



Bishop Auckland Bus Station and Car Park
Geoenvironmental & Preliminary Geotechnical Desk Study

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Durham County Council



Bishop Auckland Bus Station and Car Park

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Document history and status

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Important note about your report

The purpose of this report and the associated services performed by Jacobs is to understand the land contamination and geotechnical risks and constraints associated with the proposed redevelopment of Bishop Auckland Bus Station in accordance with the scope of services set out in the contract from Jacobs.

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1. Introduction

Category	Description
Scheme Description	The scheme is part of the Bishop Auckland High Street Fund, a vision for Bishop Auckland to become a world-class heritage destination. As part of the Fund the existing open-air bus station and surface car park will be replaced with an enclosed bus terminal and new surface car park.
Site Location	The site is located in the north of Bishop Auckland, 180m southwest of Bishop Auckland Market and centred on national grid reference NZ 2089 2989. The location is shown below and on the Site Location Plan presented in Appendix A.
Proposed Development Layout	<p>The proposed development (Appendix B) comprises a two-storey bus terminal building (approximately 48m by 17m). A substation is also proposed in the western part of the site.</p> <p>The anticipated foundation type for the bus station and substation is a shallow foundation.</p> <p>There is approximately a 6m fall west to east across the site (higher in the west at ~102mOD, falling to the east at ~96mOD). North to south the fall is approximately 1m (higher in the north at ~98mOD, falling to the south at ~97mOD).</p>
Report Context and Purpose	<p>This report has been prepared on behalf of Durham County Council following correspondence that identified land contamination and potential mining constraints for the Bishop Auckland Bus Station Redevelopment scheme and to provide information for design options for the proposed construction works.</p> <p>Current good practice guidance for the assessment of land contamination is contained in Land Contamination: Risk Management (Environment Agency, 2021) (1) hereafter referred to as LCRM. LCRM identifies three core components in the assessment and management of land contamination, comprising:</p> <ul style="list-style-type: none"> • Risk Assessment, including Preliminary Risk Assessment (PRA), Generic Quantitative Risk Assessment and Detailed Quantitative Risk Assessment); • Options Appraisal; and, • Implementation of the Remediation Strategy. <p>The purpose of this report is to fulfil the PRA requirements of LCRM, in order to support the planning application process for the scheme and to allow the scope of a ground investigation to be defined (if deemed required) with due consideration of potential land contamination and mining constraints.</p>
Report Scope	<p>In accordance with good practice guidance, the following scope of works has been completed by Jacobs:</p> <ul style="list-style-type: none"> • A review of available desk-based data and information pertaining to historical / current contaminative land uses, sensitive environmental receptors, soils, geology and hydrogeology. • Development of a Conceptual Site Model (CSM) to inform an assessment of contamination risks to human health, controlled waters and property receptors. • Consideration of the risk from coal mining in the study area. • Consideration of the risk from unexploded ordnance (UXO) in the study area. • Presentation of conclusions and recommendations regarding the land contamination and geotechnical risks relating to the proposed scheme.

Category	Description
<p>Sources of Information</p>	<p>The following information sources were consulted in the preparation of this desk study:</p> <ul style="list-style-type: none"> • Bishop Auckland High Street Fund – RIBA Stage 2 Concept Design Report (2) • Groundsure Enviro+Geo Insight Report (Appendix C) • British Geological Survey (online viewer) and 1:10,560, sheet NZ 22 NW (Appendix D) • MAGiC Interactive Mapping (3) • Coal Mining Report (Appendix E) • Unexploded Bomb Risk Map and UXO Pre-Desk Study Assessment (Appendix F) • Durham County Council, Historic landscape characterisation interactive map layer (4) • Durham County Council, Strategic Flood Risk Assessment map (5) <p>At the time of writing, this report is based on desk study information only. No site visit or walk over has been undertaken.</p>

2. Historical and Contemporary Land Use

This section has been completed with information available within the Groundsure Enviro+Geo insight report (Appendix C).

Category	Description
<p>Historical Land Use Summary</p>	<p>The Durham County Council, Historic landscape characterisation interactive map layer describes the site as “Industrial, Retail, Commercial centre”, developed from 1901 to the present day. The neighbouring land is summarised as “Settlement, Towns and larger villages, Medieval core” (4).</p> <p>On site</p> <p>1857</p> <p>The site is shown between George Street to the east and a railway cutting (of the Durham-Bishop Auckland Line) to the west which encroaches a short distance onto the site. Clayton Street marks the northern boundary of the site and Saddler Street the southern. The western third of the site was developed as terrace buildings (likely houses) the remaining two thirds of the site was largely undeveloped land.</p> <p>1897-1967</p> <p>The site was developed with terrace properties and a hall, with the exception of a 40x80m undeveloped area in the centre of the site.</p> <p>1975-1980</p> <p>Some terrace properties in the west of the site have been demolished, the railway has been dismantled and the cutting infilled.</p> <p>1980-1984</p> <p>All terrace buildings on the site have been demolished and replaced with the present-day bus station. The railway cutting is no longer shown, potentially backfilled, and has been replaced with the A689, Bob Hardisty Drive.</p> <p>1987- Present Day</p> <p>No significant changes to the site.</p> <p>A number of aerial photographs between 1999 and the present day and provided within the groundsure report have been reviewed, these show no significant changes to the site.</p> <p>Off site (within 250m)</p> <p>1857</p> <p>The area surrounding the site was mixed use residential (largely terraced housing) and commercial properties such as a timber yard to the south and a Police station to the north. There was urban development in all directions from the site with the exception of fields in the south and south west and woodland to the east. The marketplace is shown 160m north east of the site. The Durham-Bishop Auckland railway line is shown running north-south directly to the west of the site.</p> <p>1897-1967</p> <p>There had been further urban development of Bishop Auckland, particularly to the south west where streets of terrace housing are shown; a railway siding is shown 70m south of the site. Terraced buildings are shown immediately outside the northern and southern site boundaries, and an auction market on the eastern</p>

Category	Description
	<p>boundary (largely replaced by terrace housing by 1920) as it moves to the north-east of the site.</p> <p>From 1939 a Picture Theatre is shown directly to the south of the site.</p> <p>1975-1978</p> <p>The railway and railway sidings have been demolished, the railway cutting and the tunnel 40m north west of the site appears to have been infilled. Houses just outside the south-western boundary have been replaced by Victoria House (government offices).</p> <p>1984</p> <p>The Durham-Bishop Auckland railway has been replaced with the A689, Bob Hardisty Drive, south of High Bondgate. Terraced housing immediately outside the eastern boundary has been removed and replaced with the Newgate Shopping Centre. Some of the terraced buildings on the northern boundary have been removed and redeveloped for residential properties.</p> <p>1987-Present day</p> <p>Little change to the surrounding area.</p> <p>From 1995 the A689 is shown on the alignment of the former railway north of High Bondgate.</p>
<p>Contemporary Land Uses</p>	<p>This summary is based on third party information, no site visits have been undertaken as part of this desk study.</p> <p>The Durham County Council, Historic landscape characterisation interactive map layer describes the site use as "Shopping centres, superstores and bus station" (4).</p> <p>On site</p> <p>The site comprises a bus station with bus shelters and car park with associated small buildings including a refreshments kiosk, office and toilet facilities. The majority of the site is laid to concrete hardstanding, brick pavers or asphalt-concrete surface.</p> <p>A topographic and utility survey was undertaken in July 2021, the results of which are provided on drawing 2161200 (Sheet 1 -Rev C and Sheet 2 - Rev C). The survey shows the site to fall from approximately ~101mOD in the west to ~96.5mOD in the east. Numerous utilities are shown within the site. A surface water sewer runs along the northern site boundary.</p> <p>Within 250m</p> <p>The area surrounding the site is largely commercial or residential, directly to the east of the site is Newgate Shopping Centre, to the north and east are commercial properties associated with Bishop Auckland town centre, to the south several larger commercial units and to the west and southwest residential housing.</p>

3. Public Register Environmental Information

This section has been completed with information available within the Groundsure Enviro+Geo insight report (Appendix C).

Category	Description
Discharge Consents	There are no discharge consents recorded within 250m of the site.
Integrated Pollution Prevention and Control IPPC and Local Authority Pollution Prevention and Controls (LA PPC)	None recorded within 250m.
Landfill and other Waste Management Sites	None recorded within 250m.
Waste Management Sites	There are two waste exemptions for treating waste, these appear to be for a veterinary clinic and a nursing home.
Pollution Incidents to Controlled Waters	None recorded within 250m.
Unexploded Ordnance (UXO) Risk	<p>The Unexploded Bomb (UXB) Risk map from Zetica (6) shows the site to be in a low risk area with regard to UXB. The pre desk study assessment is given in Appendix F.</p> <p>A Pre-Desk Study Assessment was requested from Zetica, the full assessment is presented in Appendix F and the findings are summarised as follows:</p> <ul style="list-style-type: none"> ▪ The following strategic targets were identified within 5km of the site <ul style="list-style-type: none"> - Transport infrastructure and public utilities - Industries relating to the war effort, including engineering works - Royal Flying Corps (RFC) Spennymoor (WWI) ▪ During WWII the site was located within Bishop Auckland Urban District, which officially recorded 112No. High Explosive bombs and a bombing density of 12.0 bombs per 405 hectares. ▪ A detailed desk study is not considered essential in this instance.
Archaeology	The site lies close to the historic centre of Bishop Auckland and west of the Roman road known to underlie Newgate Street. Any archaeological features and deposits that may have existed in the area are likely to have been affected or even totally removed by previous development. Further archaeological studies of the site and immediate surroundings are currently being undertaken and will be reported outside of this report.
Coal Mining Hazards	<p>A CON29M coal mining report (Appendix E) was acquired for the site from the Coal Authority the report findings are summarised as:</p> <ul style="list-style-type: none"> ▪ The site is in an area that could have been affected by underground mining in one seam of coal at 260m depth, which was last worked in 1900. Any movement associated with this activity should have stopped by now. ▪ The site is in an area where the Coal Authority believes there is coal at or close to the surface, this coal may have been worked at some time in the past.

Category	Description
	<ul style="list-style-type: none"> ▪ This site is not reported to be in an area affected by present or future underground coal mining. ▪ There are no recorded mine entries on the site or within 20m of the site boundary. ▪ The site is not recorded as being within the area of past, present or future opencast coal mining. ▪ The Coal Authority has not received a damage notice or claim for coal mining subsidence for any property on site or within 50m. ▪ The Coal Authority has no record of a mine gas emission requiring action. ▪ The site has not been subject to remedial works by or on behalf of the Coal Authority. ▪ The site is not recorded as being within an area where a notice to withdraw support has been given. ▪ The site is not recorded as being within an area where an order has been made under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof. ▪ The site is not recorded as being in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994. <p>The coal mining risk assessment produced for the site by Jacobs (7) concludes that given bedrock is anticipated to be in the order of 40m deep and deep foundations are not proposed the accurate depth to rock head and an investigation into the presence of a workable coal seam is not considered necessary. The thickness and nature of the superficial geology onsite are to be investigated only.</p>

4. Environmental Setting

Category	Description
<p>Geology</p>	<p>Artificial Ground</p> <p>The Groundsure report does not record the presence of artificial ground (made ground) within the site and the immediate surrounding area. However, given the current and historical development on site and the immediate surrounding area, deposits of made ground are likely to be present.</p> <p>Borehole records from the ground investigation to support the construction of Bishop Auckland Bus Station in 1982 indicate made ground comprising ash and brick rubble, being present on site up to 1.15m below ground level (mbgl). It is not known if this was removed during construction of the original bus station.</p> <p>Superficial Deposits</p> <p>The Groundsure report notes the on-site superficial geology to comprise Till (Devensian). Historical borehole records local to the site record alternating layers of sand, gravel and clay to approximately 11.4mbgl, and “boulder clay” is identified from approximately 11.4 to 20.0 mbgl (final depth not proven).</p> <p>Mass movement deposits are shown on the BGS 1:50,000 scale map and Groundsure report approximately 200 north west of the site. The deposits are described in the Groundsure report as primarily superficial deposits that moved down slope under gravity to form landslips.</p> <p>Bedrock</p> <p>The Groundsure report indicates that bedrock beneath the site comprises the Pennine Middle Coal Measures Formation (mudstone, siltstone and sandstone). BGS historical borehole NZ23SW155 (180m north west of the site) undertaken to support the construction of a road viaduct indicates the Coal Measures as present from 54.2 mAOD (36.9 mbgl), equivalent to approximately 43mbgl at the site</p> <p>The BGS state that the Middle Coal Measures contain most of the workable coals, particularly in the lower section up to the High Main Coal. This is the thickest and most widely worked seam over much of the Northumberland and Durham Coalfield. It contains excellent quality coal and is locally over 2.5m in thickness.</p> <p>With reference to the BGS 1:10,560 scale mapping Sheet NZ 22 NW (Appendix D), the High Main coal seam is shown to subcrop at rockhead. BGS sheet NZ 22 NW shows the High Main coal seam is separated into two seams, namely the Top High Main and Lower High Main coal seams. Both may be terminated by sandstone deposits within the coal measures. The Top High Main is expected to be 15 to 45cm thick and the Lower High Main is expected to be 53 to 71cm thick, much thinner than potentially in excess of 2.5m reported above. The mapping indicates that the Top and Bottom High Main Coal Seams are together as one seam in this area. The High Main Coal Seam is underlain by the Five Quarter Coal Seam which underlies the entire site. This coal seam is commonly mined in the wider area.</p> <p>As a result, The Coal Authority believe “there is coal at or close to the surface.” The Coal Authority state that this coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered, particularly prior to any site works or future development activity, as ground movement could still be at risk.</p>

Category	Description
	<p>Also, the Coal Authority report states that the site is in an area that could have been affected by underground mining in one seam of coal at 260m depth.</p> <p>The UK Radon map shows that the site is on the boundary of a 1km grid square where some parts are in bands of elevated radon potential. The maximum radon potential is 1-3 % (8).</p>
<p>Hydrogeology</p>	<p>Standing ground water is recorded at 3 and 4mbgl within the superficial deposits on BGS historical exploratory hole logs NZ22NW174, 176 and 177 located immediately east of the site. Perched groundwater within the overlying made ground may be present particularly following periods of intense or prolonged rainfall.</p> <p>Superficial Aquifer Designations</p> <p>The Till underlying the site is designated by the Environment Agency as a Secondary Undifferentiated Aquifer.</p> <p>The groundwater vulnerability for superficial geology is “medium”.</p> <p>Bedrock Aquifer Designations</p> <p>The Pennine Middle Coal Measures Formation is designated by the Environment Agency as a Secondary A Aquifer.</p> <p>The groundwater vulnerability for superficial geology is “low”.</p> <p>Groundwater Abstractions</p> <p>There are no recorded licenced groundwater abstractions within 500m of the site.</p> <p>Groundwater Source Protection Zones</p> <p>The site is not recorded as being within a source protection zone.</p> <p>Groundwater vulnerability is described as High, Medium or Low as follows:</p> <p>High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.</p> <p>Medium - Intermediate between high and low vulnerability.</p> <p>Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.</p> <p>Aquifer Designations are defined as follows:</p> <p>Secondary A Aquifers are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.</p> <p>Secondary Undifferentiated Aquifers are Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.</p>
<p>Hydrology</p>	<p>Surface Water Features</p> <p>The closest surface water feature, the River Gaunless, is noted as being 345m east of the site. The river flows from south to north and joins the River Weir at a confluence 830m north-east of the site. The Weir is approximately 380m north of the site at its closest point.</p>

Category	Description
<p>Flood Risk</p>	<p>River and Coastal Flooding</p> <p>The site is not recorded as being at risk of flooding from rivers or the sea. The Durham County Council, Strategic Flood Risk Assessment map indicates that there is no record of historical flooding on the site and that no flood defences are present on the site (5).</p> <p>Surface Water Flooding</p> <p>The Groundsure report indicates that a small portion of the site is vulnerable to surface water flooding following extreme rainfall at depths of between 0.3 and 1.0m, this is based on a 1 in 30 year return period.</p> <p>Groundwater Flooding</p> <p>The site is not recorded as being at risk of flooding from groundwater.</p>
<p>Environmentally Sensitive Sites</p>	<p>No recorded sites of an environmentally sensitive nature within 250m.</p>

5. Preliminary Conceptual Site Model and Risk Assessment

A preliminary conceptual site model (CSM) has been developed based on the contaminant sources, pathways and receptors listed below. From this, several potential pollutant linkages (PPLs) have been identified and a qualitative risk assessment has been undertaken to assess the significance of each contaminant linkage using the criteria set out in Appendix G. The risk assessment is based on the PPLs during and post-redevelopment and assumes that no mitigation measures or remediation will be put in place. The CSM has also been developed in accordance with guidance in BSI, 2020 (9). A graphic representation of the CSM is presented in Appendix H.

Category	Description
Potential Contaminant Sources	<ul style="list-style-type: none"> ▪ Made ground associated with current (bus station and car park) and historical development / infrastructure including infilling of the historic railway cutting on and adjacent to the site. Contaminants could include heavy metals, asbestos, oils, fuels, petroleum hydrocarbons and polycyclic aromatic hydrocarbons (PAHs), which can be associated with land uses of this type as detailed in DoE, 1996 (10). ▪ Ground gases associated with Coal Measures and made ground.
Potential Pathways	<p>Human Health</p> <ul style="list-style-type: none"> ▪ Dermal contact with contaminated soils. ▪ Ingestion of contaminated soils. ▪ Inhalation of contaminated soil dusts and/or vapours. ▪ Inhalation of ground gases in confined spaces. <p>Controlled Waters</p> <ul style="list-style-type: none"> ▪ Leaching of contaminants from soils via rainwater infiltration and vertical migration to groundwater. ▪ Migration of contaminants to surface waters via surface water drainage and groundwater migration. <p>Buildings and Services</p> <ul style="list-style-type: none"> ▪ Accumulation of ground gases in confined spaces leading to explosion (methane) or asphyxiation (carbon dioxide and depleted oxygen).
Potential Receptors	<p>Human Health</p> <ul style="list-style-type: none"> ▪ Construction workers. ▪ Maintenance Workers. ▪ Future site users (general public and bus station and car park personnel). ▪ Adjacent land users. <p>Controlled Waters</p> <ul style="list-style-type: none"> ▪ Groundwater – Secondary Undifferentiated Aquifer (Till). ▪ Groundwater – Secondary A Aquifer (Coal Measures Formation). ▪ Surface water – River Gaunless and River Weir. <p>Buildings and Utilities</p> <ul style="list-style-type: none"> ▪ Buildings and utilities (post-development).

Tabulated Conceptual Site Model

Source	Potential Contaminant / Pollutant	Potential Receptor	Potential Pathway to Receptor	Associated Hazard [Severity]	Likelihood of Occurrence	Risk / Significance
Made ground and Coal Measures	Ground gas (methane, carbon dioxide, hydrogen sulphide and depleted oxygen, radon)	Building and services (post development)	Migration through permeable strata and preferential flow paths . Accumulation of ground gases in confined spaces	Property Risk [Severe]	<p>Low Likelihood</p> <p>Made ground and Coal Measures are potential sources of ground gas. Depth to bedrock beneath the site is estimated to be 43mbgl. The depth to High Main coal seam is not certain but the thickness is not thought to be significant at 0.7 to 1.1m. It is not known if it was worked in the vicinity of the site.</p> <p>Sufficient thickness of lower permeability rock and superficial cover can present a barrier to gas migration. Mine gas problems are generally not encountered where coal mining is at depth (>150 m), unless viable pathways link the surface with underground working (CL:AIRE, 2021) (11).</p> <p>The superficial deposits are alternating layers of low and high permeability material. The presence and extent of ground gas is uncertain, underground utilities may create preferential pathways for ground gases.</p> <p>Accumulation of methane could result in explosion, while accumulation of carbon dioxide and a lack of oxygen could represent an asphyxiation or toxicity risk.</p>	Moderate Risk
		Construction Workers	Migration through permeable strata and preferential flow paths. Accumulation of ground gases in confined spaces	Health Risk [Severe]	<p>Unlikely</p> <p>Made ground and Coal Measures are potential sources of ground gas. Exposure of construction workers and future maintenance workers to ground gases is possible in excavations and confined spaces if unventilated, However, the presence and extent of ground gas is uncertain and likely to be localised in nature. The proposed works involve excavation for the installation or maintenance of utilities.</p> <p>Accumulation of methane could result in explosion. Accumulation of carbon dioxide and oxygen deficient atmospheres can result in toxicity and asphyxiation.</p>	Moderate/Low Risk
		Maintenance Workers				

Source	Potential Contaminant / Pollutant	Potential Receptor	Potential Pathway to Receptor	Associated Hazard [Severity]	Likelihood of Occurrence	Risk / Significance
					The acute risk from ground gases should be considered with regard to the COSHH regulations (12).	
		Future site users (general public/staff)		Health Risk [Severe]	<p>Low Likelihood</p> <p>Due to the nature of the development (bus station and surface car park) there is little opportunity for prolonged exposure to ground gases, including radon, amongst facility users but exposure to staff is possible given the offices, retail outlet and other rooms in the bus station.</p> <p>Accumulation of methane could result in explosion. Accumulation of carbon dioxide and oxygen deficient atmospheres can result in toxicity and asphyxiation.</p>	Moderate Risk
Made ground	Oils, fuels, metals, petroleum hydrocarbons, asbestos, PAHs	Construction workers	Dermal contact, ingestion and inhalation	Health Risk [Medium]	<p>Likely</p> <p>Contact with contaminated made ground by construction is possible during groundworks.</p>	Moderate Risk
		Maintenance workers		Health Risk [Medium]	<p>Likely</p> <p>Contact with contaminated made ground by maintenance workers is possible during future maintenance work involving below ground excavations and utility maintenance.</p>	Moderate Risk
		Future site users (general public/staff)		Health Risk [Medium]	<p>Unlikely</p> <p>Contact with contaminated made ground by future site users is unlikely given that the majority of the proposed scheme comprises hardstanding at the surface which will form a physical barrier between the users and the underlying ground.</p>	Low Risk
		Adjacent land users	Inhalation of contaminated soil dust and/or vapour	Health Risk [Medium]	<p>Low Likelihood</p> <p>Residential and commercial properties are in close proximity to and border the site.</p> <p>During construction, it is possible that wind-blown dust and/or vapours from made ground may reach off-site receptors if appropriate dust-suppression is not implemented.</p>	Moderate/Low Risk

