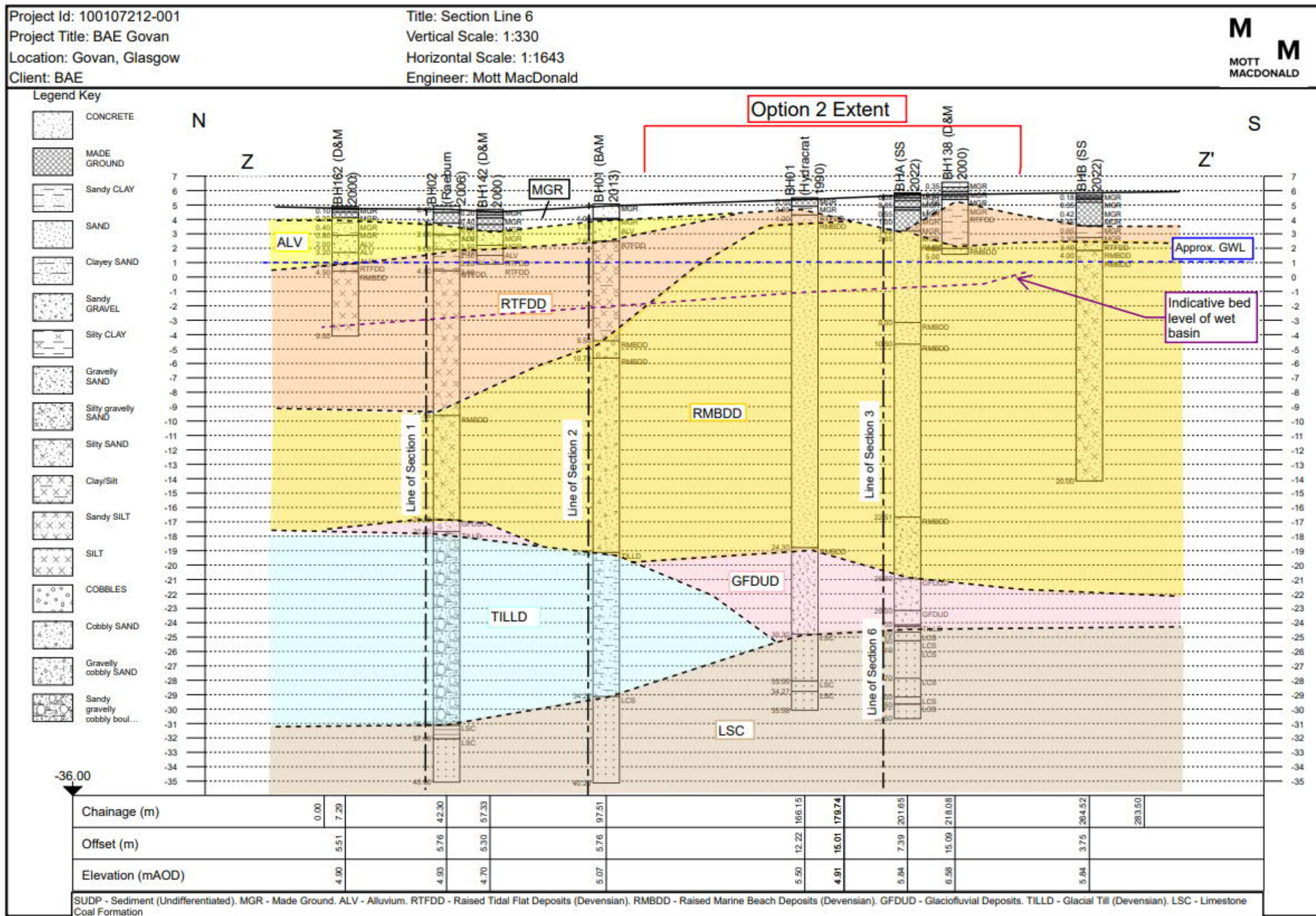
Section C-C' Conjectured Ground Profile



Section X-X' Conjectured Ground Profile



Section Y-Y' Conjectured Ground Profile



Section Z-Z' Conjectured Ground Profile

H. Geotechnical Risk Register

Table H.2: Negative consequence score table

Impact		Health and Safety	Time	Cost	Reputation	Environment
1	very low negligible	negligible	negligible effect on programme	negligible	negligible	negligible
2	low minor	minor injury	5% effect on programme	1% budget	minor effect on local company image/ business relationship mildly affected	minor environmental incident
3	medium serious	major injury	12% effect on programme	10%budget	local media exposure/ business relationship affected	environmental incident requiring management input
4	high threat to future work and client relations	fatality	25% effect on programme	20% budget	nationwide media exposure / business relationship greatly affected	environmental incident leading to prosecution or protestor action
5	very high threat to business survival and credibility	multiple fatalities	50% effect on programme	50% budget	permanent nationwide affect on company image/ significant impact on business relationship	major environmental incident with irreversible effects and threat to public health or protected natural resource

Table H.3: Likelihood score table

	Likelihood		Probability
1	very low	negligible / improbable	<1%
2	low	unlikely / remote	>1%
3	medium	likely / possible	>10%
4	high	probable	>50%
5	very high	very likely / almost certain	>90%

Table H.4: Risk matrix

		Likelihood					
		Very Low	Low	Medium	High	Very High	
		Score	1	2	3	4	5
Negative Consequence	Very Low	1	n	n	n	n	t
	Low	2	n	n	t	t	s
	Medium	3	n	t	t	s	s
	High	4	n	t	s	s	i
	Very High	5	t	s	s	i	i

Risk Key

intolerable	RED	i	20 to 25
significant	AMBER	s	10 to 16
tolerable	YELLOW	t	5 to 9
negligible / trivial	GREEN	n	1 to 4

GEOTECHNICAL RISK REGISTER

Date: 09/06/2022
 Project Phase: Detailed Design
 Project: BAE Govan - New Assembly Hall
 Originator: K Wells