Source	Potential Contaminant / Pollutant	Potential Receptor	Potential Pathway to Receptor	Associated Hazard [Severity]	Likelihood of Occurrence	Risk / Significance
		Controlled Water: Groundwater (Secondary Undifferentiated aquifer – superficial geology)	Leaching of contaminants from soils and vertical migration to groundwater	Pollution of controlled water [Mild]	<p>Likely</p> <p>Significant leaching of contaminants from made ground is unlikely given that the majority of the proposed scheme comprises hardstanding at the surface, groundwater is expected to be encountered at around 4mbgl, based on historical ground investigation information. There are no groundwater abstractions for any sensitive use within the vicinity of the site.</p>	Moderate/Low Risk
		Controlled Water: Groundwater (Secondary A aquifer – bedrock geology)	Leaching from overlaying strata/creation of pathways through overlaying strata.	Pollution of controlled water [Medium]	<p>Unlikely</p> <p>Depth to bedrock beneath the site is estimated to be 43mbgl. Foundations are to terminate within the superficial deposits. The underlying Glacial Till (boulder clay) is likely to inhibit migration to the bedrock aquifer.</p>	Low Risk
		Controlled Water: Surface Water (Rivers Wear and Gaunless)	Migration to surface water from contamination within groundwater	Pollution of controlled water [Medium]	<p>Unlikely</p> <p>Due to the distance to surface water receptors from the site (345m and 380m) and that lateral pathways within the sand are likely to be discontinuous, there is no realistic pathway to surface waters.</p>	Low Risk
	Aggressive ground conditions	Buildings and services	Direct contact between concrete and aggressive ground	Concrete degradation, foundation failure [Medium]	<p>Low Likelihood</p> <p>There is potential for concrete degradation over the medium to long term, chemical testing and design mitigations should remove this risk.</p>	Moderate/Low Risk

6. Conclusions and Recommendations

Category	Description
<p>Geoenvironmental Conclusions</p>	<p>The desk study information has identified potential contamination sources and several potential pollutant linkages at the site. Uncertainties have been identified that require further investigation. The main uncertainties identified based on the preliminary assessment and conceptual site model are as follows:</p> <ul style="list-style-type: none"> ▪ The extent and composition of made ground underlying the site and the presence of associated sources of contamination which may pose a risk to construction workers, maintenance workers, future site users and the future bus station building; ▪ The composition, profile and physical properties of superficial deposits and Coal Measures beneath the site; and ▪ The risk from ground gases associated with the Coal Measures and, to a lesser extent, made ground <p>Potential contamination within made ground at the site may pose a risk to construction workers. The risk from ground gas is largely dependent on whether the Till underlying the site provides an effective barrier for gas migration from the Coal Measures.</p>
<p>Geotechnical Conclusions</p>	<p>Further to the RIBA 2 Concept Design Report, Section 7.3 (Geotechnical and Foundation Considerations) no additional historical ground investigation information has been made available for the site. Superficial deposits comprising alternating layers of sand, gravel and clay (Glacial Till) are expected to extend beyond the depth of the proposed foundations. The underlying Glacial Till (boulder clay), whilst predominantly cohesive, may contain boulders of bedrock which can be problematic during investigation and construction works. Whilst not expected to be encountered the Pennine Middle Coal Measures Formation is at depth. The High Main and Five Quarter coal seam, are shown as trending northeast to southwest across the centre of the site. These shallow coal seams may have been worked in the past resulting in the potential for voids to be present. However any voiding is expected to be too deep to influence the proposed works.</p>
<p>Geoenvironmental Recommendations</p>	<p>In order to address the above uncertainties and refine the preliminary conceptual site model, a ground investigation is required to determine the extent and nature of potential contamination on site with respect to human health and property receptors. In addition, it will also be used to confirm that the surmised risk to controlled waters (surface and groundwater) is low.</p> <p>All investigation works should be designed and implemented in accordance with BS 5930:2015 + A1:2020 (13)BS:10175 (14) and BS 8576 (15).</p> <p>The proposed ground investigation should be designed to address geoenvironmental uncertainties including the risks from ground gas and focus on the key areas of proposed redevelopment. The investigation is likely to comprise soil sampling and analysis for a range of contaminants of concern, groundwater level monitoring, sampling and analysis, and ground gas monitoring.</p> <p>A sufficient number of exploratory holes should be drilled to an adequate depth to determine the significance of potential migration pathways and the variation in the superficial deposits that may act as a barrier to mine gas migration.</p> <p>Continuous ground gas monitoring would allow a more robust risk assessment over spot monitoring by capturing worst-case conditions which may give rise to gas migration.</p>

Category	Description
<p>Geotechnical Recommendations</p>	<p>Given the lack of existing information on ground conditions at the site, it is recommended that an intrusive investigation is carried out prior to development of the land. In particular, the thickness and nature of the Made Ground and composition of the superficial geology onsite should be obtained.</p>

Geoenvironmental and Preliminary Geotechnical Risk Register

No.	Risk / Hazard	Cause	Before Control			Consequence	Mitigation Control Measure to be taken by the Designer
			P	I	R		
Geoenvironmental Risks							
1	Exposure of construction workers and nearby site users to potentially contaminated soils associated with made ground and proximal historical land uses. Potential contamination of ground water.	Proposed groundworks are likely to expose any existing ground contamination to the surface.	4	3	12	Health impact to construction/maintenance workers is anticipated. Programme delays and additional costs to undertake clean-up if contamination is at levels above acceptable human health screening values.	<p>Intrusive ground investigation required to investigate and characterise near surface soils.</p> <p>Undertake a semi-quantitative risk assessment using the GI data with respect to risks to human health and controlled waters.</p> <p>Risk assessment should be undertaken by the construction works contractor in accordance with the Control of Substances Hazardous to Health (COSHH) Regulations 2002 (12) and CAR-SOIL (16) to determine the risk posed from both the soil contamination and any asbestos containing materials, if present. This will inform any necessary protection measures required.</p> <p>Appropriate Personal Protective Equipment (PPE) and task specific risk assessments and method statements to be in place.</p>
2	Soils and materials being unsuitable for reuse and may require disposal.	Soils and materials excavated during proposed works may not be suitable for reuse within the scheme due to potential ground contamination associated with sources of made ground. Disposal offsite may be required.	3	3	9	Restriction on reuse of soils arising from the scheme. Waste disposal costs and re-sourcing of alternative materials anticipated. Delays to programme.	Assessment of the re-use potential (chemical quality) or appropriate off-site disposal route for on-site soils.
3	Creation of pathways for ground gas.	Ground investigation works and piled foundations opening viable pathways from underlying Coal Measures.	2	5	10	Accumulation of gases in new structure leading to exposure of site users and explosion.	<p>Intrusive ground investigation and gas monitoring to be undertaken to address uncertainties and assess risk from mine gas.</p> <p>Ensure proper decommissioning of ground investigation wells to inhibit gas migration.</p>
Preliminary Geotechnical Risks							

No.	Risk / Hazard	Cause	Before Control			Consequence	Mitigation Control Measure to be taken by the Designer
			P	I	R		
4	Striking buried or overhead services/utilities	Buried and overhead services/utilities	3	4	12	Damage, Injury and or death.	Review of supplied project information. Liaise with asset owners when appropriate Services/utilities to be located prior to works in accordance with current standards
5	Encountering obstructions due to natural hard layers/oversized particles etc in natural geology	Variable ground conditions. Boulders in glacial till noted on exiting logs from historical ground investigations.	4	3	12	Poses health and safety issues to site workers and could cause delays to the programme.	1) Desk Study undertaken to identify ground conditions 2) Allow for variable ground conditions in ground investigation scope and specification.
6	Encountering unexploded ordnance (UXO)	Presence of buried UXO from past military activity.	2	5	10	Damage, Injury and or death. Potential for programme delays and costs if UXO is discovered during excavation.	The Zetica UXB risk map shows the site is in a low risk area with respect to UXO. A Pre-Desk Study Assessment was commissioned for the scheme. This concluded that there are no records of WW1 or WW2 bombing or military activity on site and that a detailed desk study is not considered essential in this case.
7	Encountering existing / old foundations or unknown buried structures	Presence of existing / old foundations or unknown buried structures.	3	3	3	Poses health and safety issues to site workers and could cause delays to the programme.	1) Desk study undertaken and findings reviewed, in particular historical maps and other available records 2) Undertake specific GI works to verify dimensions and depth of anticipated structure foundations or determine presence of suspected foundations.
8	Underground voids resulting in ground collapse	Historical workings (associated with High Main coal seam or Five Quarter)	3	3	9	Possible damage and or failure of infrastructure. Programme delays, additional costs incurred.	Review proposed ground investigation.
9	Unsuitable design	Variable ground conditions	3	3	9	Possible damage and or failure of infrastructure. Programme delays, additional costs incurred.	Review proposed ground investigation.
10	Aggressive ground conditions for concrete	High sulphate levels in the ground/groundwater	2	3	6	Deterioration of concrete leading to serviceability problems and additional costs for damage repair.	Review of previous and proposed ground investigation. Buried concrete classification and design in accordance with BRE Special Digest 1 2005.
11	Slope or excavation instability, low strength ground conditions	Faulting	2	2	4	Possible damage and or failure of infrastructure. Programme delays, additional costs incurred.	Review proposed ground investigation.

No.	Risk / Hazard	Cause	Before Control			Consequence	Mitigation Control Measure to be taken by the Designer
			P	I	R		
12	Ground subsidence and heave	Ground conditions with shrink-swell potential	1	2	2	Possible damage and or failure of infrastructure. Programme delays, additional costs incurred.	Review proposed ground investigation.
13	Ground heave	Frost susceptible strata	1	2	3	Possible damage and or failure of infrastructure. Programme delays, additional costs incurred.	Review proposed ground investigation.
14	Differential settlement	Compressible ground conditions	1	3	3	Possible damage and or failure of infrastructure. Programme delays, additional costs incurred.	Review proposed ground investigation.
15	Ground collapse	Collapsible deposits	1	3	3	Possible damage and or failure of infrastructure. Programme delays, additional costs incurred.	Review proposed ground investigation.
16	Ground instability	Ground conditions with running sand potential	1	3	3	Possible damage and or failure of infrastructure. Programme delays, additional costs incurred.	Review proposed ground investigation.
17	Ground subsidence and heave	Ground conditions with shrink-swell potential	1	2	2	Possible damage and or failure of infrastructure. Programme delays, additional costs incurred.	Review proposed ground investigation.

Note: The residual or 'After Control' risk rating has not been assessed at this stage. This will be done after the above mitigation control measures have been implemented.

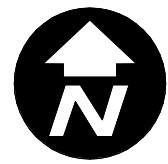
Probability of Occurrence (P)		Impact of Occurrence (I)		Time	H&S	Environment	Overall Risk Rating (R)	Risk Response
Very Likely	5	Very High	5	>10 weeks' impact on completion date	Multiple fatalities	Major environmental incident with irreversible effects and threat to public health or protected natural resource	13 to 25	Unacceptable
Likely	4	High	4	> 1 week on impact completion date	Fatality	Environmental incident leading to prosecution or protester action	9 to 12	Early Attention
Probable	3	Medium	3	> 4 weeks on activity: < 1 week on completion date	Major injury	Environmental incident requiring management input	5 to 8	Regular Attention
Unlikely	2	Low	2	1 to 4 weeks on activity: none on completion date	Minor injury	Minor environmental incident	1 to 4	Monitor

Probability of Occurrence (P)		Impact of Occurrence (I)		Time	H&S	Environment	Overall Risk Rating (R)	Risk Response
Negligible	1	Very Low	1	1 week to activity: none on completion date	Negligible	Negligible	-	-

7. References

1. **Environment Agency**. Land Contamination Risk Management (LCRM). 2020.
2. **Jacobs**. *Bishop Auckland High Street Fund - RIBA Stage 2 Concept Design Report*. 2020.
3. **Department for Environment, Food and Rural Affairs**. MAGIC Map. *MAGIC*. [Online] 2013. [Cited: 1 November 2021.] <https://magic.defra.gov.uk/MagicMap.aspx>.
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10. **Contaminated Land and Liabilities Division**. *Industry Profile: Road vehicle fueling, servicing and repair - transport and haulage centres*. London : Department of the Environment, 1996.
11. **Contaminated Land: Applications in Real Environments**. Good Practice for Risk Assessment for Coal Mine Gas Emissions. Haddenham : Contaminated Land: Applications in Real Environments, 2021.
12. **The Control of Substances Hazardous to Health Regulations 2002**. London : Her Majesty's Stationery Office, 2002.
13. **Code of practice for ground investigations BS 5930:2015+A1:2020**. London : British Standards Institution, 2020.
14. **Investigation of potentially contaminated sites. Code of practice BS 10175:2011**. London : British Standards Institution, 2011.
15. **Guidance on investigations for ground gas - Permanent gases and volatile organic compounds (VOCs) BS 8576:2013**. London : British Standards Institution, 2013.
16. **CAR-SOIL, Control of Asbestos Regulations 2012. Interpretation for Managing and Working with Asbestos in Soil and Construction and Demolition Materials: Industry guidance**. London : Contaminated Land: Applications in Real Environments (CL:AIRE), 2016.

Appendix A. Site Location Plan



1. THIS DRAWING IS TO BE PRINTED IN COLOUR.
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALIST DRAWINGS.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
4. ALL LEVELS ARE IN METRES RELATIVE TO ORDNANCE DATUM.
5. ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO PREPARING ANY WORKING DRAWINGS OR COMMENCING WORK ON SITE. ANY REQUIREMENTS FOR MODIFICATIONS OR ALTERATIONS ARE TO BE CARRIED OUT WITH THE APPROVAL OF PROJECT MANAGER.
6. THE CONTRACTOR SHALL BE RESPONSIBLE AND LIABLE FOR TEMPORARY STABILITY OF THE STRUCTURE DURING ALL STAGES OF THE WORK. THE STEEL WORK CONTRACTOR SHOULD ALLOW FOR ALL NECESSARY TEMPORARY BRACING AND PROPPING. DETAILS OF TEMPORARY WORKS TO BE SUBMITTED TO THE ENGINEER PRIOR TO INSTALLATION.

Key:
— Site Boundary
- - - Conservation Area

Rev	Rev. Date	Purpose of revision	Orig	Check'd	Rev'd	Appr'd
P05	18.11.2022	Issued for Revised RIBA Stage 3	SB	JR	MS	DB
P04	18.03.2022	Issued for RIBA Stage 3	EC	JR	MS	DB
P03	11.03.2022	Issued For Information	EC	JR	MS	DB
P02	23.02.2022	For Information	EC	JR	MS	DB
P01	22.12.2021	Preliminary Issue	SB	JR	MS	DB

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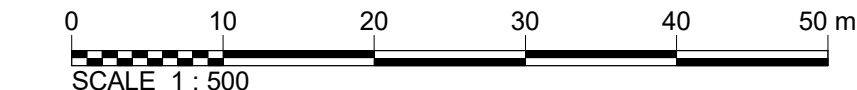
Project
**BISHOP AUCKLAND
 BUS STATION & CAR PARK**

Drawing title
**SITE PLAN
 AS EXISTING**

Drawing Status	SUITABLE FOR STAGE APPROVAL	Suitability	S4
Scale	As indicated @ A1	DO NOT SCALE	
Jacobs No.	BL000034	Rev	P05
Client No.	N/A	Rev	
Drawing Number	BL000034-JAC-ZZ-ZZ-DR-A-01005		

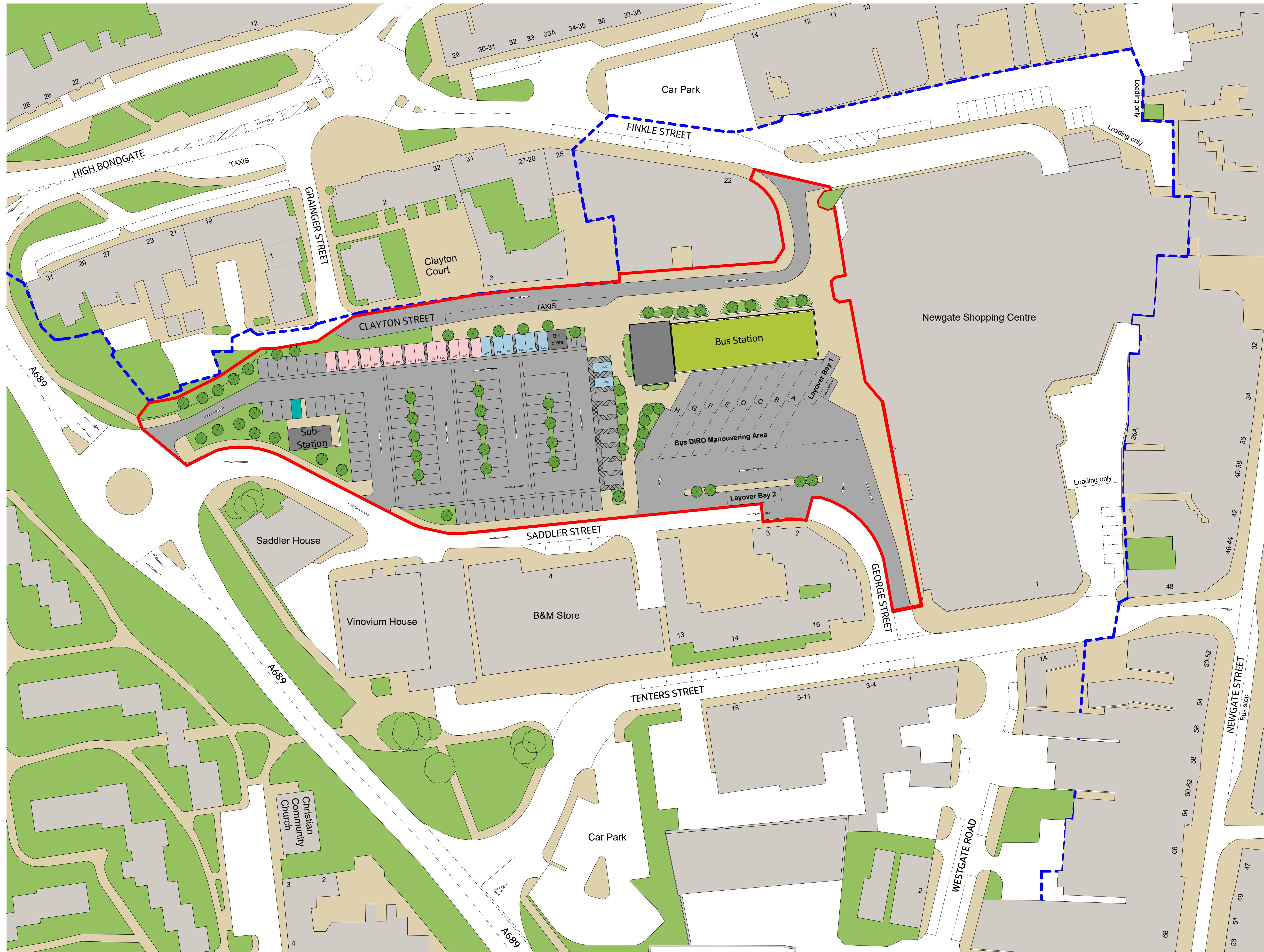
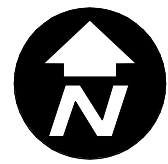
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1 SITE PLAN AS EXISTING
 1 : 500



21/11/2022 09:33:01

Appendix B. Proposed Development Plans



1. THIS DRAWING IS TO BE PRINTED IN COLOUR.
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALIST DRAWINGS.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
4. ALL LEVELS ARE IN METRES RELATIVE TO ORDNANCE DATUM.
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- Key:**
- Site Boundary
 - - - Conservation Area
 - Buildings
 - Pavement
 - Vegetation
 - Active Electric Vehicle Charging Bay
 - Passive Electric Vehicle Charging Bay
 - Dedicated DNO Parking for 24/7 Access

Rev	Rev. Date	Purpose of revision	Orig	Check'd	Rev'd	Appr'd
P05	18.11.2022	Issued for Revised RIBA Stage 3	SB	JR	MS	DB
P04	18.03.2022	Issued for RIBA Stage 3	EC	JR	MS	DB
P03	11.03.2022	Issued For Information	EC	JR	MS	DB
P02	23.02.2022	For Information	EC	JR	MS	DB
P01	22.12.2021	Preliminary Issue	SB	JR	MS	DB

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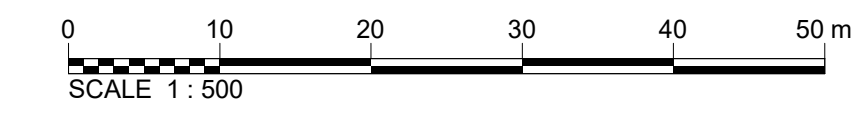
Project: **BISHOP AUCKLAND BUS STATION & CAR PARK**

Drawing title: **SITE PLAN AS PROPOSED**

Drawing Status	SUITABLE FOR STAGE APPROVAL	Suitability	S4
Scale	As indicated @ A1	DO NOT SCALE	
Jacobs No.	BL000034	Rev	
Client No.	N/A	Rev	P05
Drawing Number	BL000034-JAC-ZZ-ZZ-DR-A-01006		

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1 SITE PLAN AS PROPOSED
 1 : 500



21/11/2022 09:33:11

Appendix C. Groundsure Enviro+Geo Insight Report

420871 529975

Order Details

Date: 02/11/2021
Your ref: Bishop_Auckland
Our Ref: GS-8305174
Client: Jacobs U.K. Limited

Site Details

Location: 420892 529951
Area: 1.11 ha
Authority: [Durham County Council](#)



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Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

p.13

groundsure.com/insightuserguide

Contact us with any questions at:

info@groundsure.com

08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
14	1.1	<u>Historical industrial land uses</u>	7	13	19	37	-
17	1.2	<u>Historical tanks</u>	0	1	10	2	-
18	1.3	<u>Historical energy features</u>	0	0	8	10	-
19	1.4	Historical petrol stations	0	0	0	0	-
19	1.5	<u>Historical garages</u>	0	0	9	1	-
20	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
21	2.1	<u>Historical industrial land uses</u>	9	17	26	46	-
25	2.2	<u>Historical tanks</u>	0	1	10	3	-
26	2.3	<u>Historical energy features</u>	0	0	18	24	-
28	2.4	Historical petrol stations	0	0	0	0	-
28	2.5	<u>Historical garages</u>	0	0	12	1	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
29	3.1	Active or recent landfill	0	0	0	0	-
29	3.2	Historical landfill (BGS records)	0	0	0	0	-
30	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
30	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
30	3.5	Historical waste sites	0	0	0	0	-
30	3.6	Licensed waste sites	0	0	0	0	-
30	3.7	<u>Waste exemptions</u>	0	1	1	34	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
34	4.1	<u>Recent industrial land uses</u>	1	3	12	-	-
36	4.2	<u>Current or recent petrol stations</u>	0	0	1	0	-
36	4.3	Electricity cables	0	0	0	0	-
36	4.4	Gas pipelines	0	0	0	0	-
36	4.5	Sites determined as Contaminated Land	0	0	0	0	-



36	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
37	4.7	Regulated explosive sites	0	0	0	0	-
37	4.8	Hazardous substance storage/usage	0	0	0	0	-
37	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
37	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
37	4.11	<u>Licensed pollutant release (Part A(2)/B)</u>	0	0	1	1	-
38	4.12	Radioactive Substance Authorisations	0	0	0	0	-
38	4.13	<u>Licensed Discharges to controlled waters</u>	0	0	0	21	-
41	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
42	4.15	Pollutant release to public sewer	0	0	0	0	-
42	4.16	List 1 Dangerous Substances	0	0	0	0	-
42	4.17	List 2 Dangerous Substances	0	0	0	0	-
42	4.18	<u>Pollution Incidents (EA/NRW)</u>	0	0	0	5	-
43	4.19	Pollution inventory substances	0	0	0	0	-
43	4.20	Pollution inventory waste transfers	0	0	0	0	-
44	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
45	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
47	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
49	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
50	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
51	5.5	Groundwater vulnerability- local information	None (within 0m)				
52	5.6	Groundwater abstractions	0	0	0	0	0
53	5.7	<u>Surface water abstractions</u>	0	0	0	0	3
53	5.8	Potable abstractions	0	0	0	0	0
54	5.9	Source Protection Zones	0	0	0	0	-
54	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
55	6.1	Water Network (OS MasterMap)	0	0	0	-	-



55	6.2	Surface water features	0	0	0	-	-
56	6.3	<u>WFD Surface water body catchments</u>	1	-	-	-	-
56	6.4	<u>WFD Surface water bodies</u>	0	0	0	-	-
57	6.5	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
58	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
58	7.2	Historical Flood Events	0	0	0	-	-
58	7.3	Flood Defences	0	0	0	-	-
59	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
59	7.5	Flood Storage Areas	0	0	0	-	-
60	7.6	Flood Zone 2	None (within 50m)				
60	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
61	8.1	<u>Surface water flooding</u>	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding					
63	9.1	<u>Groundwater flooding</u>	Low (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
64	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
65	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
65	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
65	10.4	Special Protection Areas (SPA)	0	0	0	0	0
65	10.5	National Nature Reserves (NNR)	0	0	0	0	0
66	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
66	10.7	<u>Designated Ancient Woodland</u>	0	0	0	0	7
66	10.8	Biosphere Reserves	0	0	0	0	0
67	10.9	Forest Parks	0	0	0	0	0
67	10.10	Marine Conservation Zones	0	0	0	0	0
67	10.11	Green Belt	0	0	0	0	0
67	10.12	Proposed Ramsar sites	0	0	0	0	0



67	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
68	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
68	10.15	Nitrate Sensitive Areas	0	0	0	0	0
68	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
69	10.17	<u>SSSI Impact Risk Zones</u>	1	-	-	-	-
70	10.18	SSSI Units	0	0	0	0	0

Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
71	11.1	World Heritage Sites	0	0	0	-	-
72	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
72	11.3	National Parks	0	0	0	-	-
72	11.4	<u>Listed Buildings</u>	0	0	31	-	-
74	11.5	<u>Conservation Areas</u>	1	0	0	-	-
74	11.6	Scheduled Ancient Monuments	0	0	0	-	-
75	11.7	Registered Parks and Gardens	0	0	0	-	-

Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
76	12.1	<u>Agricultural Land Classification</u>	Grade 2 (within 250m)				
77	12.2	Open Access Land	0	0	0	-	-
77	12.3	Tree Felling Licences	0	0	0	-	-
77	12.4	Environmental Stewardship Schemes	0	0	0	-	-
78	12.5	Countryside Stewardship Schemes	0	0	0	-	-

Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
79	13.1	<u>Priority Habitat Inventory</u>	0	0	4	-	-
80	13.2	Habitat Networks	0	0	0	-	-
80	13.3	Open Mosaic Habitat	0	0	0	-	-
80	13.4	Limestone Pavement Orders	0	0	0	-	-

Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
81	14.1	<u>10k Availability</u>	Identified (within 500m)				
82	14.2	Artificial and made ground (10k)	0	0	0	0	-
83	14.3	Superficial geology (10k)	0	0	0	0	-



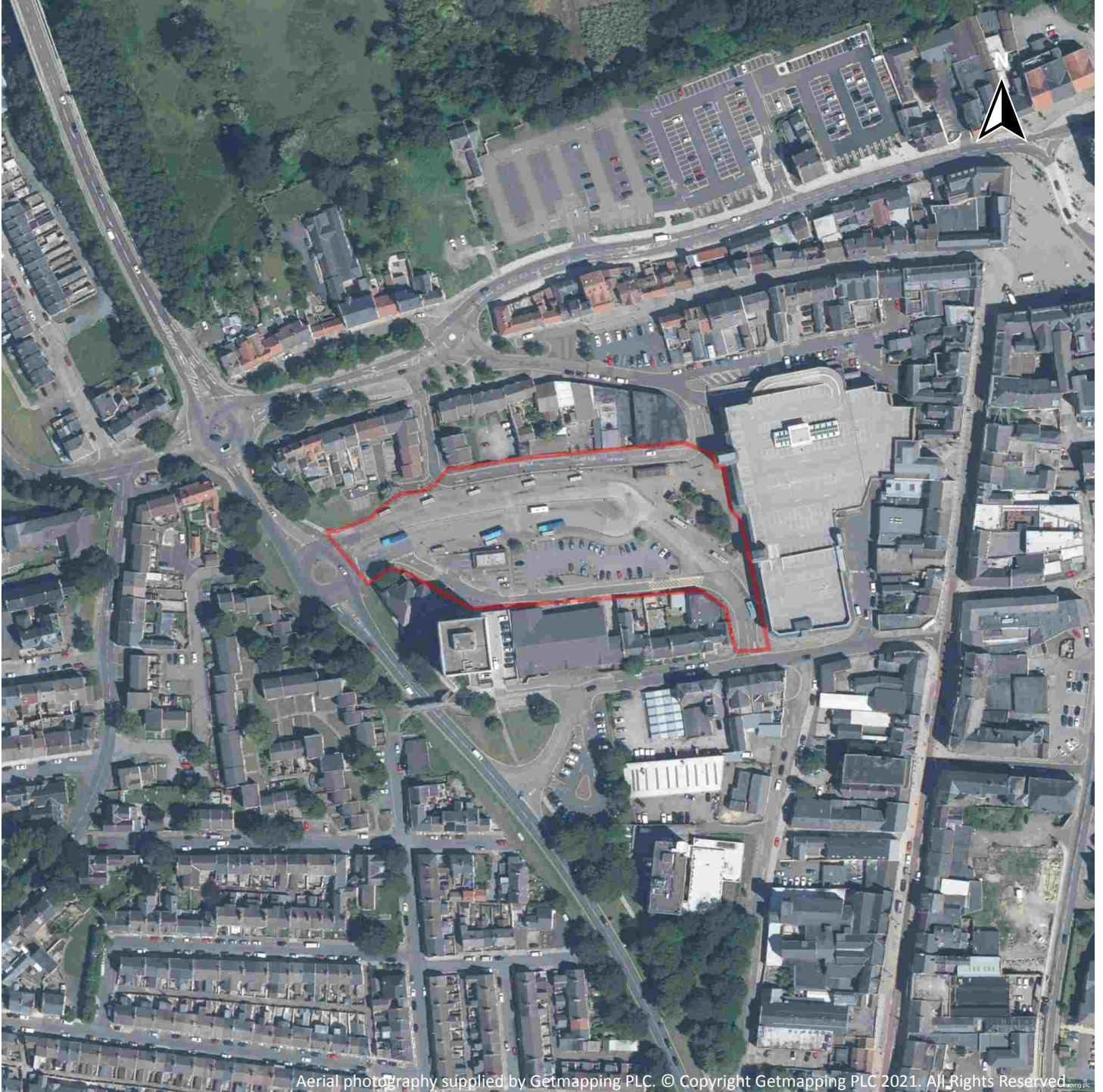
83	14.4	Landslip (10k)	0	0	0	0	-
84	14.5	Bedrock geology (10k)	0	0	0	0	-
84	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
85	15.1	<u>50k Availability</u>	Identified (within 500m)				
86	15.2	Artificial and made ground (50k)	0	0	0	0	-
86	15.3	Artificial ground permeability (50k)	0	0	-	-	-
87	15.4	<u>Superficial geology (50k)</u>	1	0	1	7	-
88	15.5	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
88	15.6	<u>Landslip (50k)</u>	0	0	1	0	-
89	15.7	Landslip permeability (50k)	None (within 50m)				
90	15.8	<u>Bedrock geology (50k)</u>	1	0	2	3	-
91	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
91	15.10	<u>Bedrock faults and other linear features (50k)</u>	2	1	3	3	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
93	16.1	<u>BGS Boreholes</u>	6	14	53	-	-
Page	Section	Natural ground subsidence					
98	17.1	<u>Shrink swell clays</u>	Very low (within 50m)				
99	17.2	<u>Running sands</u>	Very low (within 50m)				
100	17.3	<u>Compressible deposits</u>	Negligible (within 50m)				
101	17.4	<u>Collapsible deposits</u>	Very low (within 50m)				
102	17.5	<u>Landslides</u>	Low (within 50m)				
104	17.6	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
106	18.1	Natural cavities	0	0	0	0	-
107	18.2	BritPits	0	0	0	0	-
107	18.3	<u>Surface ground workings</u>	7	0	11	-	-
108	18.4	<u>Underground workings</u>	0	5	0	0	16
109	18.5	<u>Historical Mineral Planning Areas</u>	0	0	0	2	-



109	18.6	Non-coal mining	0	0	0	0	0
109	18.7	Mining cavities	0	0	0	0	0
110	18.8	JPB mining areas	None (within 0m)				
110	18.9	Coal mining	Identified (within 0m)				
110	18.10	Brine areas	None (within 0m)				
110	18.11	Gypsum areas	None (within 0m)				
111	18.12	Tin mining	None (within 0m)				
111	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
112	19.1	Radon	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
113	20.1	BGS Estimated Background Soil Chemistry	3	6	-	-	-
114	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
114	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
115	21.1	Underground railways (London)	0	0	0	-	-
115	21.2	Underground railways (Non-London)	0	0	0	-	-
116	21.3	Railway tunnels	0	0	0	-	-
116	21.4	Historical railway and tunnel features	3	19	10	-	-
117	21.5	Royal Mail tunnels	0	0	0	-	-
117	21.6	Historical railways	0	3	3	-	-
118	21.7	Railways	0	0	0	-	-
118	21.8	Crossrail 1	0	0	0	0	-
118	21.9	Crossrail 2	0	0	0	0	-
119	21.10	HS2	0	0	0	0	-



Recent aerial photograph



Capture Date: 25/06/2020

Site Area: 1.11ha



Recent site history - 2019 aerial photograph



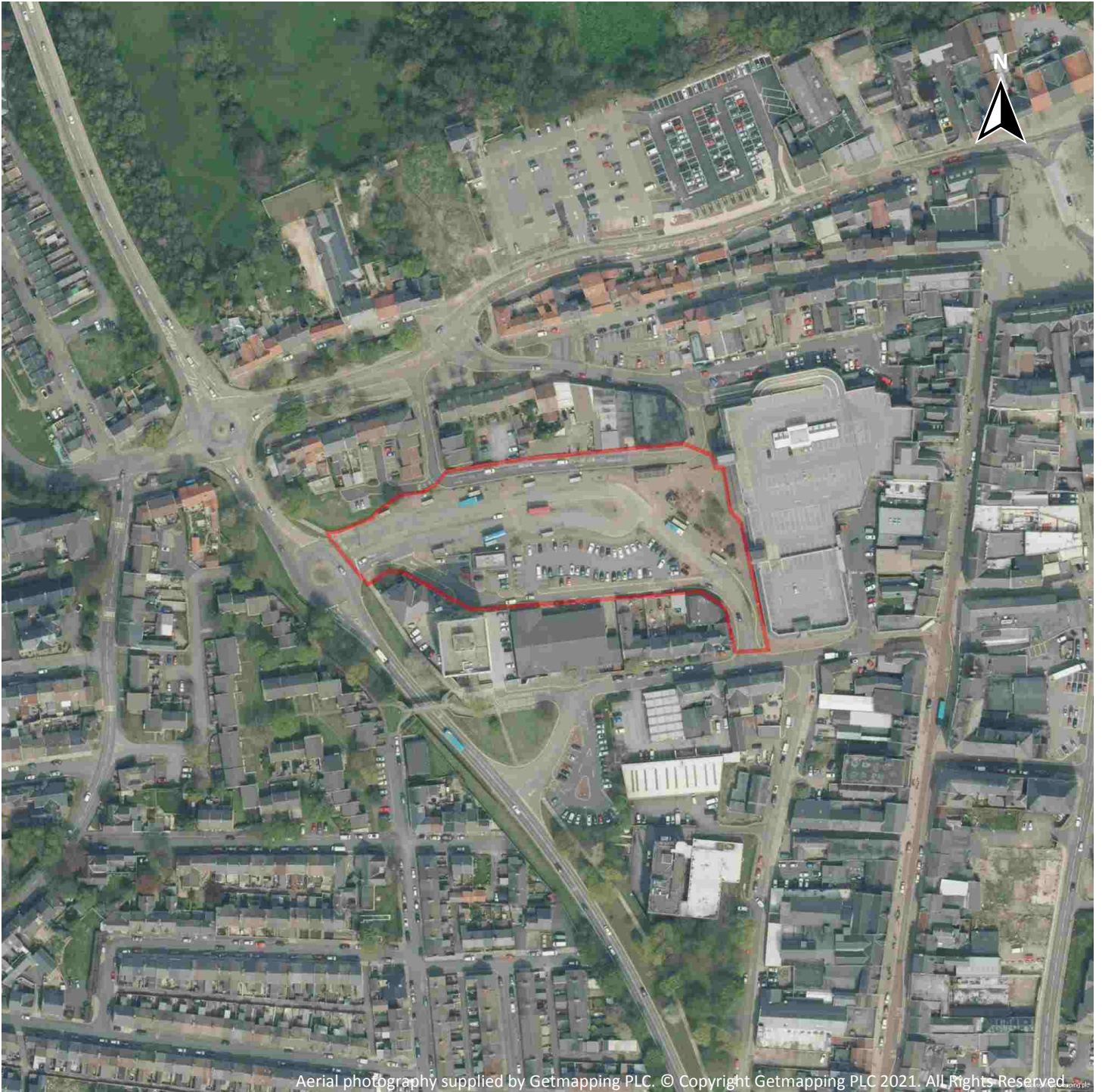
Aerial photography supplied by Getmapping PLC. © Copyright Getmapping

Capture Date: 21/09/2019

Site Area: 1.11ha



Recent site history - 2016 aerial photograph



Capture Date: 06/05/2016

Site Area: 1.11ha



Recent site history - 2009 aerial photograph



Capture Date: 31/05/2009

Site Area: 1.11ha



Recent site history - 1999 aerial photograph

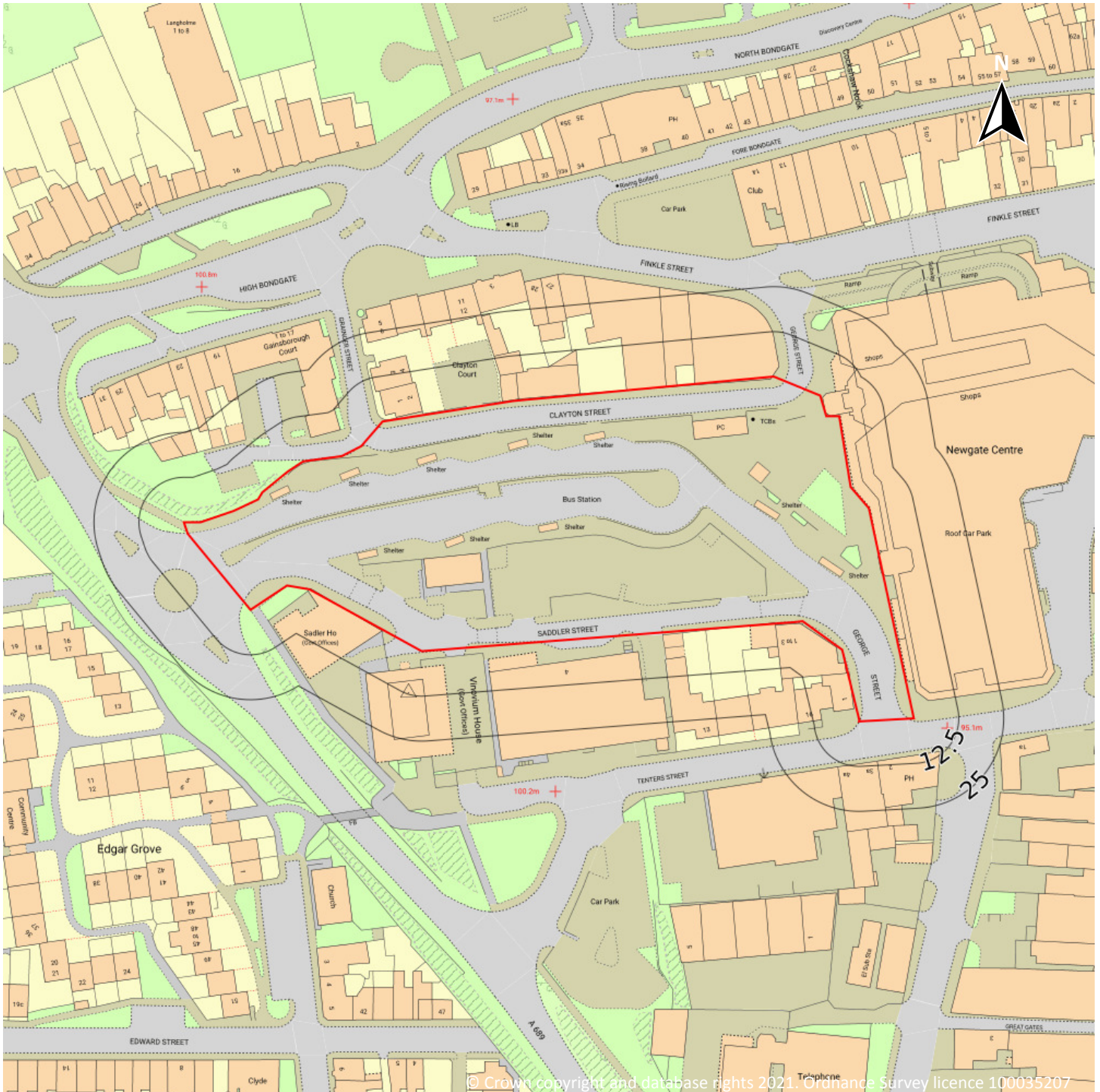


Capture Date: 10/09/1999

Site Area: 1.11ha



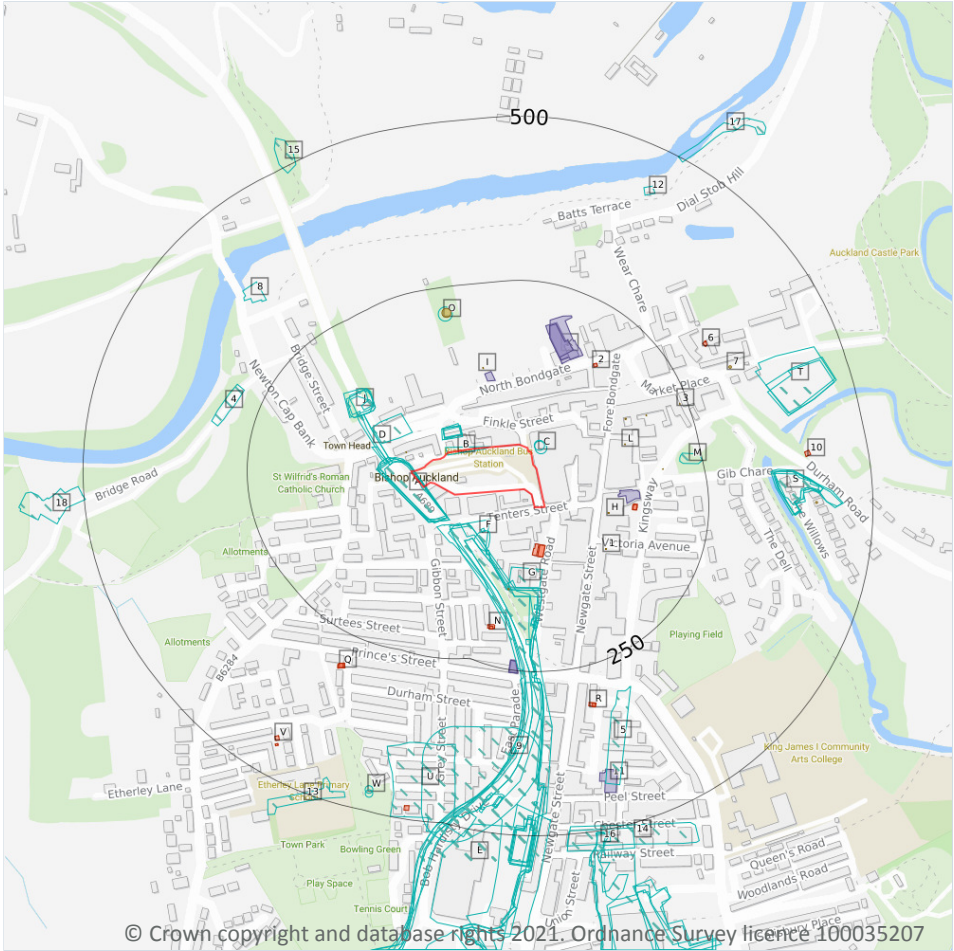
OS MasterMap site plan



Site Area: 1.11ha



1 Past land use



Site Outline

Search buffers in metres (m)

- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

1.1 Historical industrial land uses

Records within 500m **76**

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
A	On site	Cuttings	1924	1343705



ID	Location	Land use	Dates present	Group ID
A	On site	Cuttings	1953 - 1967	1351806
A	On site	Cuttings	1896	1352753
A	On site	Cuttings	1939	1366041
A	On site	Cuttings	1857	1387038
A	On site	Cuttings	1915	1392163
B	On site	Bus Station	1988 - 1992	1368725
C	7m E	Unspecified Tank	1896 - 1915	1349090
C	8m NE	Unspecified Tank	1924	1373543
B	20m N	Police Station	1953 - 1967	1363303
B	21m N	Police Station	1939	1391654
B	23m N	Police Station	1924	1357601
B	24m N	Police Station	1915	1397180
D	31m NW	Tunnel	1857 - 1896	1349411
D	31m NW	Tunnel	1924 - 1939	1350893
D	38m W	Tunnel	1953	1377951
E	42m S	Railway Sidings	1915	1366740
E	44m S	Railway Sidings	1953	1353367
E	45m S	Railway Sidings	1924	1358047
E	49m S	Railway Sidings	1967	1380848
D	53m NW	Cuttings	1915	1305868
F	54m S	Railway Building	1924	1321076
F	58m S	Unspecified Pit	1896	1335131
E	68m S	Railway Sidings	1896	1346484
E	68m S	Railway Sidings	1939	1399781
F	89m S	Railway Building	1924	1321075
G	93m S	Telephone Exchange	1988 - 1992	1380766
J	109m NW	Cuttings	1896	1351004
J	109m NW	Cuttings	1924 - 1939	1364453



ID	Location	Land use	Dates present	Group ID
J	110m NW	Cuttings	1857	1369843
J	114m NW	Unspecified Pit	1953 - 1991	1348689
J	116m NW	Unspecified Ground Workings	1915	1308613
G	148m S	Railway Building	1896	1321083
G	167m S	Railway Building	1924	1353372
G	170m S	Railway Building	1896 - 1915	1402646
G	173m S	Railway Building	1939	1400202
O	198m N	Unspecified Tank	1953 - 1967	1377790
G	201m S	Railway Building	1896	1321081
M	216m E	Unspecified Tanks	1896	1318779
P	266m S	Railway Sidings	1980	1359943
4	283m NW	Cuttings	1857	1305867
5	302m S	Rope Walk	1857	1305253
E	337m S	Nursery	1915 - 1924	1339991
8	342m NW	Chimney	1939	1333529
S	349m E	Flour Mills	1953	1385391
S	351m E	Flour Mills	1924	1362532
S	354m E	Flour Mills	1939	1365847
S	354m E	Flour Mills	1915	1394352
S	354m E	Unspecified Mill	1857	1315512
T	363m E	Nursery	1991	1359850
9	366m S	Railway Building	1915 - 1924	1349926
T	371m E	Nursery	1953	1344676
T	372m E	Nursery	1939	1374586
U	380m S	Nursery	1896	1347059
12	424m NE	Pumping Station	1980 - 1991	1376067
E	439m S	Railway Buildings	1924	1331164
E	443m S	Railway Building	1915	1321077



ID	Location	Land use	Dates present	Group ID
E	443m S	Railway Building	1915	1339795
E	443m S	Railway Building	1939	1370655
E	448m S	Railway Building	1924	1321080
P	453m S	Unspecified Depot	1980 - 1988	1403017
W	462m S	Unspecified Tank	1924	1393440
E	463m S	Railway Building	1915	1321074
13	466m S	Unspecified Ground Workings	1980 - 1992	1350974
W	468m S	Unspecified Tank	1980 - 1988	1360466
E	469m S	Goods Station	1924	1364899
E	470m S	Cuttings	1915	1305869
E	472m S	Goods Station	1915	1368603
E	472m S	Goods Station	1939 - 1953	1384337
E	475m S	Goods Station	1967	1383727
E	482m S	Goods Station	1896	1387697
14	489m S	Unspecified Commercial/Industrial	1924	1339745
15	490m NW	Unspecified Heap	1896	1310567
16	495m S	Unspecified Commercial/Industrial	1896	1345283
17	495m NE	Refuse Heap	1953	1327400
18	498m W	Unspecified Mill	1939 - 1953	1375277

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

13

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**



ID	Location	Land use	Dates present	Group ID
D	29m N	Tank or Trough	1857	207356
H	97m E	Tank or Trough	1857	207350
1	113m SE	Tank or Trough	1857	207351
I	120m N	Tank or Trough	1857	207355
G	129m S	Unspecified Tank	1984	199549
L	139m E	Tank or Trough	1857	207352
L	152m E	Tank or Trough	1857	207354
L	184m E	Tank or Trough	1857	207353
M	188m E	Tank or Trough	1857	207348
O	204m N	Unspecified Tank	1961	199384
3	237m E	Tank or Trough	1857	207349
7	328m NE	Unspecified Tank	1985 - 1987	214401
S	413m E	Unspecified Tank	1897	199550

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

18

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
G	55m S	Electricity Substation	1993 - 1997	127470
G	57m S	Electricity Substation	1979 - 1988	124812
G	57m S	Electricity Substation	1984	120852
H	134m E	Electricity Substation	1985 - 1993	124761
H	135m E	Electricity Substation	1980	125956



ID	Location	Land use	Dates present	Group ID
2	159m NE	Electricity Substation	1978 - 1993	123015
N	188m S	Electricity Substation	1979 - 1988	119432
N	192m S	Electricity Substation	1993 - 1997	124927
Q	294m SW	Electricity Substation	1984 - 1993	126649
Q	294m SW	Electricity Substation	1979 - 1988	123914
Q	295m SW	Electricity Substation	1997	118822
R	305m S	Electricity Substation	1993	122026
R	307m S	Electricity Substation	1980 - 1988	127406
6	309m NE	Electricity Substation	1978 - 1993	124173
10	405m E	Electricity Substation	1980 - 1993	121762
V	438m SW	Electricity Substation	1988 - 1997	119880
V	449m SW	Electricity Substation	1979 - 1984	120149
U	479m S	Electricity Substation	1979 - 1985	125899

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m

10

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.



Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
I	101m N	Garage	1961	37789
H	113m E	Garage	1962	37790
K	139m N	Garage	1987 - 1993	40500
K	143m N	Garage	1961	38199
K	143m N	Garage	1985 - 1987	39963
K	146m N	Garage	1978	39402
G	234m S	Garage	1962	38520
G	235m S	Garage	1984	38989
G	235m S	Garage	1979	38906
11	410m S	Garage	1962	37798

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

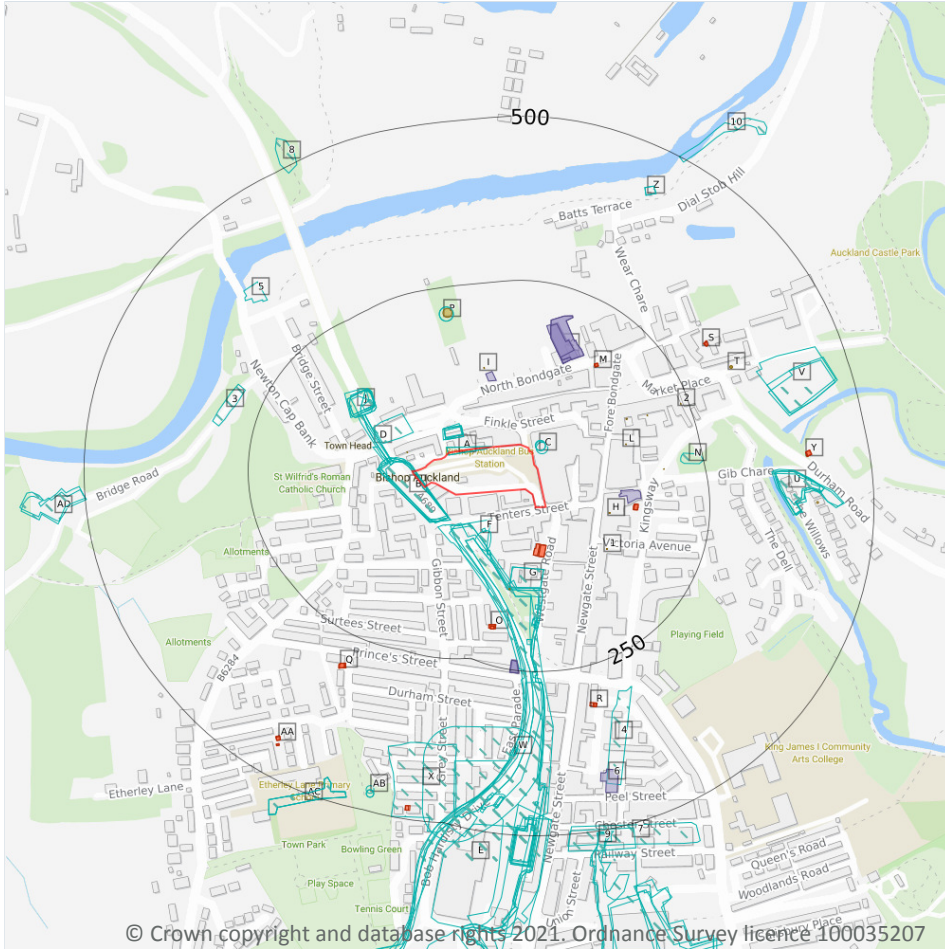
0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.



2 Past land use - un-grouped



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

2.1 Historical industrial land uses

Records within 500m **98**

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 21**

ID	Location	Land Use	Date	Group ID
A	On site	Bus Station	1988	1368725
A	On site	Bus Station	1992	1368725
B	On site	Cuttings	1967	1351806

ID	Location	Land Use	Date	Group ID
B	On site	Cuttings	1939	1366041
B	On site	Cuttings	1896	1352753
B	On site	Cuttings	1924	1343705
B	On site	Cuttings	1857	1387038
B	On site	Cuttings	1953	1351806
B	On site	Cuttings	1915	1392163
C	7m E	Unspecified Tank	1896	1349090
C	8m NE	Unspecified Tank	1924	1373543
C	8m NE	Unspecified Tank	1915	1349090
A	20m N	Police Station	1953	1363303
A	20m N	Police Station	1967	1363303
A	21m N	Police Station	1939	1391654
A	23m N	Police Station	1924	1357601
A	24m N	Police Station	1915	1397180
D	31m NW	Tunnel	1939	1350893
D	31m NW	Tunnel	1896	1349411
D	31m NW	Tunnel	1857	1349411
D	38m W	Tunnel	1953	1377951
D	39m NW	Tunnel	1924	1350893
E	42m S	Railway Sidings	1915	1366740
E	44m S	Railway Sidings	1953	1353367
E	45m S	Railway Sidings	1924	1358047
E	49m S	Railway Sidings	1967	1380848
D	53m NW	Cuttings	1915	1305868
F	54m S	Railway Building	1924	1321076
F	58m S	Unspecified Pit	1896	1335131
E	68m S	Railway Sidings	1939	1399781
E	68m S	Railway Sidings	1896	1346484



ID	Location	Land Use	Date	Group ID
F	89m S	Railway Building	1924	1321075
G	93m S	Telephone Exchange	1988	1380766
G	93m S	Telephone Exchange	1992	1380766
J	109m NW	Cuttings	1939	1364453
J	109m NW	Cuttings	1896	1351004
J	110m NW	Cuttings	1857	1369843
J	114m NW	Unspecified Pit	1953	1348689
J	114m NW	Unspecified Pit	1967	1348689
J	115m NW	Cuttings	1924	1364453
J	116m NW	Unspecified Pit	1980	1348689
J	116m NW	Unspecified Pit	1991	1348689
J	116m NW	Unspecified Ground Workings	1915	1308613
G	148m S	Railway Building	1896	1321083
G	167m S	Railway Building	1924	1353372
G	170m S	Railway Building	1915	1402646
G	173m S	Railway Building	1939	1400202
G	173m S	Railway Building	1896	1402646
P	198m N	Unspecified Tank	1953	1377790
P	198m N	Unspecified Tank	1967	1377790
G	201m S	Railway Building	1896	1321081
N	216m E	Unspecified Tanks	1896	1318779
E	266m S	Railway Sidings	1980	1359943
3	283m NW	Cuttings	1857	1305867
4	302m S	Rope Walk	1857	1305253
E	337m S	Nursery	1924	1339991
5	342m NW	Chimney	1939	1333529
U	349m E	Flour Mills	1953	1385391
U	351m E	Flour Mills	1924	1362532



ID	Location	Land Use	Date	Group ID
U	354m E	Flour Mills	1939	1365847
U	354m E	Flour Mills	1915	1394352
U	354m E	Unspecified Mill	1857	1315512
V	363m E	Nursery	1991	1359850
W	366m S	Railway Building	1924	1349926
W	369m S	Railway Building	1915	1349926
V	371m E	Nursery	1953	1344676
V	372m E	Nursery	1939	1374586
X	380m S	Nursery	1896	1347059
E	388m S	Nursery	1915	1339991
Z	424m NE	Pumping Station	1980	1376067
Z	424m NE	Pumping Station	1991	1376067
E	439m S	Railway Buildings	1924	1331164
E	443m S	Railway Building	1915	1321077
E	443m S	Railway Building	1915	1339795
E	443m S	Railway Building	1939	1370655
E	448m S	Railway Building	1924	1321080
E	453m S	Unspecified Depot	1980	1403017
AB	462m S	Unspecified Tank	1924	1393440
E	463m S	Railway Building	1915	1321074
AC	466m S	Unspecified Ground Workings	1980	1350974
AC	466m S	Unspecified Ground Workings	1988	1350974
AC	466m S	Unspecified Ground Workings	1992	1350974
AB	468m S	Unspecified Tank	1980	1360466
AB	468m S	Unspecified Tank	1988	1360466
E	469m S	Goods Station	1924	1364899
E	470m S	Cuttings	1915	1305869
E	472m S	Goods Station	1915	1368603



ID	Location	Land Use	Date	Group ID
E	472m S	Goods Station	1953	1384337
E	472m S	Unspecified Depot	1988	1403017
E	475m S	Goods Station	1967	1383727
E	482m S	Goods Station	1939	1384337
E	482m S	Goods Station	1896	1387697
7	489m S	Unspecified Commercial/Industrial	1924	1339745
8	490m NW	Unspecified Heap	1896	1310567
9	495m S	Unspecified Commercial/Industrial	1896	1345283
10	495m NE	Refuse Heap	1953	1327400
AD	498m W	Unspecified Mill	1953	1375277
AD	500m W	Unspecified Mill	1939	1375277

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

14

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 21**

ID	Location	Land Use	Date	Group ID
D	29m N	Tank or Trough	1857	207356
H	97m E	Tank or Trough	1857	207350
1	113m SE	Tank or Trough	1857	207351
I	120m N	Tank or Trough	1857	207355
G	129m S	Unspecified Tank	1984	199549
L	139m E	Tank or Trough	1857	207352
L	152m E	Tank or Trough	1857	207354
L	184m E	Tank or Trough	1857	207353
N	188m E	Tank or Trough	1857	207348



ID	Location	Land Use	Date	Group ID
P	204m N	Unspecified Tank	1961	199384
2	237m E	Tank or Trough	1857	207349
T	328m NE	Unspecified Tank	1985	214401
T	328m NE	Unspecified Tank	1987	214401
U	413m E	Unspecified Tank	1897	199550

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

42

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 21**

ID	Location	Land Use	Date	Group ID
G	55m S	Electricity Substation	1997	127470
G	55m S	Electricity Substation	1993	127470
G	57m S	Electricity Substation	1979	124812
G	57m S	Electricity Substation	1988	124812
G	57m S	Electricity Substation	1984	120852
H	134m E	Electricity Substation	1988	124761
H	134m E	Electricity Substation	1985	124761
H	135m E	Electricity Substation	1980	125956
H	135m E	Electricity Substation	1993	124761
M	159m NE	Electricity Substation	1978	123015
M	160m NE	Electricity Substation	1987	123015
M	160m NE	Electricity Substation	1987	123015
M	160m NE	Electricity Substation	1993	123015
O	188m S	Electricity Substation	1979	119432
O	188m S	Electricity Substation	1988	119432



ID	Location	Land Use	Date	Group ID
O	189m S	Electricity Substation	1984	119432
O	192m S	Electricity Substation	1997	124927
O	192m S	Electricity Substation	1993	124927
Q	294m SW	Electricity Substation	1993	126649
Q	294m SW	Electricity Substation	1979	123914
Q	294m SW	Electricity Substation	1988	123914
Q	294m SW	Electricity Substation	1984	126649
Q	295m SW	Electricity Substation	1997	118822
R	305m S	Electricity Substation	1993	122026
R	307m S	Electricity Substation	1988	127406
R	307m S	Electricity Substation	1985	127406
R	308m S	Electricity Substation	1980	127406
S	309m NE	Electricity Substation	1987	124173
S	309m NE	Electricity Substation	1987	124173
S	309m NE	Electricity Substation	1993	124173
S	310m NE	Electricity Substation	1978	124173
Y	405m E	Electricity Substation	1988	121762
Y	405m E	Electricity Substation	1985	121762
Y	405m E	Electricity Substation	1980	121762
Y	405m E	Electricity Substation	1993	121762
AA	438m SW	Electricity Substation	1988	119880
AA	439m SW	Electricity Substation	1997	119880
AA	439m SW	Electricity Substation	1993	119880
AA	449m SW	Electricity Substation	1984	120149
AA	450m SW	Electricity Substation	1979	120149
X	479m S	Electricity Substation	1979	125899
X	479m S	Electricity Substation	1985	125899

This data is sourced from Ordnance Survey / Groundsure.



2.4 Historical petrol stations

Records within 500m

0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m

13

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

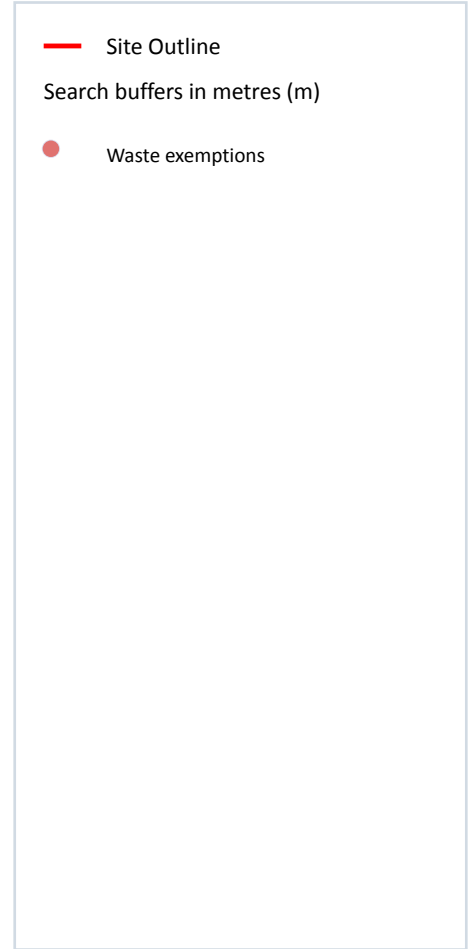
Features are displayed on the Past land use - un-grouped map on **page 21**

ID	Location	Land Use	Date	Group ID
I	101m N	Garage	1961	37789
H	113m E	Garage	1962	37790
K	139m N	Garage	1987	40500
K	139m N	Garage	1987	40500
K	139m N	Garage	1993	40500
K	143m N	Garage	1961	38199
K	143m N	Garage	1987	39963
K	143m N	Garage	1985	39963
K	146m N	Garage	1978	39402
G	234m S	Garage	1962	38520
G	235m S	Garage	1984	38989
G	235m S	Garage	1979	38906
6	410m S	Garage	1962	37798

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



3.1 Active or recent landfill

Records within 500m

0

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m

0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m **0**

Landfill sites identified from Local Authority records and high detail historical mapping.

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m **0**

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.5 Historical waste sites

Records within 500m **0**

Waste site records derived from Local Authority planning records and high detail historical mapping.