Ref No.	Threat	Consequences	IMPACT	LIKELIHOOD	RISK	RISK TYPE	Potential Risk Control Measures / Actions	Mitigation Status	OWNER	Action (by whom and when)
1	Made Ground. Made Ground is indicated to be present across the whole site (onshore) associated with the current and historical use of the site as a shipyard, which is variable in composition and properties.	1) Made Ground may be unsuitable as founding strata in areas of new structures leading to excessive settlement/movement resulting in SLS or ULS failure.	M	M	T	CTR	1) A ground investigation should be undertaken in areas where ground engineering works are proposed to determine composition and geotechnical properties of Made Ground material. 2) Results of ground investigation should be incorporated into detailed design and construction planning.	OPEN Unmitigated. 1) - 2) yet to be completed.	Designer Contractor	Designer to scope ground investigation, assess results and undertake detailed design. Contractor to incorporate design recommendations during construction works.
2	Variable Ground Conditions. Ground conditions across the site are indicated to be variable in composition and thickness. In addition little existing information is available for the ground conditions within the wet basin.	1) Inappropriate design and construction methodologies if ground conditions are different than assumed in composition and geotechnical properties. 2) Impact on suitability and stability of design (possible ULS/SLS failure). 3) Impact on cost and project programme if unforeseen construction and/ or design changes are suddenly required.	H	H	S	CTR	1) A ground investigation should be undertaken to determine site specific ground conditions and geotechnical properties. 2) Results of GI to be interpreted to produce detailed ground models and to derive geotechnical parameters for use in design. 3) Results of ground investigation to be incorporated into detailed design and construction planning.	OPEN Unmitigated. 1) - 3) yet to be completed.	Designer Contractor	Designer to scope ground investigation, assess results and undertake detailed design. Contractor to incorporate design recommendations during construction works.
3	Compressible Soils. Compressible soils are present as very soft to soft organic silt within the Wet Basin and as soft to firm silt and clay within the Raised Tidal Flat Deposits outside of the Wet Basin that are potentially compressible. Infilling of the basin and construction of the Ship Assembly building are likely to induce high surcharge loading on these soils which may induce ground settlements.	1) Settlement of compressible soils potentially resulting in settlement limit exceedances. 2) Additional construction/maintenance costs to repair damage or remediate materials as needed.	H	H	S	CTR	1) A ground investigation should be undertaken to determine nature, extent and properties of soft soils. 2) Results of ground investigation to be incorporated into detail design and construction planning. 3) Detailed Design to include for remediation of soft soils and/or foundation design to account for soft soils and potential effects of ground settlements.	OPEN Unmitigated. 1) - 3) yet to be completed.	Designer Contractor	Designer to scope ground investigation, assess results and undertake detailed design. Contractor to incorporate design recommendations during construction works.
4	Running Sands. Potential for running sands to be encountered beneath water table that could lead to delays in drilling and collapse of boreholes/excavations.	1) Damage to equipment. 2) Increased costs. 3) Delays to programme.	M	M	T	CTR	1) Ground investigation to be carried out to determine ground conditions. 2) Contractor to design investigation works to allow for the potential of running sands. 3) Results of GI to be incorporated into design and risk communicated to contractor.	OPEN Unmitigated. 1) - 3) yet to be completed.	Designer Contractor	Designer to scope ground investigation, assess results and undertake detailed design. Contractor to incorporate design recommendations during construction works.
5	Obstructions - Anthropogenic. Historical ground investigations have identified a number of obstructions within the Made Ground on site associated with historical structures and previous land uses which may be encountered during ground investigations or subsequent construction works including new building foundations.	1) Damage to equipment and plant during any works if unexpected obstructions are encountered. 2) Additional time and cost spent removing obstructions during construction works.	H	M	S	CTR	1) Ground Investigation to be scoped to avoid known obstructions or to deliberately target areas of potential obstructions for characterisation. 2) All information on existing obstructions to be incorporated into detailed design and passed to contractor. 3) Suitable construction methodologies to be adopted, which may include excavating and replacing known and unknown obstructions on site.	OPEN. Unmitigated: 1 - 3) yet to be completed	Designer Contractor	1) Designer to highlight risk of obstructions in early and detailed design. 2) Contractor to be aware of obstructions and have a methodology in place to deal with them if encountered during construction.

GEOTECHNICAL RISK REGISTER

Date: 09/06/2022
 Project Phase: Detailed Design
 Project: BAE Govan - New Assembly Hall
 Originator: K Wells