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m **0**

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.7 Waste exemptions

Records within 500m **36**

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 29**

ID	Location	Site	Reference	Category	Sub-Category	Description
1	37m SW	5-11, TENTERS STREET, BISHOP AUCKLAND, DL14 7AD	WEX154084	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal



ID	Location	Site	Reference	Category	Sub-Category	Description
2	128m W	15, HEXHAM STREET, BISHOP AUCKLAND, DL14 7PU	WEX164490	Treating waste exemption	Not on a Farm	Sorting and de-naturing of controlled drugs for disposal
A	273m NE	GROSVENOR HOUSE, 29, MARKET PLACE, BISHOP AUCKLAND, DL14 7NP	WEX145266	Using waste exemption	Not on a farm	Use of waste to manufacture finished goods
A	273m NE	GROSVENOR HOUSE, 29, MARKET PLACE, BISHOP AUCKLAND, DL14 7NP	WEX145266	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	273m NE	GROSVENOR HOUSE, 29, MARKET PLACE, BISHOP AUCKLAND, DL14 7NP	WEX145266	Using waste exemption	Not on a farm	Use of waste for a specified purpose
B	414m E	Scotland Wing Auckland Castle Market Place BISHOP AUCKLAND County Durham DL14 7NP	EPR/SH0276L N/A001	Disposing of waste exemption	Both agricultural and non- agricultural waste	Disposal by incineration
B	414m E	Scotland Wing Auckland Castle Market Place BISHOP AUCKLAND County Durham DL14 7NP	EPR/SH0276L N/A001	Disposing of waste exemption	Both agricultural and non- agricultural waste	Burning waste in the open
B	414m E	Scotland Wing Auckland Castle Market Place BISHOP AUCKLAND County Durham DL14 7NP	EPR/SH0276L N/A001	Treating waste exemption	Both agricultural and non- agricultural waste	Aerobic composting and associated prior treatment
B	414m E	Scotland Wing Auckland Castle Market Place BISHOP AUCKLAND County Durham DL14 7NP	EPR/SH0276L N/A001	Treating waste exemption	Both agricultural and non- agricultural waste	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
B	414m E	Scotland Wing Auckland Castle Market Place BISHOP AUCKLAND County Durham DL14 7NP	EPR/SH0276L N/A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of waste in construction
B	414m E	Scotland Wing Auckland Castle Market Place BISHOP AUCKLAND County Durham DL14 7NP	EPR/SH0276L N/A001	Using waste exemption	Both agricultural and non- agricultural waste	Spreading waste on agricultural land to confer benefit



ID	Location	Site	Reference	Category	Sub-Category	Description
B	414m E	Scotland Wing Auckland Castle Market Place BISHOP AUCKLAND County Durham DL14 7NP	EPR/SH0276L N/A001	Using waste exemption	Both agricultural and non- agricultural waste	Spreading waste on non- agricultural land to confer benefit
B	414m E	Scotland Wing Auckland Castle Market Place BISHOP AUCKLAND County Durham DL14 7NP	EPR/SH0276L N/A001	Using waste exemption	Both agricultural and non- agricultural waste	Spreading of plant matter to confer benefit
B	414m E	Scotland Wing Auckland Castle Market Place BISHOP AUCKLAND County Durham DL14 7NP	EPR/SH0276L N/A001	Using waste exemption	Both agricultural and non- agricultural waste	Incorporation of ash into soil
B	414m E	Scotland Wing Auckland Castle Market Place BISHOP AUCKLAND County Durham DL14 7NP	EPR/SH0276L N/A001	Using waste exemption	Both agricultural and non- agricultural waste	Burning of waste as a fuel in a small appliance
B	414m E	Scotland Wing Auckland Castle Market Place BISHOP AUCKLAND County Durham DL14 7NP	EPR/SH0276L N/A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of waste for a specified purpose
C	445m NE	MARKET PLACE, BISHOP AUCKLAND, DL14 7NR	WEX180057	Using waste exemption	Not on a farm	Spreading of plant matter to confer benefit
C	445m NE	MARKET PLACE, BISHOP AUCKLAND, DL14 7NR	WEX180057	Using waste exemption	Not on a farm	Use of mulch
C	445m NE	MARKET PLACE, BISHOP AUCKLAND, DL14 7NR	WEX180057	Disposing of waste exemption	Not on a farm	Burning waste in the open
C	445m NE	MARKET PLACE, BISHOP AUCKLAND, DL14 7NR	WEX180057	Using waste exemption	Not on a farm	Use of waste in construction
C	445m NE	MARKET PLACE BISHOP AUCKLAND DL14 7NR	WEX013502	Disposing of waste exemption	Not on a farm	Burning waste in the open
C	445m NE	MARKET PLACE BISHOP AUCKLAND DL14 7NR	WEX013502	Storing waste exemption	Not on a farm	Storage of waste in a secure place
C	445m NE	MARKET PLACE BISHOP AUCKLAND DL14 7NR	WEX013502	Treating waste exemption	Not on a farm	Treatment of waste food

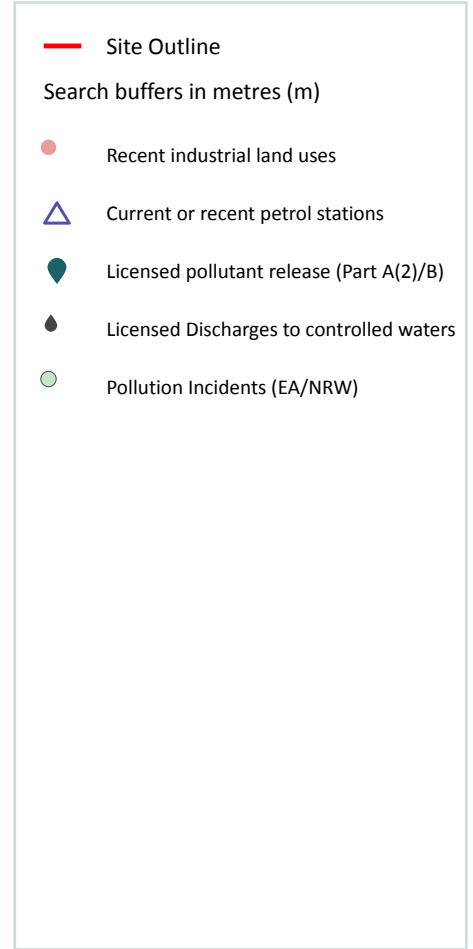


ID	Location	Site	Reference	Category	Sub-Category	Description
C	445m NE	MARKET PLACE BISHOP AUCKLAND DL14 7NR	WEX013502	Treating waste exemption	Not on a farm	Aerobic composting and associated prior treatment
C	445m NE	MARKET PLACE BISHOP AUCKLAND DL14 7NR	WEX013502	Treating waste exemption	Not on a farm	Treatment of kitchen waste in a wormery
C	445m NE	MARKET PLACE BISHOP AUCKLAND DL14 7NR	WEX013502	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
C	445m NE	MARKET PLACE BISHOP AUCKLAND DL14 7NR	WEX013502	Using waste exemption	Not on a farm	Spreading waste on agricultural land to confer benefit
C	445m NE	MARKET PLACE BISHOP AUCKLAND DL14 7NR	WEX013502	Using waste exemption	Not on a farm	Spreading waste on non-agricultural land to confer benefit
C	445m NE	MARKET PLACE BISHOP AUCKLAND DL14 7NR	WEX013502	Using waste exemption	Not on a farm	Use of mulch
C	445m NE	MARKET PLACE BISHOP AUCKLAND DL14 7NR	WEX013502	Using waste exemption	Not on a farm	Spreading of plant matter to confer benefit
C	445m NE	MARKET PLACE BISHOP AUCKLAND DL14 7NR	WEX013502	Using waste exemption	Not on a farm	Incorporation of ash into soil
3	475m SE	Site Office South Church Road BISHOP AUCKLAND County Durham DL14 7JZ	EPR/KF0930W F/A001	Treating waste exemption	Non-Agricultural Waste Only	Treatment of waste aerosol cans
D	476m S	-	WEX227225	Using waste exemption	Not on a farm	Burning of waste as a fuel in a small appliance
D	480m S	3, CHESTER STREET, BISHOP AUCKLAND, DL14 7LP	WEX142709	Using waste exemption	Not on a farm	Burning of waste as a fuel in a small appliance
D	481m S	4, CHESTER STREET, BISHOP AUCKLAND, DL14 7LP	WEX142690	Using waste exemption	Not on a farm	Burning of waste as a fuel in a small appliance
D	495m S	-	WEX227249	Using waste exemption	Not on a farm	Burning of waste as a fuel in a small appliance

This data is sourced from the Environment Agency and Natural Resources Wales.



4 Current industrial land use



4.1 Recent industrial land uses

Records within 250m

16

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 34**

ID	Location	Company	Address	Activity	Category
1	On site	Bus Station	Durham, DL14	Bus and Coach Stations, Depots and Companies	Public Transport, Stations and Infrastructure
A	12m N	T C Embroidery & Workwear	22a Finkle Street, Bishop Auckland, Durham, DL14 7PL	Textiles, Fabrics, Silk and Machinery	Industrial Products

ID	Location	Company	Address	Activity	Category
A	21m N	Bondgate House Bed Centre	Finkle Street, Bishop Auckland, Durham, DL14 7PL	Beds and Bedding	Consumer Products
B	37m S	J Terry Electrical Ltd	The Derby Yard, Westgate Road, Bishop Auckland, Durham, DL14 7AX	Electronic Equipment	Industrial Products
A	66m N	Bondgate Electrical Distribution Ltd	34-35, Fore Bondgate, Bishop Auckland, Durham, DL14 7PE	Electrical Production and Manipulation Equipment	Industrial Products
B	72m S	Electricity Sub Station	Durham, DL14	Electrical Features	Infrastructure and Facilities
C	73m SE	Industracare	64a, Newgate Street, Bishop Auckland, Durham, DL14 7EQ	Workwear	Industrial Products
C	94m E	Homefair Blinds	41, Newgate Street, Bishop Auckland, Durham, DL14 7EW	Curtains and Blinds	Consumer Products
B	101m S	Telephone Exchange	Durham, DL14	Telecommunications Features	Infrastructure and Facilities
2	103m SW	Sue's Bread	13, West Road, Bishop Auckland, Durham, DL14 7PP	Baking and Confectionery	Foodstuffs
C	105m SE	Specsavers Hearcare	45, Newgate Street, Bishop Auckland, Durham, DL14 7EW	Disability and Mobility Equipment	Consumer Products
3	119m NE	Homefair Blinds UK Ltd	8, Newgate Street, Bishop Auckland, Durham, DL14 7EG	Curtains and Blinds	Consumer Products
C	134m E	Electricity Sub Station	Durham, DL14	Electrical Features	Infrastructure and Facilities
4	154m NE	Electricity Sub Station	Durham, DL14	Electrical Features	Infrastructure and Facilities
5	189m S	Electricity Sub Station	Durham, DL14	Electrical Features	Infrastructure and Facilities
7	250m NW	Elite Pest Control	70, Bridge Street, Bishop Auckland, Durham, DL14 7PY	Pest and Vermin Control	Contract Services

This data is sourced from Ordnance Survey.



4.2 Current or recent petrol stations

Records within 500m

1

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 34**

ID	Location	Company	Address	LPG	Status
6	206m N	OBSOLETE	North Bondgate, Bishop Auckland, County Durham, DL14 7PG	Not Applicable	Obsolete

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m

0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m

0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m

0

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m

0

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

This data is sourced from the Health and Safety Executive.



4.7 Regulated explosive sites

Records within 500m

0

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.11 Licensed pollutant release (Part A(2)/B)

Records within 500m

2

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on **page 34**



ID	Location	Address	Details	
C	101m E	Johnson DryCleaning, 43 Newgate Street, Bishop Auckland	Process: Dry Cleaning Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
12	423m SE	The Laundry Basket, 1H Laurel Way Industrial Estate, Bishop Auckland, DL14 7NF	Process: Dry Cleaning Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0
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Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.13 Licensed Discharges to controlled waters

Records within 500m	21
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Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991. Features are displayed on the Current industrial land use map on **page 34**

ID	Location	Address	Details	
8	304m NW	VINOVIUM SSO NO A10, BISHOP AUCKLAND	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 242/C/0369 Permit Version: 1 Receiving Water: WEAR	Status: SURRENDERED UNDER EPR 2010 Issue date: 22/02/1974 Effective Date: 22/02/1974 Revocation Date: 31/03/2016
10	334m E	GIB CHARE SSO, BISHOP AUCKLAND, COUNTY DURHAM	Effluent Type: UNSPECIFIED Permit Number: 242/0963 Permit Version: 1 Receiving Water: GAUNLESS	Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: 21/09/1989 Effective Date: 21/09/1989 Revocation Date: 22/05/1991



ID	Location	Address	Details	
D	376m NW	VINOVIUM CSO NO A9, 10 LOW BRIDGE STREET, BISHOP AUCKLAND, ., CO DURHAM, DL14 7QB	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 242/C/0368 Permit Version: 2 Receiving Water: RIVER WEAR	Status: VARIED UNDER EPR 2010 Issue date: 17/06/2019 Effective Date: 17/06/2019 Revocation Date: -
D	378m NW	LOWER BRIDGE ST SSO, TORONTO	Effluent Type: UNSPECIFIED Permit Number: 241/0963 Permit Version: 1 Receiving Water: WEAR	Status: CONSENT REVOKED - DISCHARGE CEASED (WRA 91, SCHED 10 & 6) Issue date: 21/09/1989 Effective Date: 21/09/1989 Revocation Date: 15/09/1993
D	388m NW	VINOVIUM CSO NO A9, 10 LOW BRIDGE STREET, BISHOP AUCKLAND, ., CO DURHAM, DL14 7QB	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 242/C/0368 Permit Version: 1 Receiving Water: WEAR	Status: TRANSFERRED FROM R(PP)A 1951-1961 Issue date: 22/02/1974 Effective Date: 22/02/1974 Revocation Date: 16/06/2019
11	401m E	DURHAM RD SSO, BISHOP AUCKLAND, COUNTY DURHAM	Effluent Type: UNSPECIFIED Permit Number: 242/0962 Permit Version: 1 Receiving Water: GAUNLESS	Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: 21/09/1989 Effective Date: 21/09/1989 Revocation Date: 22/05/1991
D	409m NW	GOMER TCE SSO, TORONTO	Effluent Type: UNSPECIFIED Permit Number: 241/0962 Permit Version: 1 Receiving Water: WEAR	Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: 21/09/1989 Effective Date: 21/09/1989 Revocation Date: 07/08/1996
D	409m NW	GOMER TCE SSO, TORONTO	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 241/1056 Permit Version: 1 Receiving Water: WEAR	Status: REVISED CONSENT, BY NOTICE (SECTION 37(1)) Issue date: 07/05/1996 Effective Date: 07/05/1996 Revocation Date: -
F	421m E	GIB CHARE HOUSING DEVELOPMENT, GIB CHARE, BISHOP AUCKLAND, COUNTY DURHAM	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 242/C/0372 Permit Version: 1 Receiving Water: GAUNLESS	Status: TRANSFERRED FROM R(PP)A 1951-1961 Issue date: 22/02/1974 Effective Date: 22/02/1974 Revocation Date: -



ID	Location	Address	Details	
F	421m E	GIB CHARE HOUSING DEVELOPMENT, GIB CHARE, BISHOP AUCKLAND, COUNTY DURHAM	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: 242/0034 Permit Version: 1 Receiving Water: GAUNLESS	Status: REVOKED - UNSPECIFIED Issue date: 04/06/1985 Effective Date: 04/06/1985 Revocation Date: 12/11/1991
E	437m N	VINOVIUM SSO NO A12, BISHOP AUCKLAND	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 242/C/0370 Permit Version: 1 Receiving Water: WEAR	Status: REVOKED - UNSPECIFIED Issue date: 22/02/1974 Effective Date: 22/02/1974 Revocation Date: 01/02/2005
E	437m N	WEAR CHARE CSO, BISHOP AUCKLAND, CO DURHAM, DL14 7QQ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 241/1055 Permit Version: 1 Receiving Water: WEAR	Status: REVOKED - UNSPECIFIED Issue date: 18/03/1996 Effective Date: 18/06/1996 Revocation Date: 02/02/2005
E	437m N	WEAR CHARE CSO, BISHOP AUCKLAND, CO DURHAM, DL14 7QQ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 241/1116 Permit Version: 1 Receiving Water: WEAR	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 01/02/2005 Effective Date: 01/02/2005 Revocation Date: 25/11/2007
E	437m N	WEAR CHARE CSO, BISHOP AUCKLAND, CO DURHAM, DL14 7QQ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 241/1116 Permit Version: 2 Receiving Water: WEAR	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 01/02/2005 Effective Date: 26/11/2007 Revocation Date: -
E	437m N	WEAR CHARE CSO, BISHOP AUCKLAND, CO DURHAM, DL14 7QQ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 241/1117 Permit Version: 1 Receiving Water: WEAR	Status: REVOKED NEW CONSENT ISSUED (WATER ACT 1989 SECTION 113) Issue date: 02/02/2005 Effective Date: 02/02/2005 Revocation Date: 26/11/2007
E	437m N	WEAR CHARE CSO, BISHOP AUCKLAND, CO DURHAM, DL14 7QQ	Effluent Type: UNSPECIFIED Permit Number: 241/0964 Permit Version: 1 Receiving Water: WEAR	Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: 21/09/1989 Effective Date: 21/09/1989 Revocation Date: 18/03/1996



ID	Location	Address	Details	
E	441m N	DIAL STOBBS P.S., BISHOP AUCKLAND, COUNTY DURHAM	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: 241/1022 Permit Version: 1 Receiving Water: WEAR	Status: REVISED CONSENT, BY NOTICE (SECTION 37(1)) Issue date: 24/03/1997 Effective Date: 24/03/1997 Revocation Date: -
E	441m N	DIAL STOBBS P.S., BISHOP AUCKLAND, COUNTY DURHAM	Effluent Type: UNSPECIFIED Permit Number: 241/0991 Permit Version: 1 Receiving Water: WEAR	Status: REVOKED - UNSPECIFIED Issue date: 21/09/1989 Effective Date: 21/09/1989 Revocation Date: 24/06/1997
F	443m E	DELL BANK SSO, BISHOP AUCKLAND, COUNTY DURHAM	Effluent Type: UNSPECIFIED Permit Number: 242/0964 Permit Version: 1 Receiving Water: GAUNLESS	Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: 21/09/1989 Effective Date: 21/09/1989 Revocation Date: 22/05/1991
F	446m E	DELLWOOD PUMPED STORAGE TANK CSO, 17 THE DELL, BISHOP AUCKLAND, CO DURHAM, DL14 7HJ	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 242/1042 Permit Version: 1 Receiving Water: RIVER GAUNLESS	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 15/03/2000 Effective Date: 15/03/2000 Revocation Date: 01/10/2019
F	449m E	DELLWOOD PUMPED STORAGE TANK CSO, 17 THE DELL, BISHOP AUCKLAND, CO DURHAM, DL14 7HJ	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 242/1042 Permit Version: 2 Receiving Water: RIVER GAUNLESS	Status: VARIED UNDER EPR 2010 Issue date: 02/10/2019 Effective Date: 02/10/2019 Revocation Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

4.14 Pollutant release to surface waters (Red List)

Records within 500m

0

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.



4.15 Pollutant release to public sewer

Records within 500m

0

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.16 List 1 Dangerous Substances

Records within 500m

0

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 2 Dangerous Substances

Records within 500m

0

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 Pollution Incidents (EA/NRW)

Records within 500m

5

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

Features are displayed on the Current industrial land use map on **page 34**

ID	Location	Details	
9	304m SW	Incident Date: 24/01/2003 Incident Identification: 133202 Pollutant: Oils and Fuel Pollutant Description: Other Oil or Fuel	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
D	378m NW	Incident Date: 11/08/2003 Incident Identification: 181119 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Other Animal Matter	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)



ID	Location	Details	
E	415m N	Incident Date: 23/04/2002 Incident Identification: 73865 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
G	438m NW	Incident Date: 04/10/2002 Incident Identification: 112604 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Other General Biodegradable Material or Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
G	447m NW	Incident Date: 21/01/2003 Incident Identification: 132351 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Other General Biodegradable Material or Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution inventory substances

Records within 500m

0

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.20 Pollution inventory waste transfers

Records within 500m

0

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.



4.21 Pollution inventory radioactive waste

Records within 500m

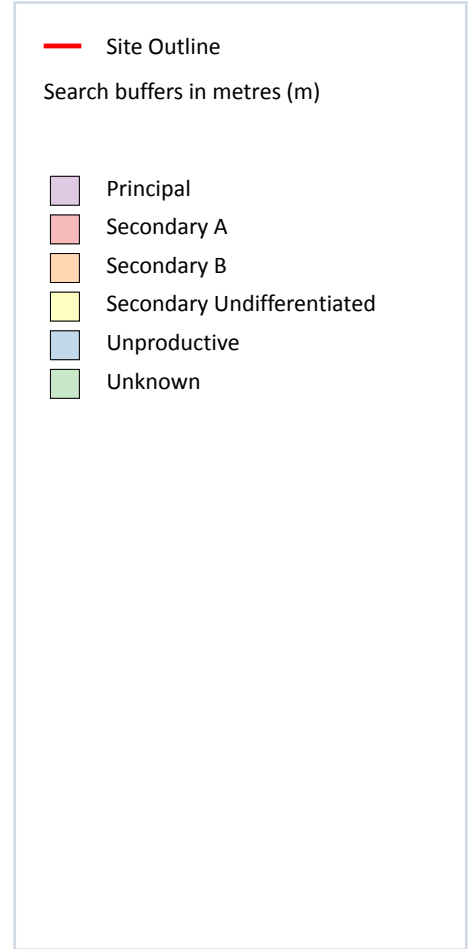
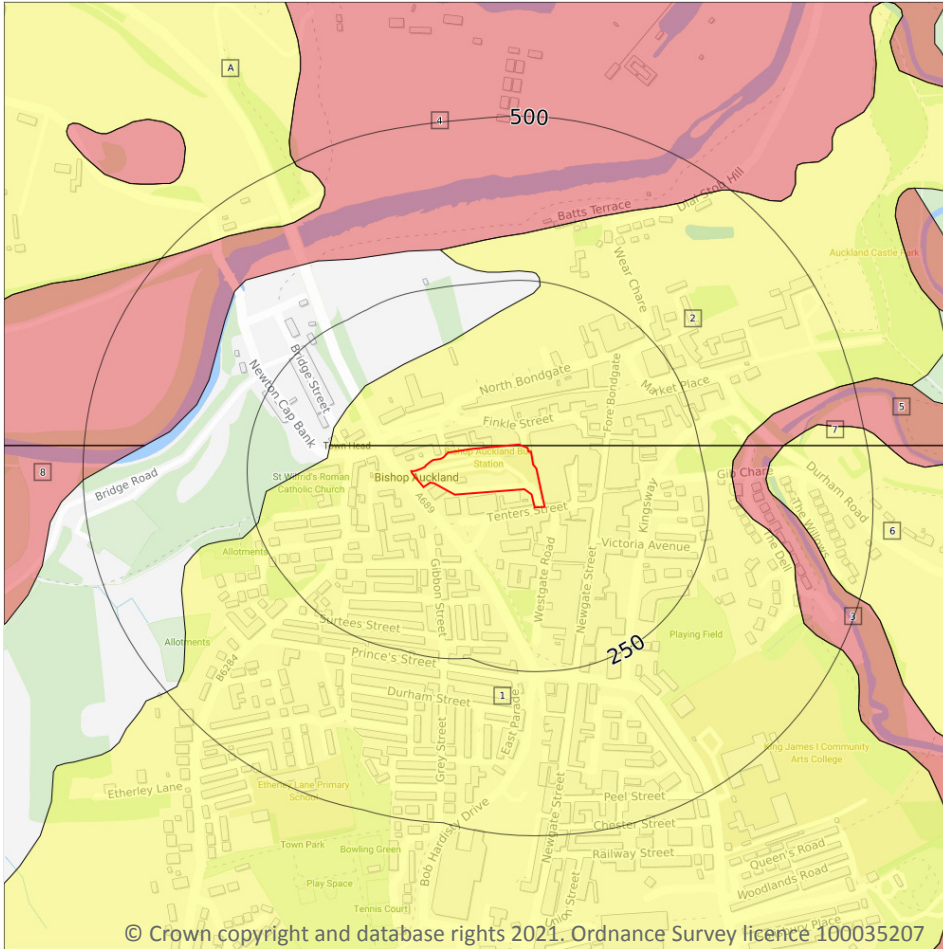
0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.



5 Hydrogeology - Superficial aquifer



5.1 Superficial aquifer

Records within 500m

9

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 45**

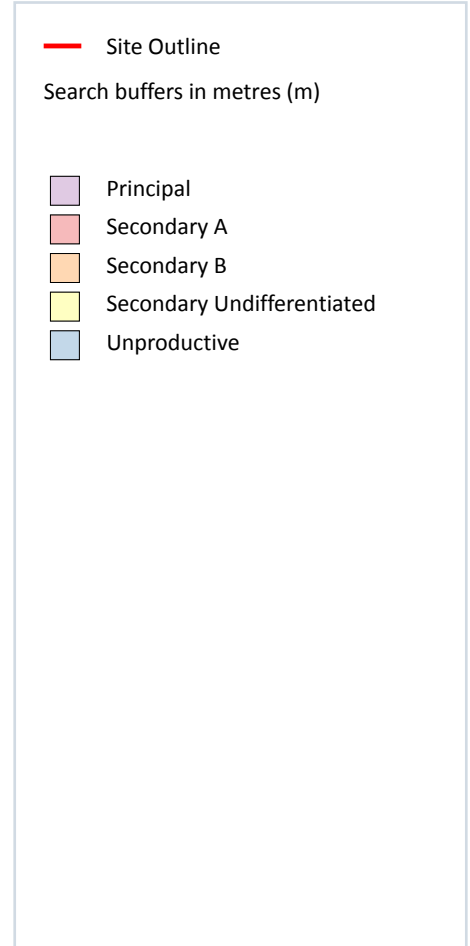
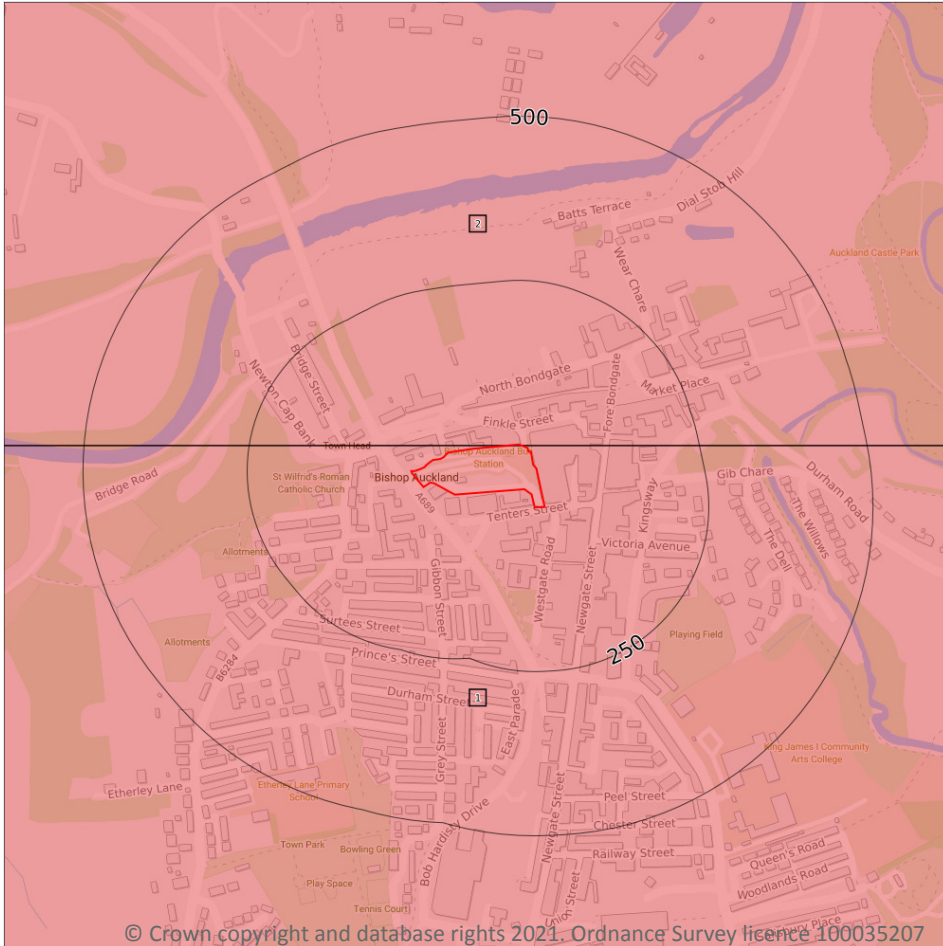
ID	Location	Designation	Description
1	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
2	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

ID	Location	Designation	Description
3	289m E	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
4	307m N	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
5	314m E	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
6	340m E	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
7	376m E	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
8	408m W	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
A	419m NW	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Bedrock aquifer



5.2 Bedrock aquifer

Records within 500m

2

Aquifer status of groundwater held within bedrock geology.

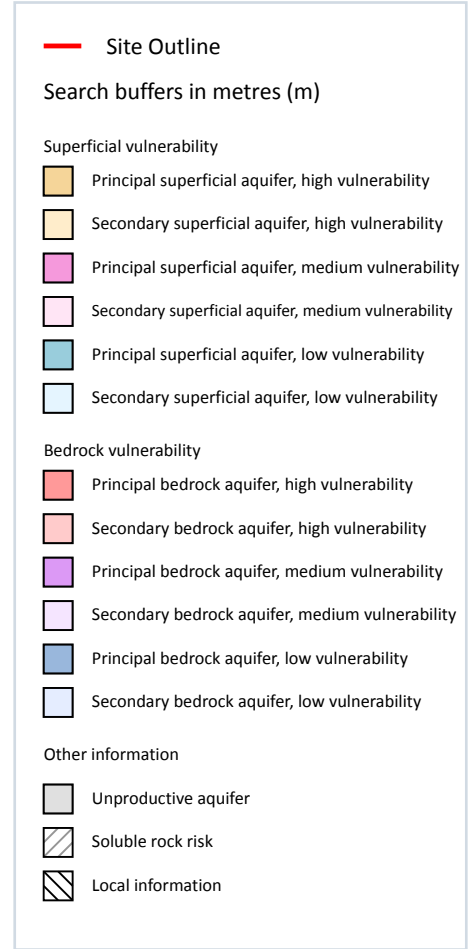
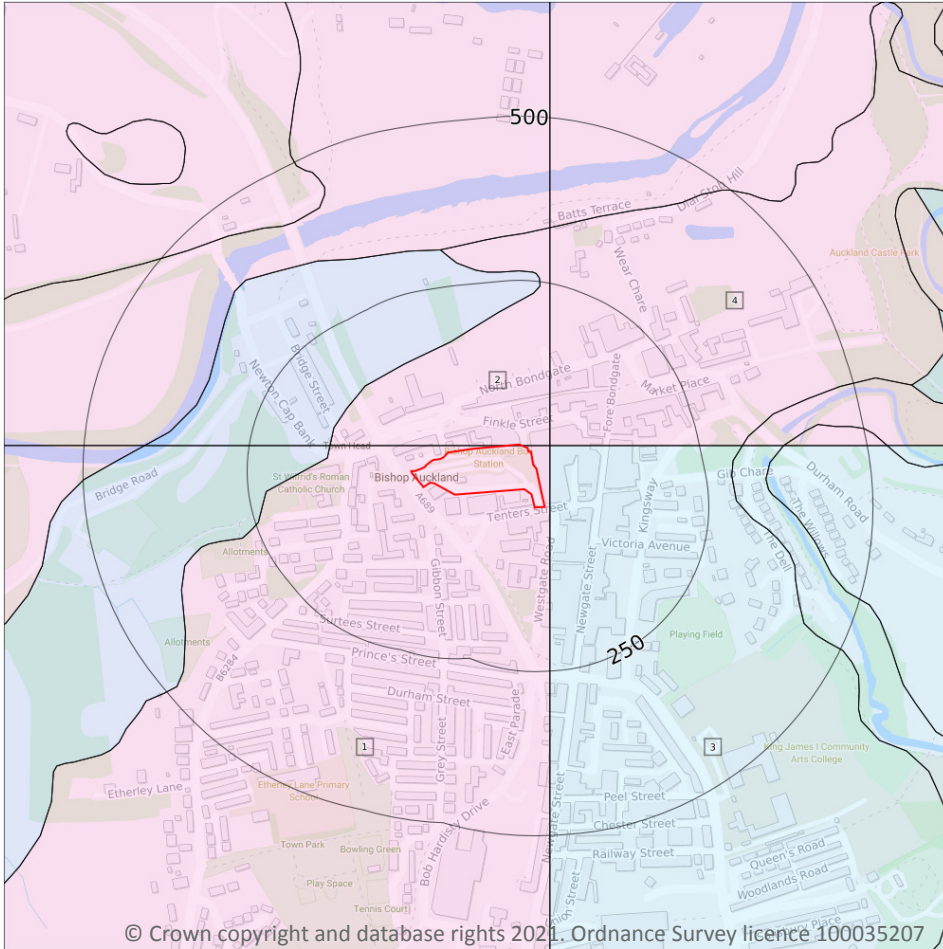
Features are displayed on the Bedrock aquifer map on **page 47**

ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

4

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 49**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
3	8m E	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
4	30m E	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site

0

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

This data is sourced from the British Geological Survey and the Environment Agency.



5.5 Groundwater vulnerability- local information

Records on site

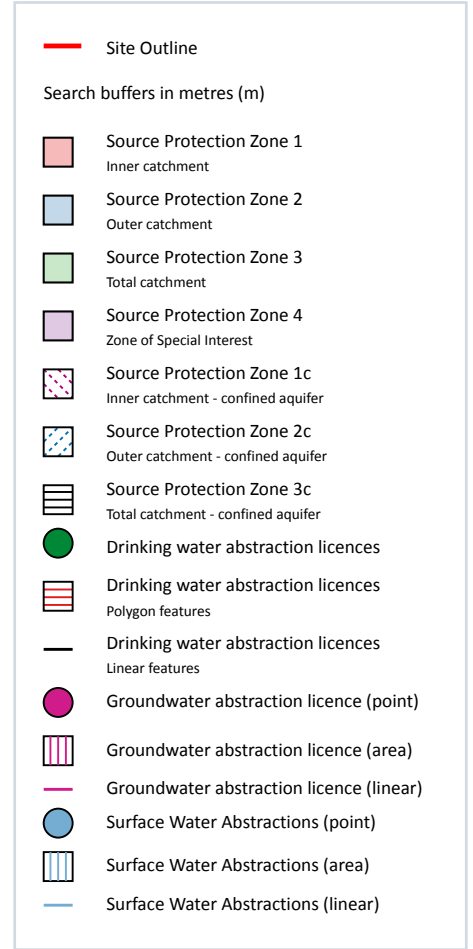
0

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk.

This data is sourced from the British Geological Survey and the Environment Agency.



Abstractions and Source Protection Zones



5.6 Groundwater abstractions

Records within 2000m

0

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

Records within 2000m

3

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 52**

ID	Location	Details	
1	621m NE	Status: Active Licence No: NE/024/0001/016 Details: Make-Up Or Top Up Water Direct Source: SURFACE WATER Point: RIVER WEAR AT FLATTS FARM Data Type: Point Name: Eleven Arches Easting: 421281 Northing: 530532	Annual Volume (m ³): 15,000 Max Daily Volume (m ³): 1,000 Original Application No: - Original Start Date: 20/09/2016 Expiry Date: 31/03/2026 Issue No: 3 Version Start Date: 22/02/2018 Version End Date: -
-	1797m NW	Status: Historical Licence No: 1/24/03/024 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER Point: RIVER WEAR (INLAND WATER NON TIDAL) Data Type: Line Name: P L WESTGARTH Easting: 418450 Northing: 530300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/06/1999 Expiry Date: 15/09/2005 Issue No: 101 Version Start Date: 07/06/2000 Version End Date: -
-	1797m NW	Status: Historical Licence No: 1/24/03/024 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER Point: RIVER WEAR Data Type: Line Name: P L WESTGARTH Easting: 418450 Northing: 530300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/06/1999 Expiry Date: 15/09/2005 Issue No: 101 Version Start Date: 07/06/2000 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

Records within 2000m

0

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.



This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m

0

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.10 Source Protection Zones (confined aquifer)

Records within 500m

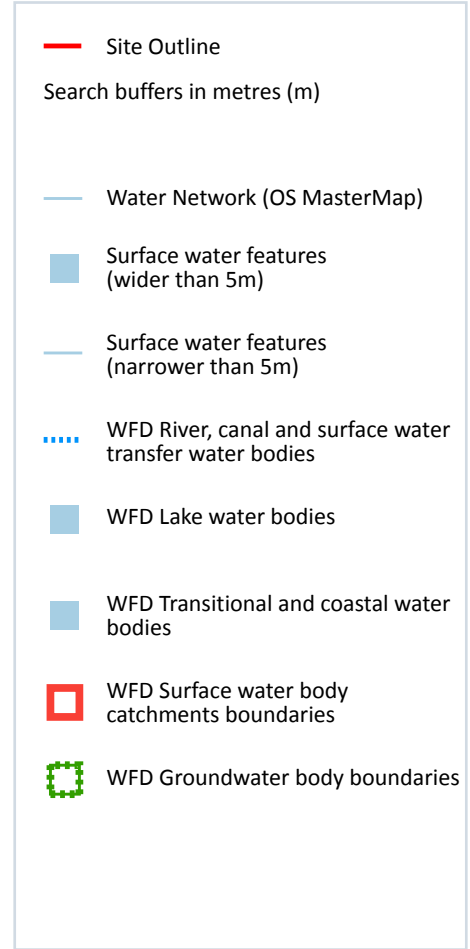
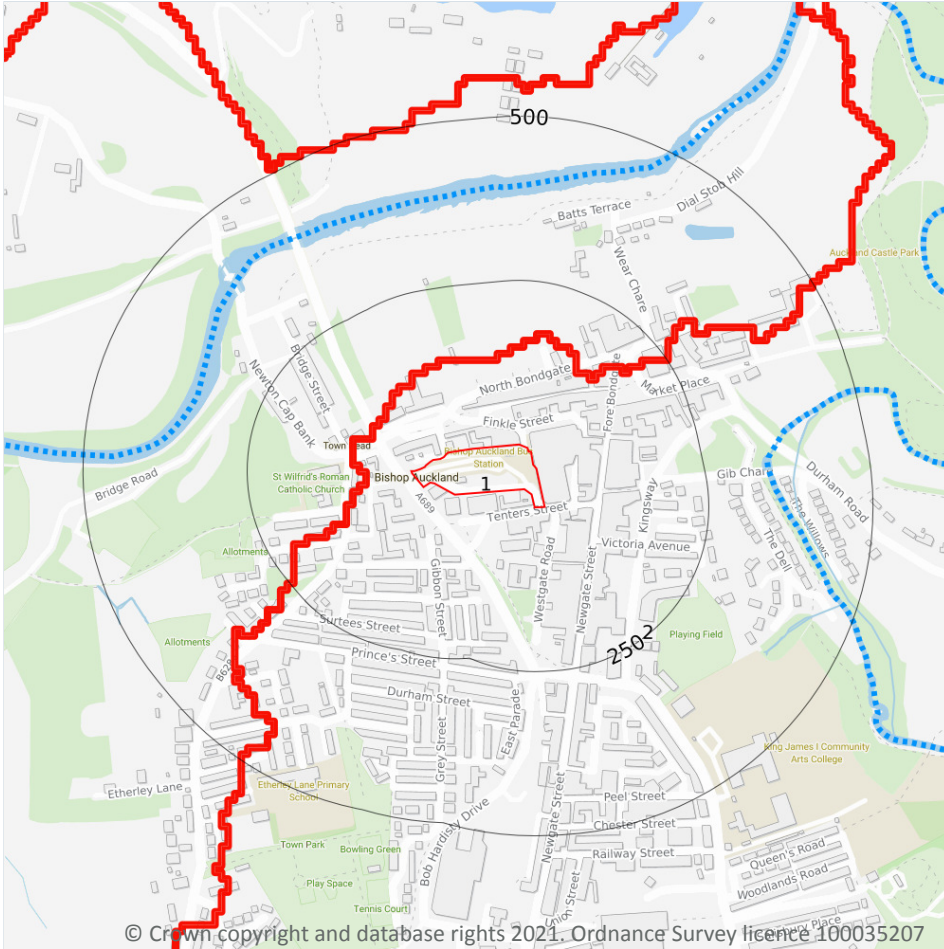
0

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.



6 Hydrology



6.1 Water Network (OS MasterMap)

Records within 250m

0

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

0

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

1

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on **page 55**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
2	On site	River WB catchment	Gaunless from Hummer Beck to Wear	GB103024072730	Gaunless	Wear

This data is sourced from the Environment Agency and Natural Resources Wales.

6.4 WFD Surface water bodies

Records identified

1

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on **page 55**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
8	345m E	River	Gaunless from Hummer Beck to Wear	GB103024072730	Moderate	Good	Moderate	2016

This data is sourced from the Environment Agency and Natural Resources Wales.



6.5 WFD Groundwater bodies

Records on site	1
------------------------	----------

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 55**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
1	On site	Wear Carboniferous Limestone and Coal Measures	<u>GB40302G701600</u>	Poor	Poor	Good	2015

This data is sourced from the Environment Agency and Natural Resources Wales.

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m

0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m

0

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m

0

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.



7.4 Areas Benefiting from Flood Defences

Records within 250m

0

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.5 Flood Storage Areas

Records within 250m

0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.7 Flood Zone 3

Records within 50m

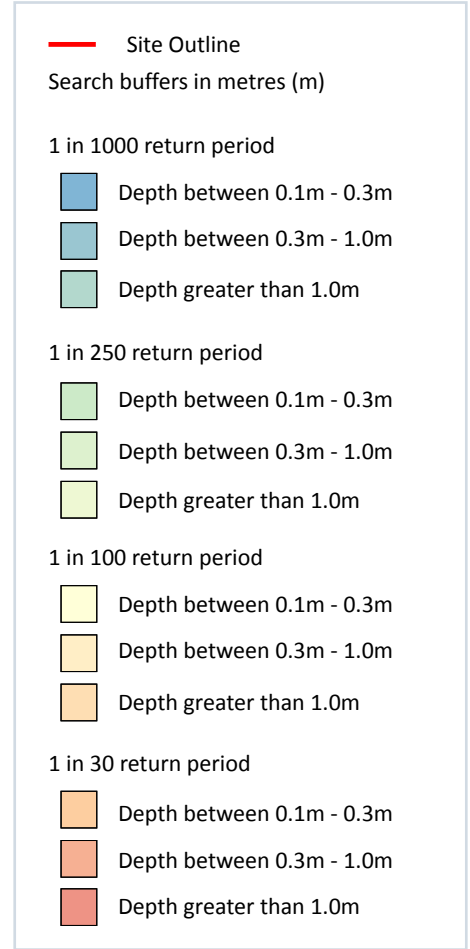
0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 30 year, 0.3m - 1.0m

Highest risk within 50m

1 in 30 year, 0.3m - 1.0m

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on **page 61**

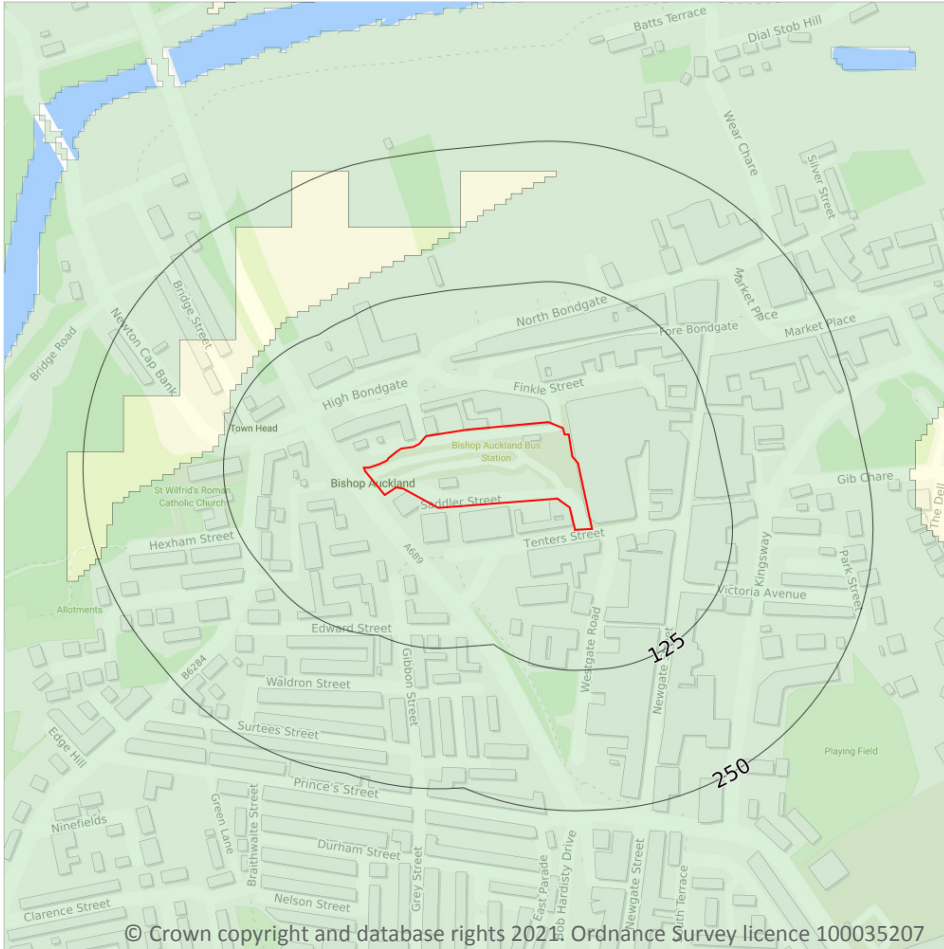
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on

a site. The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Between 0.3m and 1.0m
1 in 250 year	Between 0.3m and 1.0m
1 in 100 year	Between 0.3m and 1.0m
1 in 30 year	Between 0.3m and 1.0m

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Low

Highest risk within 50m

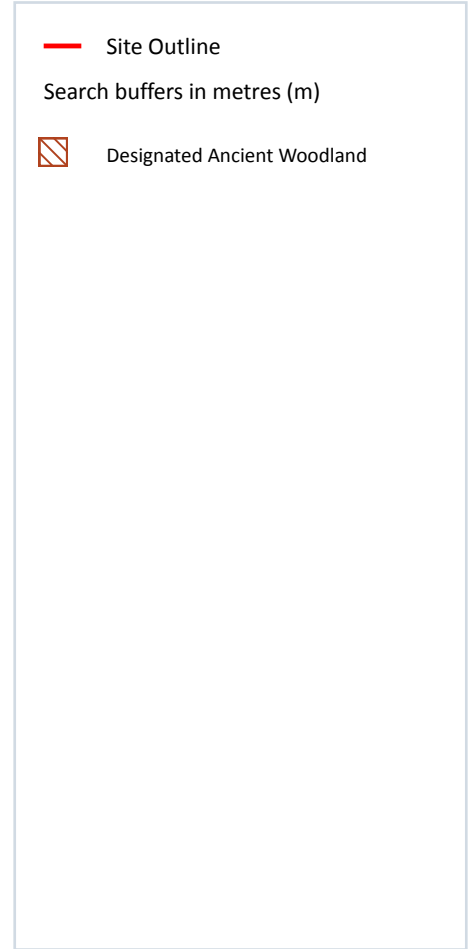
Low

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on **page 63**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

0

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

Records within 2000m

0

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

Records within 2000m

0

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m

0

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.