Ref No.	Threat	Consequences	IMPACT	LIKELIHOOD	RISK	RISK TYPE	Potential Risk Control Measures / Actions	Mitigation Status	OWNER	Action (by whom and when)
6	Obstructions - Natural. Historical ground investigations have encountered a number of cobble/boulder obstructions within the Glacial soils at the base of the superficial geology succession that may be encountered by ground investigations and subsequent construction works including potential piled foundations and embedded pile wall elements.	1) Damage to equipment and plant during any works if obstructions are encountered. 2) Additional time and cost spent removing or working around obstructions during construction works.	H	M	S	CTR	1) Ground investigation works to utilise appropriate methodologies for advancing boreholes through obstructions if encountered. 2) Suitable construction methodologies to be adopted during design to account potential obstructions.	OPEN. Unmitigated: 1 - 2) yet to be completed	Designer Contractor	2) Designer to mitigate risk of obstructions in early and detailed design. 2) Contractor to be aware of obstructions and have a methodology in place to deal with them if encountered during construction.
7	Variable Rockhead. Historical Ground Investigation indicate that the rockhead level can vary by up to 10m over the footprint of the Wet Basin.	1) Inappropriate design and construction methodologies if rockhead levels are different from those proposed in design leading to delays and increased costs in construction. 2) Impact on suitability and stability of design (possible ULS/SLS failure).	M	H	S	CTR	1) Ground Investigation to be undertaken to determine depth to rockhead and quality of rock material. 2) Results of ground investigation to be incorporated into detailed design and construction planning.	OPEN. Unmitigated: 1 - 2) yet to be completed	Designer Contractor	Designer to scope ground investigation, assess results and undertake detailed design. Contractor to incorporate design recommendations during construction works.
8	High Permeability Strata. Granular deposits of potentially high permeability are present beneath the Wet Basin.	1) Recharge of basin (if drained prior to infilling). 2) Potential heave of bed of basin. 3) Increased costs and delays in programme associated with dewatering strategy for construction purposes.	H	M	S	CTR	1) Ground investigation to be undertaken to determine ground conditions and permeability of strata beneath proposed closure structure. 2) As built construction records to be obtained to determine construction of existing dock walls. 3) Investigation of existing dock walls to be undertaken to determine if they form an effective cut-off of groundwater should records be unavailable. 4) Results of investigations to be incorporated into design, which could result in a groundwater cut-off structure being required beneath the closure structure. 5) Need for dewatering of the wet basin to be examined in design, and potential for land reclamation to occur by placement of fill underwater.	OPEN. Unmitigated: 1 - 5) yet to be completed	Client Designer Contractor	Client to provide records on existing structures. Designer to scope investigations, assess results and undertake detailed design. Contractor to incorporate design recommendations during construction works.
9	Existing Structures. A number of existing structures, such as dock walls and travelling crane foundations, are present around the Wet Basin which are indicated to be piled or have rock anchors founded in the bedrock. These may be encountered during ground investigation or construction and/or be influenced by the proposed works.	1) Draining of Wet Basin will reduce water pressures acting on front of dock walls that could lead to instability of existing wall structure and reduction in safety margins. 2) Increased loading of existing structures, especially raked dock walls, from infill within basin could result in settlement of the structures and instability. 3) Damage to GI/construction equipment, refusal of piles if existing foundations and rock anchors are encountered. 4) Damage to existing structure foundations and rock anchors if encountered potentially leading to instability of the structures.	H	M	S		1) Client to provide as built records and any other relevant information on existing structures. 2) Ground Investigation to be scoped to avoid known obstructions. 3) Investigations to be undertaken to determine construction of existing structures should records be unavailable or insufficient. This may include geophysics testing of existing sheet pile walls for investigation of pile toe depths. 4) Results of above to be incorporated into detail design.	OPEN. Unmitigated: 1 - 4) yet to be completed	Client Designer Contractor	Client to provide records on existing structures. Designer to scope investigations, assess results and undertake detailed design. Contractor to incorporate design recommendations during construction works.
10	Existing Services. Available plans indicate underground services are present in the vicinity of the wet basin. Additional services may also be present which no plans are currently available for.	1) Death or injury to site operatives if services are hit during GI or construction. 2) Damage to services and construction equipment if hit during intrusive works. 3) Environmental damage if utility service leaks into ground. 4) Delay to construction programme and increase costs if services are hit during construction.	H	M	S	HSTCRE	1) Detailed service plans to be obtained and utility survey to be undertaken. 2) All available services information/drawings for the site area, including stats and GPR plans to be procured and passed to the Contractor in pre-construction information. 3) Service diversions to be designed where required. 4) Construction Contractor to satisfy themselves as to the adequacy of available information and make additional enquires as necessary. 5) Appropriate methods to be utilised whilst carrying out any ground works. Services, including possible diversions, to be accounted for in construction.	OPEN Unmitigated. 1) - 5) yet to be completed.	Designer Contractor	Designer to obtain service plans and scope and procure utility survey during early design. Results to be incorporated into design. Constructor to review all information prior to and during construction.