10.6 Local Nature Reserves (LNR)

Records within 2000m

0

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.7 Designated Ancient Woodland

Records within 2000m

7

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

Features are displayed on the Environmental designations map on **page 64**

ID	Location	Name	Woodland Type
1	831m SE	Bracks Wood \+	Ancient & Semi-Natural Woodland
2	852m NE	Unknown	Ancient & Semi-Natural Woodland
3	874m NE	Unknown	Ancient & Semi-Natural Woodland
4	1110m N	Unknown	Ancient & Semi-Natural Woodland
5	1241m NE	Unknown	Ancient & Semi-Natural Woodland
-	1826m N	Bellburn Wood	Ancient & Semi-Natural Woodland
-	1951m W	Wear Woods	Ancient & Semi-Natural Woodland

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.8 Biosphere Reserves

Records within 2000m

0

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.



10.9 Forest Parks

Records within 2000m

0

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.11 Green Belt

Records within 2000m

0

Areas designated to prevent urban sprawl by keeping land permanently open.

This data is sourced from the Ministry of Housing, Communities and Local Government.

10.12 Proposed Ramsar sites

Records within 2000m

0

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.



10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

Special Protection Areas (SPAs) are areas designated (or 'classified') under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m

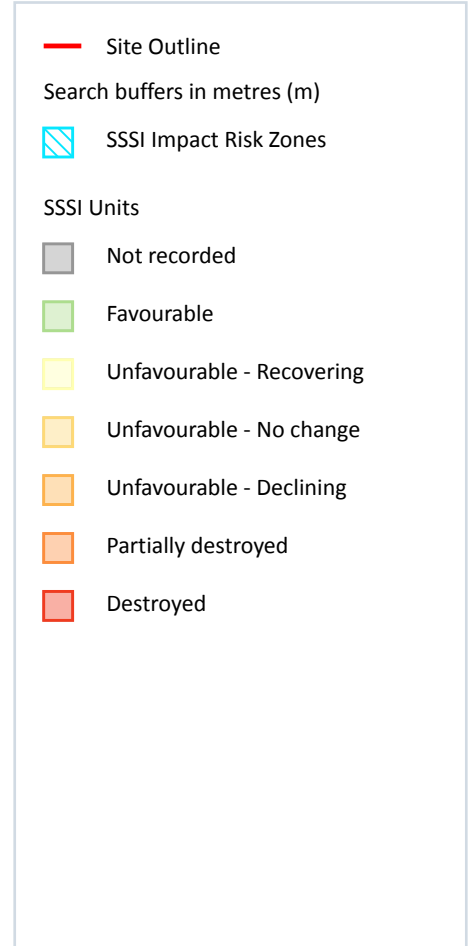
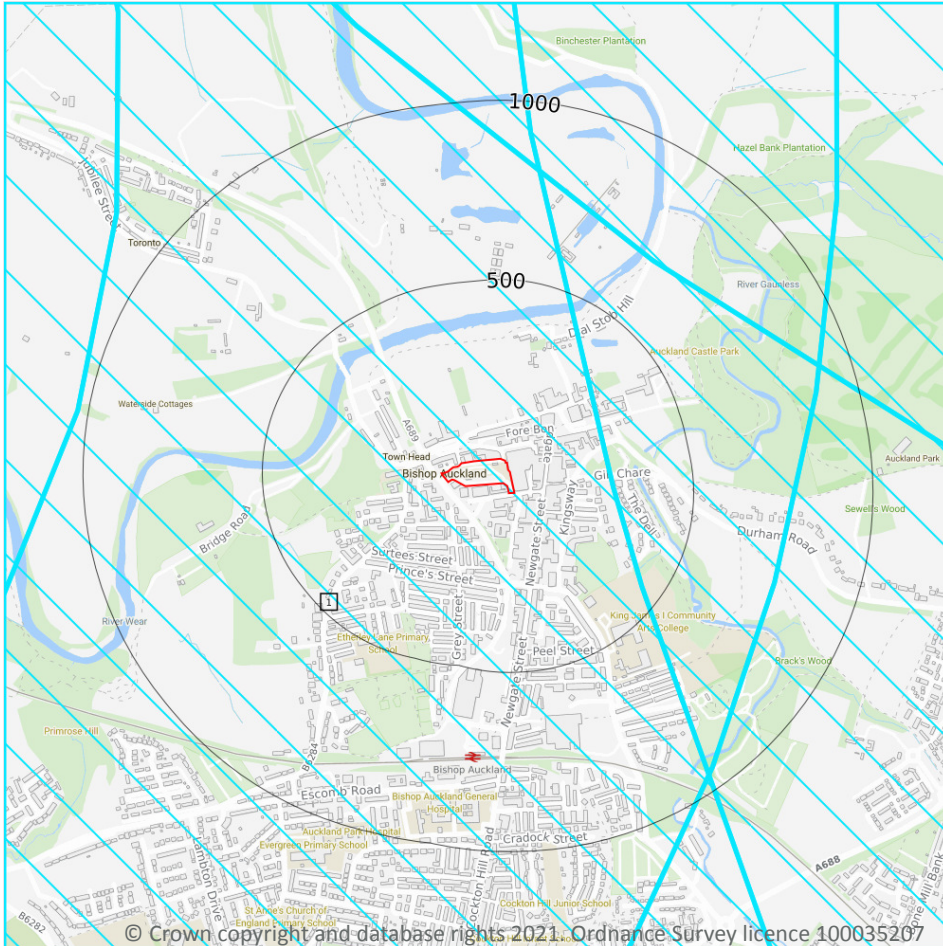
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Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

This data is sourced from Natural England and Natural Resources Wales.



SSSI Impact Zones and Units



10.17 SSSI Impact Risk Zones

Records on site

1

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on **page 69**

ID	Location	Type of developments requiring consultation
1	On site	Infrastructure - Airports, helipads and other aviation proposals. Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons > 750m² & manure stores > 3500t.

This data is sourced from Natural England.



10.18 SSSI Units

Records within 2000m

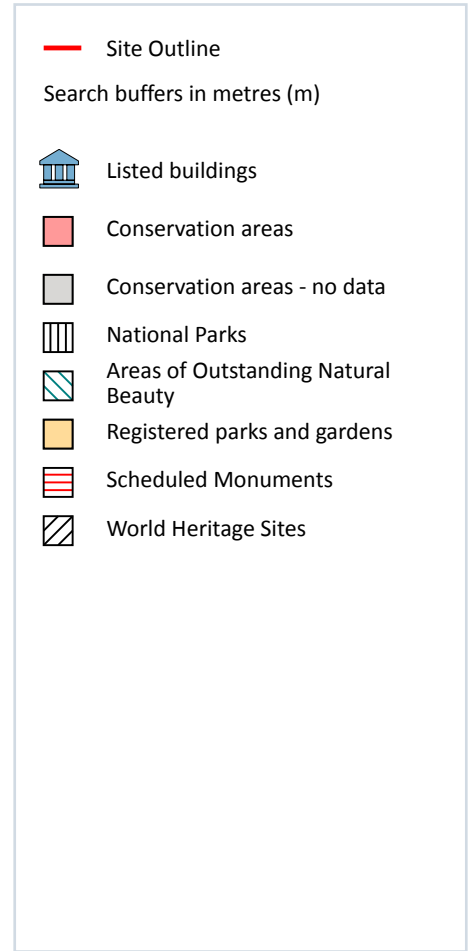
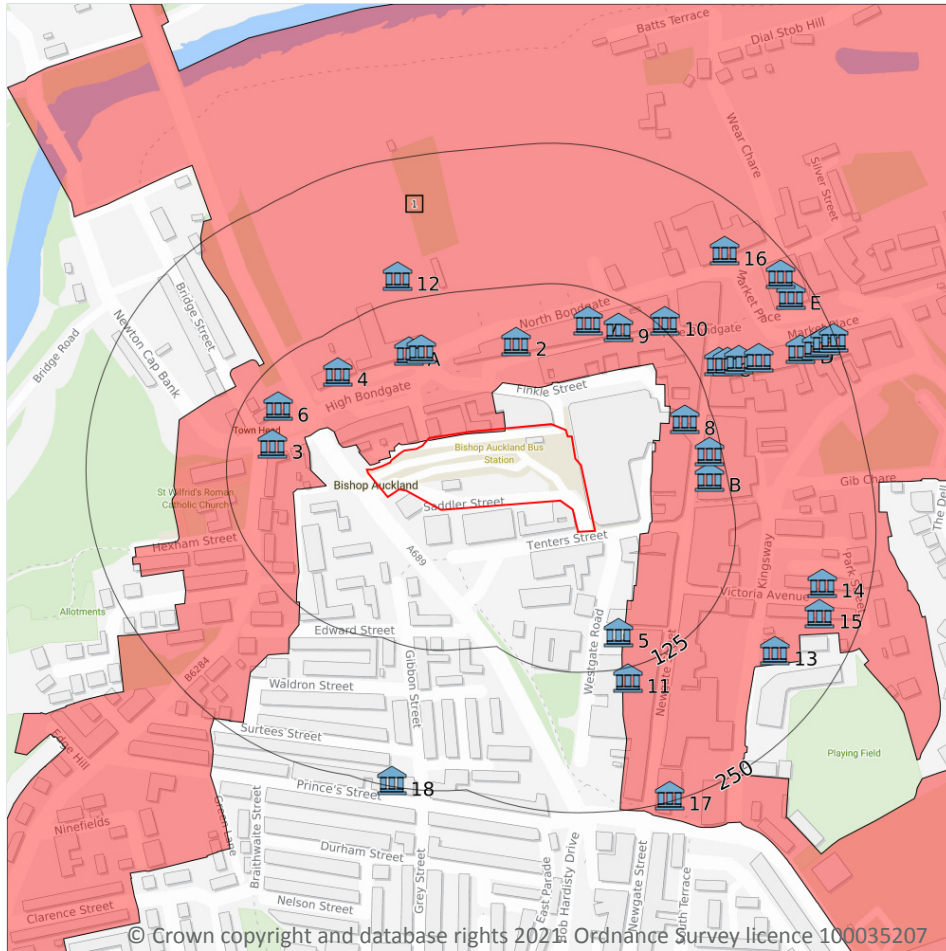
0

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

This data is sourced from Natural England and Natural Resources Wales.



11 Visual and cultural designations



11.1 World Heritage Sites

Records within 250m

0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m

0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m

31

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.

Features are displayed on the Visual and cultural designations map on **page 71**

ID	Location	Name	Grade	Reference Number	Listed date
2	76m N	Bay Horse Public House, Bishop Auckland, County Durham, DL14	II	1209685	23/05/1994
A	79m N	8, High Bondgate, Bishop Auckland, County Durham, DL14	II	1210069	20/09/1972
A	79m N	4 And 6, High Bondgate, Bishop Auckland, County Durham, DL14	II	1292354	20/09/1972
3	87m W	Stone Horse Trough At Junction With West Road, Bishop Auckland, County Durham, DL14	II	1196601	11/04/1986



ID	Location	Name	Grade	Reference Number	Listed date
4	91m N	28, High Bondgate, Bishop Auckland, County Durham, DL14	II	1242334	21/12/1994
5	93m S	3, Great Gates, Bishop Auckland, County Durham, DL14	II	1297563	23/05/1994
6	97m NW	46 And 48, High Bondgate, Bishop Auckland, County Durham, DL14	II	1210079	23/05/1994
7	98m N	17, North Bongate, Bishop Auckland, County Durham, DL14	II	1297552	23/05/1994
8	101m NE	18, Newgate Street, Bishop Auckland, County Durham, DL14	II	1297551	20/09/1972
9	103m NE	55, 55A, 55B And 57, Fore Bondgate, Bishop Auckland, County Durham, DL14	II	1297559	23/05/1994
B	110m E	Mcintyre, Bishop Auckland, County Durham, DL14	II	1196577	06/09/1993
B	115m E	Midland Bank, Bishop Auckland, County Durham, DL14	II	1218106	23/05/1994
10	132m NE	Coopers Public House, Bishop Auckland, County Durham, DL14	II	1196588	20/09/1972
11	134m S	80, Newgate Street, Bishop Auckland, County Durham, DL14	II	1292114	23/05/1994
C	147m NE	1, Newgate Street, Bishop Auckland, County Durham, DL14	II	1218095	20/09/1972
12	147m N	Gazebo To North Of Number 6, Bishop Auckland, County Durham, DL14	II	1196600	23/05/1994
C	154m NE	Waynes Shoes, Bishop Auckland, County Durham, DL14	II	1196604	20/09/1972
C	163m NE	1A And 1B, Market Place, Bishop Auckland, County Durham, DL14	II	1210111	20/09/1972
C	181m NE	Barclays Bank, Bishop Auckland, County Durham, DL14	II	1297567	20/09/1972
13	192m SE	Library, Bishop Auckland, County Durham, DL14	II	1297565	23/05/1994
14	207m E	5-12, Victoria Avenue, Bishop Auckland, County Durham, DL14	II	1218446	20/09/1972
15	213m E	13-23, Victoria Avenue, Bishop Auckland, County Durham, DL14	II	1196587	20/09/1972
16	213m NE	Post Chaise Hotel, Bishop Auckland, County Durham, DL14	II	1196572	23/05/1994
D	218m E	4, Market Place, Bishop Auckland, County Durham, DL14	II	1210112	21/04/1952
E	232m NE	Church Of St Anne, Bishop Auckland, County Durham, DL14	II	1292201	20/09/1972
D	232m E	5, Market Place, Bishop Auckland, County Durham, DL14	II	1196605	21/04/1952
E	236m NE	Town Hall, Bishop Auckland, County Durham, DL14	II*	1297550	20/09/1972
D	242m E	6, Market Place, Bishop Auckland, County Durham, DL14	II	1292306	21/04/1952



ID	Location	Name	Grade	Reference Number	Listed date
17	245m S	Former Gregory Butchers Shop, Bishop Auckland, County Durham, DL14	II	1471541	09/12/2020
18	245m S	Church Of St Peter, Bishop Auckland, County Durham, DL14	II	1292120	24/04/1987
D	249m E	7, Market Place, Bishop Auckland, County Durham, DL14	II	1297528	21/04/1952

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.5 Conservation Areas

Records within 250m

1

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

Features are displayed on the Visual and cultural designations map on **page 71**

ID	Location	Name	District	Date of designation
1	On site	Bishop Auckland	County Durham	1969

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m

0

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.



11.7 Registered Parks and Gardens

Records within 250m

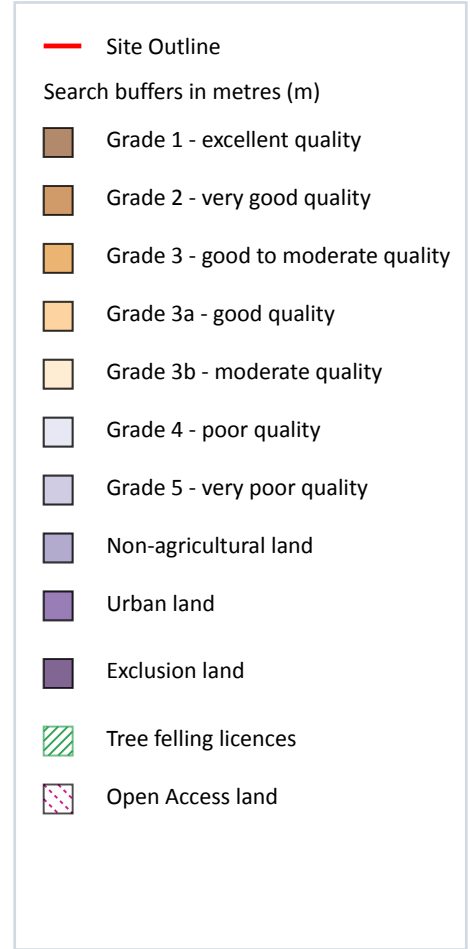
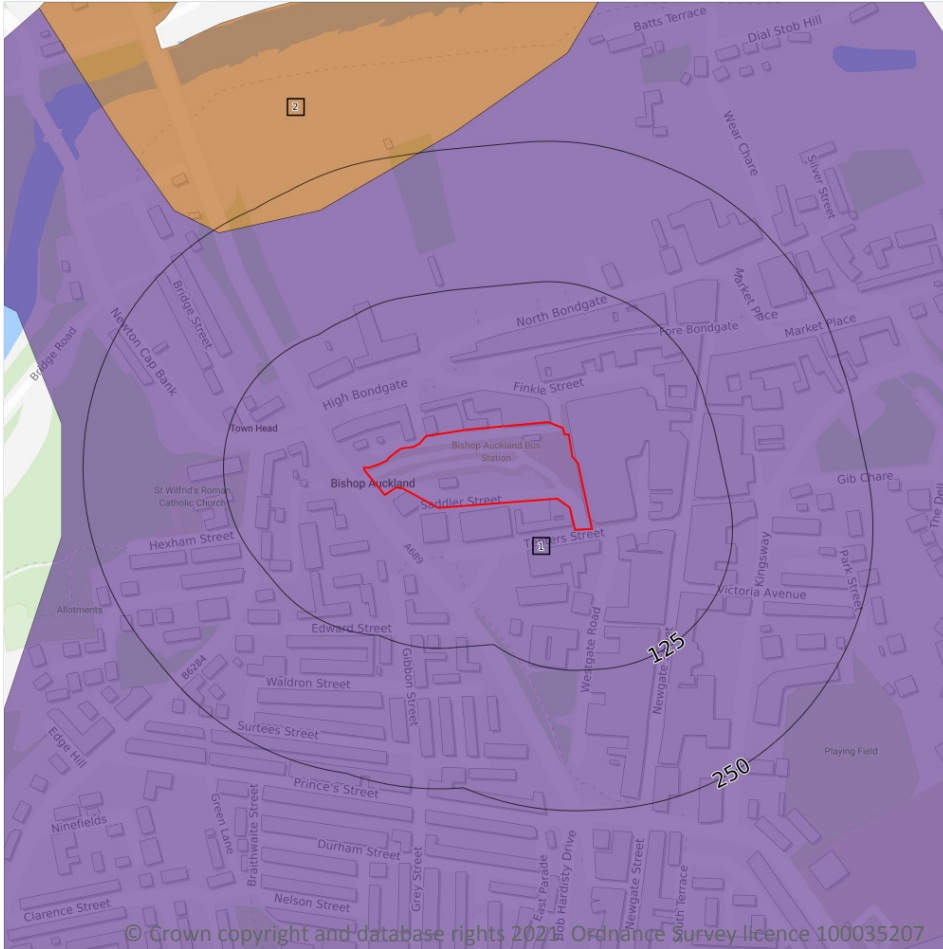
0

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.



12 Agricultural designations



12.1 Agricultural Land Classification

Records within 250m

2

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on **page 76**

ID	Location	Classification	Description
1	On site	Urban	-

ID	Location	Classification	Description
2	222m NW	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m

0

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m

0

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.



12.5 Countryside Stewardship Schemes

Records within 250m

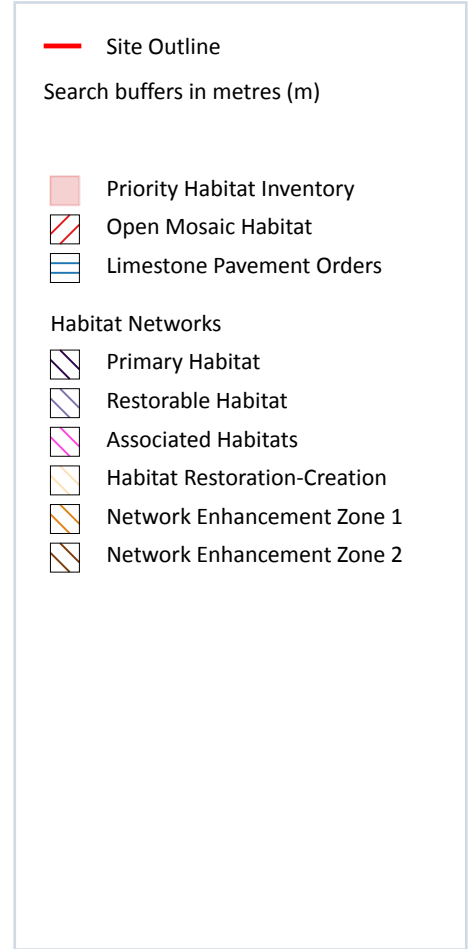
0

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

This data is sourced from Natural England.