GEOTECHNICAL RISK REGISTER

Date: 09/06/2022
 Project Phase: Detailed Design
 Project: BAE Govan - New Assembly Hall
 Originator: K Wells

Ref No.	Threat	Consequences	IMPACT	LIKELIHOOD	RISK	RISK TYPE	Potential Risk Control Measures / Actions	Mitigation Status	OWNER	Action (by whom and when)
11	Past Mine workings. The site is located within a coal mining reporting area and a coal seam and ironstone seam are conjectured to be present to the east of the Wet Basin. However, several sources of information, including a Coal Authority Mining Risk Assessment, indicate that there are no recorded or potential worked coal seams beneath the site, and as such the site is not recorded to be within a High Risk Development Area. There are also no records of any ironstone workings beneath the site.	1) Increased loading of mine workings could result in instability and collapse of workings. 2) Collapse of workings could result in crown hole development at surface or settlement which could both result in ULS and/or SLS failure of surface infrastructure.	H	VL	N	HSCTR	1) Contractor and designer should be aware of risk from past mining and works planned accordingly.	CLOSED Reduced to ALARP	Designer Contractor	Designer & Contractor to be aware of risk.
12	Unexploded Ordnance. The site was previously used to construct warships during both World Wars and located in close proximity of strategic targets. However a Desk Study and Risk Assessment obtained from Zetica UXO identified no significant sources of Unexploded Ordnance on the site and states that no additional measures are considered essential to reduce the UXO risk to the Site to As Low As is Reasonably Practicable (ALARP).	1) Death or injury to site operatives if UXO is encountered and explodes during works. 2) Damage to equipment and existing or partially constructed infrastructure if UXO is encountered and exploded.	H	VL	N	HSTC	1) Contractor should be aware of the UXO risk and works planned accordingly.	CLOSED Reduced to ALARP	Designer Contractor	Designer & Contractor to be aware of risk.

NOTES: RISK TYPES; HS = Health & Safety, T = Time, C = Cost, R = Reputation, E = Environment
 Risk level: I = Intolerable, S = Significant, T = Tolerable, N = Negligible

I. Contaminated Land Risk Assessment Methodology

I.1 Contaminated Land Regulations and Definitions

I.1.1 General

Since 2000, the implementation of Part IIA of the Environmental Protection Act 1990 in the UK has established a definition of contaminated land and the regulatory framework for its management and remediation. Under the Contaminated Land (Scotland) Regulations 2005, contaminated land is defined as:

'Any land which appears to the Local Authority in whose area it is situated to be in such a condition, by reason of substances in, or under the land, that:

- Significant harm is being caused in, or under the land, that:
- Significant pollution of the water environment is being caused or there is a significant possibility of such pollution being caused'.

Harm is defined such that it should meet the following criteria:

- 'Be harmful to a receptor listed in Table A of the statutory guidance (including human beings, certain ecological systems or living organisms, crops, livestock and certain buildings).
- Be within the description of harm specified for each receptor in the same table'.

In order to determine whether there is a possibility for significant harm, the following should be taken into account:

- The nature and degree of harm.
- The susceptibility of the receptors.
- The time and scale within which the harm may occur.

Planning Advice Note (PAN) 33 – Development of Contaminated Land advises the 'suitable for use' approach as the most appropriate way of dealing with potentially contaminated land and therefore requires that the findings from the ground investigation be evaluated for contamination on a site-specific basis using a risk-based approach.

This report adopts a strategy for the assessment of potential land contamination based on current guidance documents relating to Part IIA of the Environmental Protection Act 1990 in the UK and the Contaminated Land (Scotland) Regulations 2005.

I.2 Preliminary Qualitative Risk Assessment Methodology

I.2.1 Conceptual Model

A key element of an environmental risk assessment is the development of a conceptual model which is done undertaking a Source - Pathway - Receptor analysis of the site:

- Sources (S) are potential or known contaminant sources e.g. a former land use.
- Pathways (P) are environmental systems through which a contaminant could migrate e.g. air, groundwater.
- Receptors (R) are sensitive environmental receptors that could be adversely affected by contaminants e.g. site occupiers, groundwater resources.

When a source, relevant pathway and receptor are present, a pollutant linkage is considered to exist whereby there is a circumstance through which environmental harm could occur and a potential environmental liability is considered to exist.

1.2.2 Preliminary Contaminated Land Risk Assessment Methodology

For each potential pollutant linkage identified within the conceptual model presented in this report, the potential risk to a receptor has been evaluated users using a Preliminary Qualitative Land Risk Assessment based on the probability of the pollution event, and the severity it may have on site users and the environment.

The contaminated land risk assessment methodology used for this assessment is based on Environment Agency , Land Contamination Risk Management (LCRM), October 2020 and Construction Industry Research and Information Association (CIRIA), CIRIA C552 January 2001. The methodology quantifies potential risk via risk estimation and risk evaluation in order to determine an overall risk category which can be used to identify likely actions. This methodology uses qualitative descriptors and therefore is a qualitative approach. The methodology requires the classification of:

- The magnitude of the consequence (severity) of a risk occurring, and
- The magnitude of the probability (likelihood) of a risk occurring.

The potential consequences of contamination risk occurring at this site are classified in accordance with I.1 below.

Table I.5: Classification of Consequence

Classification	Definition
Severe	Short-term (acute) risk to human health Short-term risk of pollution of sensitive water resources or ecosystems Catastrophic damage to crops/buildings/property/infrastructure, including off-site soils
Medium	Medium/long-term (chronic) risk to human health Medium/long-term risk of pollution of sensitive water resources or ecosystems Significant damage to crops/buildings/property/infrastructure, on or off site Contamination of off-site soils
Mild	Easy preventable, permanent health effects of humans Pollution of non-sensitive water resources Localised damage to crops/buildings/property/infrastructure, on or off-site
Minor / Negligible	Easily preventable, non-permanent health effects of humans, or no effects Minor, low level and localised contamination of on-site soils Easily repairable damage to crops/buildings/property/infrastructure

Source: Construction Industry Research and Information Association (CIRIA), CIRIA C552 January 2001

The probability of contamination risk occurring at this site will be classified in accordance with I.2 below. Note that for each category, it is assumed that a pollutant linkage exists. Where a pollution linkage does not exist, the likelihood is zero, as is the risk.

Table I.6: Classification of Probability

Classification	Definition
High Likelihood	Circumstances are such that an event appears very likely in the short-term or almost inevitable in the long-term; or there is already evidence that such an event has occurred.
Likely	Circumstances are such that an event is not inevitable, but it is possible in the short-term and it likely over the long term.
Low Likelihood	Circumstances are such that it is by no means certain that an event would occur even over a longer period and is less likely in the short-term.

Classification	Definition
Unlikely	Circumstances are such that it is improbable than an event would occur even in the long term.

Source: Construction Industry Research and Information Association (CIRIA), CIRIA C552 January 2001

For each possible pollution linkage (source-pathway-receptor) identified the potential risk can be evaluated, using Table I.3. Based upon this, Table I.4 presents definitions of the risk categories, together with the investigatory and remedial actions that are likely to be necessary in each case. These risk categories apply to each pollutant linkage, not simply to each hazard or receptor.

Table I.7: Classification of Risk (Significance)

Probability (Likelihood)	Consequence			
	Severe	Medium	Mild	Minor
High Likelihood	Very High Risk	High Risk	Moderate Risk	Moderate/ 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

Source: Construction Industry Research and Information Association (CIRIA), CIRIA C552 January 2001

Table I.8: Definition of Classified Risks / Risk Terms

Classification	Definition
Very High Risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. The risk, if realised, is likely to result in a substantial liability Urgent investigation (if not already undertaken) and remediation are likely to be required
High Risk	Harm is likely to arise to a designated receptor from an identified hazard Realisation of the risk is likely to present a substantial liability Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely in the long term
Moderate Risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, if [it] is relatively unlikely that any such harm would be severe, or If any harm were to occur it is more likely that the harm would be relatively mild Investigation (if not already undertaken) is normally required to clarify the risk and determine the potential liability. Some remedial works may be required in the longer term
Low Risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised would be at worse relatively mild
Very Low Risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

Source: Construction Industry Research and Information Association (CIRIA), CIRIA C552 January 2001

J. Consultants Mining Report



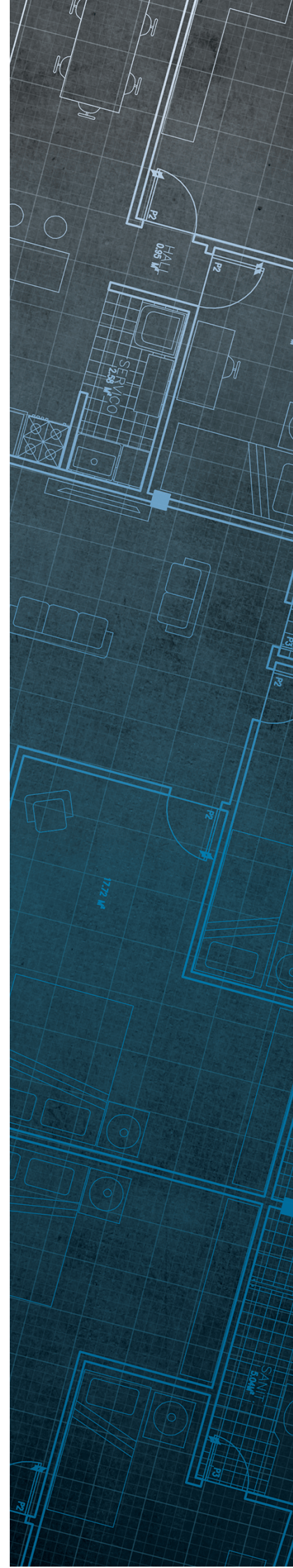
The Coal
Authority

Consultants Coal Mining Report

Site At
Govan
Glasgow (city)

Date of enquiry: 21 April 2022
Date enquiry received: 21 April 2022
Issue date: 21 April 2022

Our reference: 51003023969001
Your reference: 294352667_1



Consultants

Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

NLIS Hub

Enquiry address

Site At
Govan
Glasgow (city)


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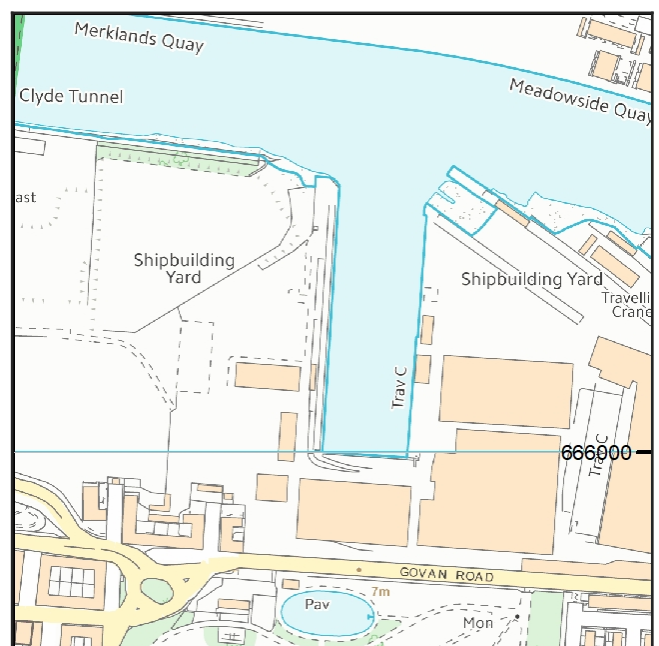
www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



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Section 1 – Mining activity and geology

Past underground mining

No past mining recorded.

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

None recorded within 100 metres of the enquiry boundary.

Abandoned mine plan catalogue numbers

None available.

Outcrops

No outcrops recorded.

Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

Withdrawal of support notices

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Section 4 – Further information

Based on the responses in this report, no further information has been highlighted.

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk**.

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Opencast mines

Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips

Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations

Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites

Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence

Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission.

Mine water treatment schemes

Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining

Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing

Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders

Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices

Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices

Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

Payment to owners of former copyhold land

Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