13 Habitat designations



13.1 Priority Habitat Inventory

Records within 250m

4

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

Features are displayed on the Habitat designations map on **page 79**

ID	Location	Main Habitat	Other habitats
1	183m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	209m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	209m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	213m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

0

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



— Site Outline
Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

1

An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme. Features are displayed on the Geology 1:10,000 scale - Availability map on **page 81**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	No coverage	No coverage	No coverage	NoCov

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Artificial and made ground

14.2 Artificial and made ground (10k)

Records within 500m

0

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m

0

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

0

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock

14.5 Bedrock geology (10k)

Records within 500m

0

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

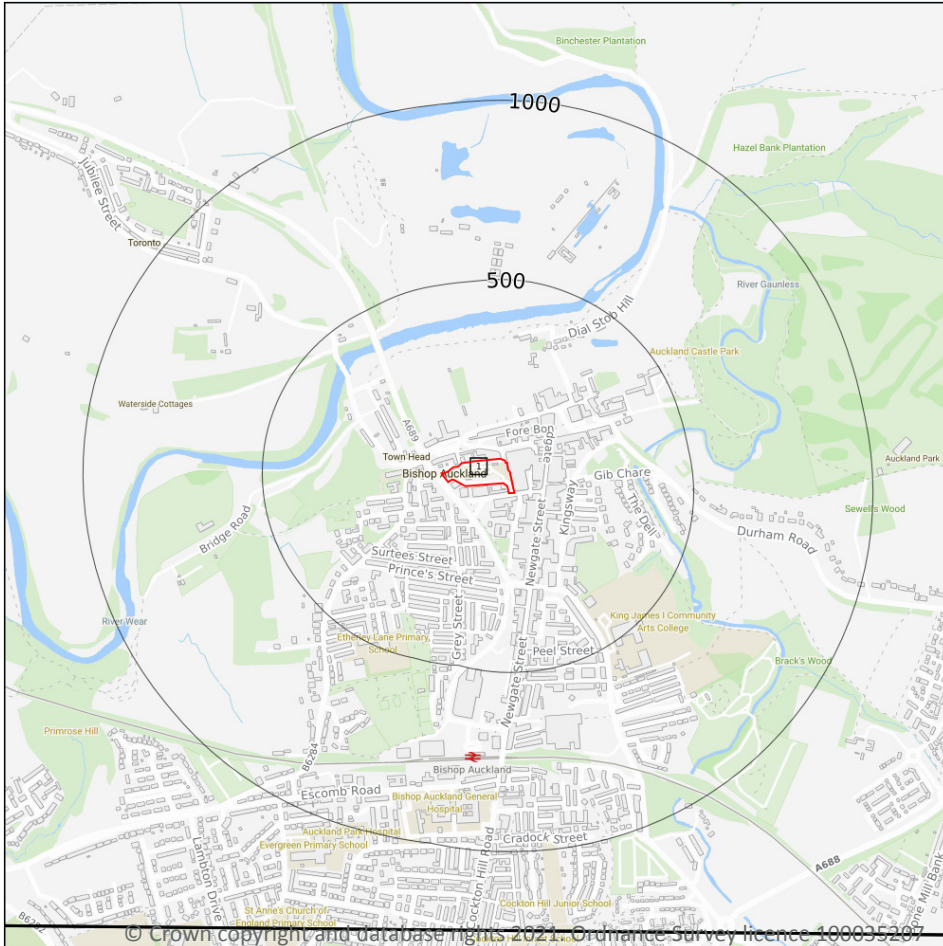
0

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline

Search buffers in metres (m)

○ 500

○ 1000

□ Geological map tile

15.1 50k Availability

Records within 500m

1

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 85**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW026_wolsingham_v4

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Artificial and made ground

15.2 Artificial and made ground (50k)

Records within 500m

0

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

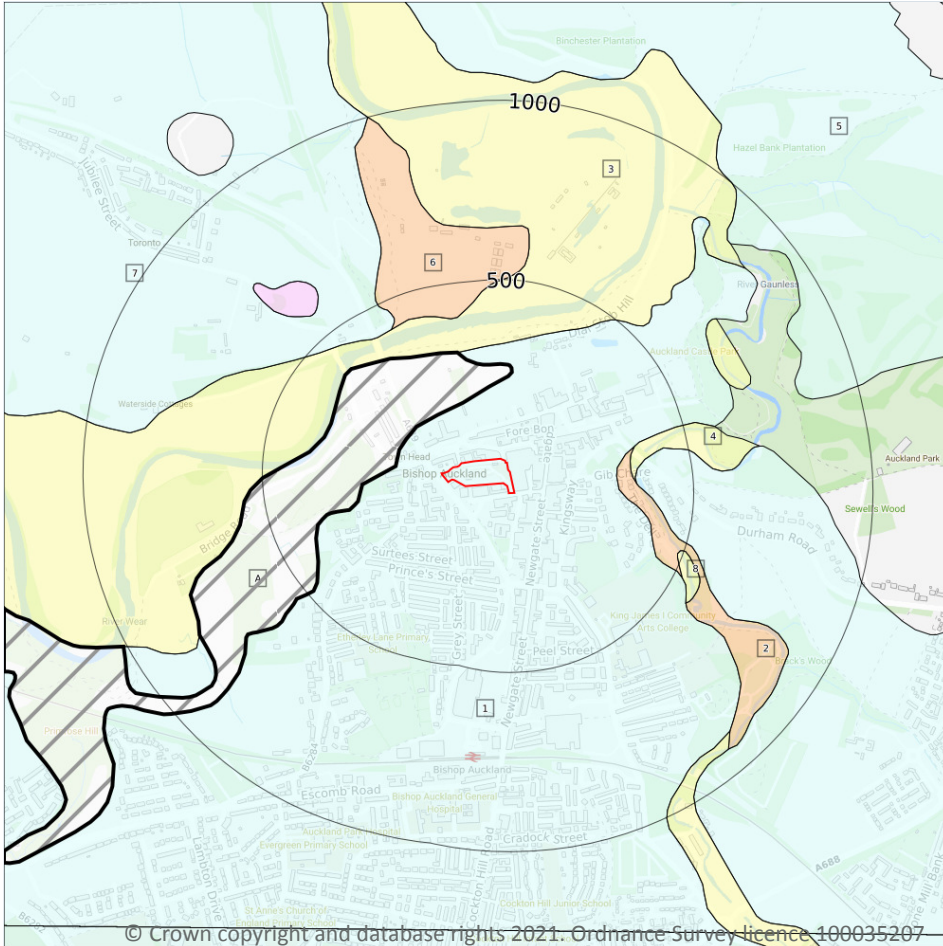
0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



— Site Outline

Search buffers in metres (m)

▨ Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m

9

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 87**

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	TILL, DEVANSIAN	DIAMICTON
A	129m W	SUPNM-UNKNOWN	SUPERFICIAL THEME NOT MAPPED [FOR DIGITAL MAP USE ONLY]	UNKNOWN/UNCLASSIFIED ENTRY
2	289m E	RTDU-XVSZ	RIVER TERRACE DEPOSITS (UNDIFFERENTIATED)	GRAVEL, SAND AND SILT



ID	Location	LEX Code	Description	Rock description
3	307m N	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
4	331m E	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
5	340m E	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
6	403m N	RTDU-XVSZ	RIVER TERRACE DEPOSITS (UNDIFFERENTIATED)	GRAVEL, SAND AND SILT
7	419m NW	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
8	486m E	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m

2

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	High	Low
On site	Mixed	High	Low

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m

1

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 87**

ID	Location	LEX Code	Description	Rock description
A	129m W	SLIP-UNKNOWN	LANDSLIDE DEPOSITS	UNKNOWN/UNCLASSIFIED ENTRY

This data is sourced from the British Geological Survey.



15.7 Landslip permeability (50k)

Records within 50m

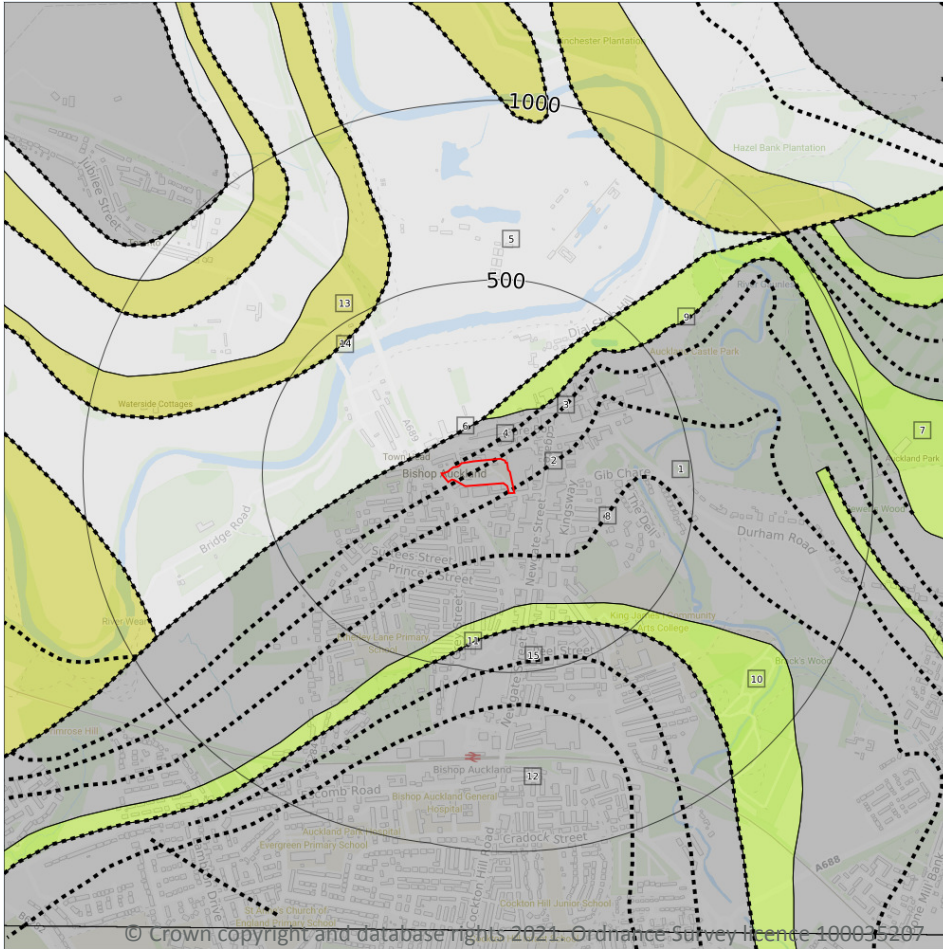
0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Bedrock



- Site Outline
- Search buffers in metres (m)
- Bedrock faults and other linear features (50k)
- Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m

6

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 90**

ID	Location	LEX Code	Description	Rock age
1	On site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
5	75m NW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
7	114m N	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
10	313m S	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
12	374m S	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
13	451m NW	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	2
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A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Fracture	Moderate	Low
On site	Fracture	Moderate	Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	9
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Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 90**

ID	Location	Category	Description
2	On site	ROCK	Coal seam, inferred
3	On site	ROCK	Coal seam, inferred
4	6m NW	FOSSIL_HORIZON	Marine band
6	75m NW	FAULT	Fault, inferred, displacement unknown

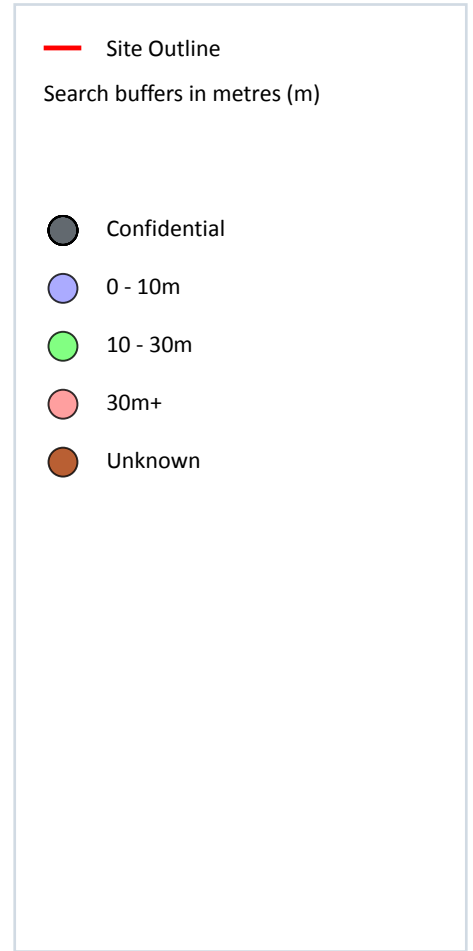
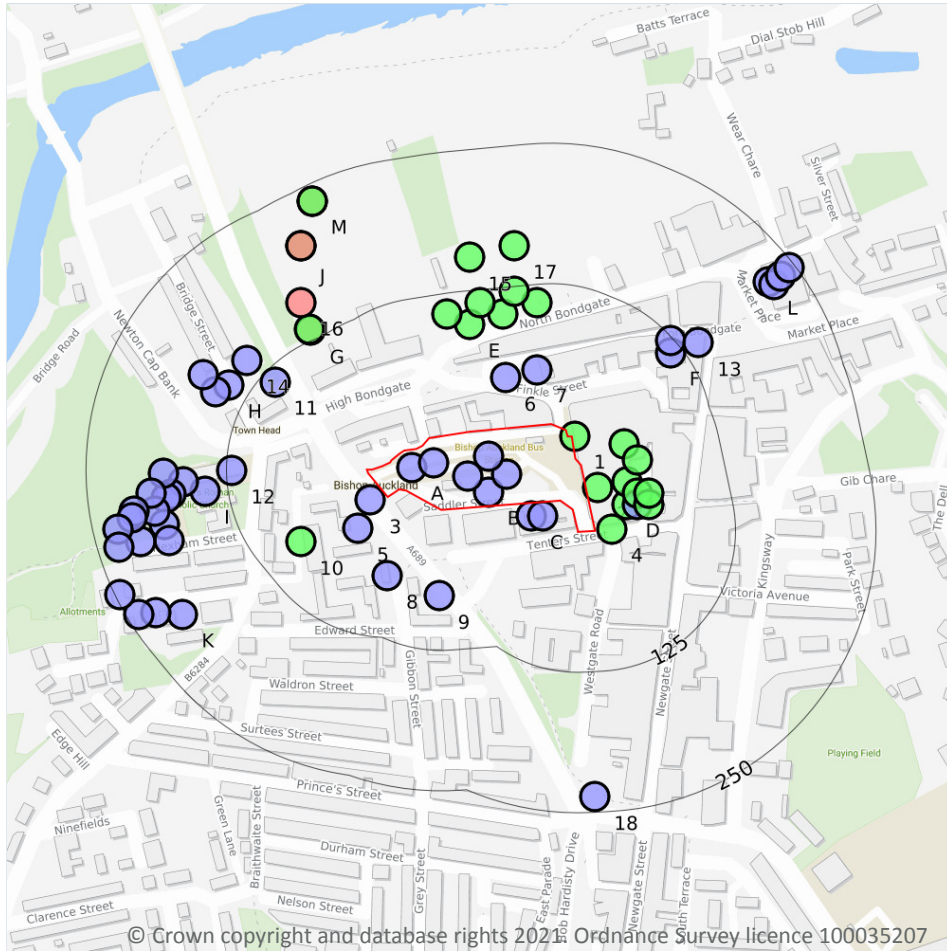


ID	Location	Category	Description
8	173m S	ROCK	Coal seam, inferred
9	177m NE	FOSSIL_HORIZON	Marine band
11	374m S	ROCK	Coal seam, inferred
14	451m NW	ROCK	Coal seam, inferred
15	471m S	ROCK	Coal seam, inferred

This data is sourced from the British Geological Survey.



16 Boreholes



16.1 BGS Boreholes

Records within 250m

73

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

Features are displayed on the Boreholes map on **page 93**

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	On site	420829 529963	BISHOP AUCKLAND BUS STATION 2	3.5	N	824601
A	On site	420848 529967	BISHOP AUCKLAND BUS STATION 3	3.0	N	824602

ID	Location	Grid reference	Name	Length	Confidential	Web link
B	On site	420897 529941	BISHOP AUCKLAND BUS STATION 7	3.0	N	824606
B	On site	420913 529957	BISHOP AUCKLAND BUS STATION 6	3.0	N	824605
B	On site	420879 529955	BISHOP AUCKLAND BUS STATION 5	3.0	N	824604
B	On site	420897 529973	BISHOP AUCKLAND BUS STATION 4	3.0	N	824603
1	3m E	420974 529991	GEORGE ST DEV BISHOP AUCKLAND A	21.0	N	824579
2	10m E	420994 529945	GEORGE ST DEV BISHOP AUCKLAND C	26.0	N	824581
C	11m S	420935 529920	TENTNERS STREET, BISHOP AUCKLAND BH1.	5.0	N	18258908
C	12m S	420945 529920	TENTNERS STREET, BISHOP AUCKLAND BH2.	5.0	N	18258909
3	14m SW	420792 529934	BISHOP AUCKLAND BUS STATION 1	4.0	N	824600
4	15m E	421007 529908	GEORGE ST DEV BISHOP AUCKLAND D	27.5	N	824582
D	32m E	421020 529930	GEORGE STREET DEVELOPMENT, BISHOP AUCKLAND 4	10.5	N	12829164
D	37m E	421020 529950	GEORGE STREET DEVELOPMENT, BISHOP AUCKLAND 2	14.5	N	12829161
5	38m SW	420781 529909	ESCOMB ROAD BISHOP AUCKLAND TPB	3.4	N	20241143
D	42m E	421030 529930	GEORGE STREET DEVELOPMENT, BISHOP AUCKLAND 1	10.0	N	12829160
D	43m NE	421018 529984	GEORGE ST DEV BISHOP AUCKLAND E	26.0	N	824583
D	44m E	421030 529940	GEORGE STREET DEVELOPMENT, BISHOP AUCKLAND 5	15.5	N	12829163
6	45m N	420912 530043	FINKLE STREET, BISHOP AUCKLAND 1	6.0	N	17586730
7	49m N	420940 530050	FINKLE STREET, BISHOP AUCKLAND 2	6.0	N	17586731
D	50m E	421030 529970	GEORGE ST DEV BISHOP AUCKLAND B	24.5	N	824580
D	52m E	421040 529930	GEORGE STREET DEVELOPMENT, BISHOP AUCKLAND 3	15.0	N	12829162
D	54m E	421040 529940	GEORGE STREET DEVELOPMENT, BISHOP AUCKLAND 6	10.5	N	12829165
8	70m S	420807 529867	BISHOP AUCKLAND CENTRAL AREA BH201	9.15	N	824442
9	76m S	420853 529849	BISHOP AUCKLAND BY PASS 202	6.1	N	824504
10	85m SW	420730 529897	BISHOP AUCKLAND CENTRAL AREA BH200	14.2	N	824441
E	95m N	420880 530090	NORTH BONDGATE, BISHOP AUCKLAND BH2	12.0	N	12702064



ID	Location	Grid reference	Name	Length	Confidential	Web link
E	102m N	420910 530100	NORTH BONDGATE, BISHOP AUCKLAND BH4	11.0	N	12702066
E	107m N	420860 530100	NORTH BONDGATE, BISHOP AUCKLAND BH1	12.5	N	12702063
E	109m N	420940 530110	NORTH BONDGATE, BISHOP AUCKLAND BH6	12.0	N	12702068
11	113m NW	420707 530039	BRIDGE STREET BISHOP AUCKLAND TP1	3.0	N	20061360
E	114m N	420890 530110	NORTH BONDGATE, BISHOP AUCKLAND BH3	12.0	N	12702065
F	115m NE	421059 530065	FORE BONDGATE/NEWGATE ST BISHOP AUCKLAND 2	10.0	N	17992742
12	120m W	420669 529960	NURSING HOME, HEXHAM STREET, BISHOP AUCKLAND 1	6.0	N	17914710
E	121m N	420920 530120	NORTH BONDGATE, BISHOP AUCKLAND BH5	12.0	N	12702067
F	123m NE	421059 530076	FORE BONDGATE/NEWGATE ST BISHOP AUCKLAND 1	10.0	N	17992740
G	134m N	420739 530085	NEWTON CAP VIADUCT 8 & 8R	41.0	N	745155
G	135m N	420738 530086	NEWTON CAP VIADUCT 8RA	27.0	N	745156
13	140m NE	421084 530074	FORE BONDGATE/NEWGATE ST BISHOP AUCKLAND 3	10.0	N	17992741
H	144m NW	420666 530036	BRIDGE STREET BISHOP AUCKLAND TP4	3.0	N	20061363
14	144m NW	420682 530058	BRIDGE STREET BISHOP AUCKLAND TP2	3.4	N	20061361
I	145m W	420645 529942	NURSING HOME, HEXHAM STREET, BISHOP AUCKLAND TP1	1.7	N	17914715
H	152m NW	420654 530030	BRIDGE STREET BISHOP AUCKLAND TP5	3.5	N	20061364
15	155m N	420880 530150	NORTH BONDGATE, BISHOP AUCKLAND BH8	12.0	N	12702070
16	160m N	420730 530110	NEWTON CAP VIADUCT 7 & 7R	55.64	N	745151
17	161m N	420920 530160	NORTH BONDGATE, BISHOP AUCKLAND BH7	12.0	N	12702069
I	163m W	420626 529950	NURSING HOME, HEXHAM STREET, BISHOP AUCKLAND 2	10.0	N	17914711
H	169m NW	420643 530046	BRIDGE STREET BISHOP AUCKLAND TP3	3.3	N	20061362
I	175m W	420615 529939	NURSING HOME, HEXHAM STREET, BISHOP AUCKLAND TP7	1.5	N	17914721
I	181m W	420610 529936	NURSING HOME, HEXHAM STREET, BISHOP AUCKLAND TP8	1.2	N	17914723



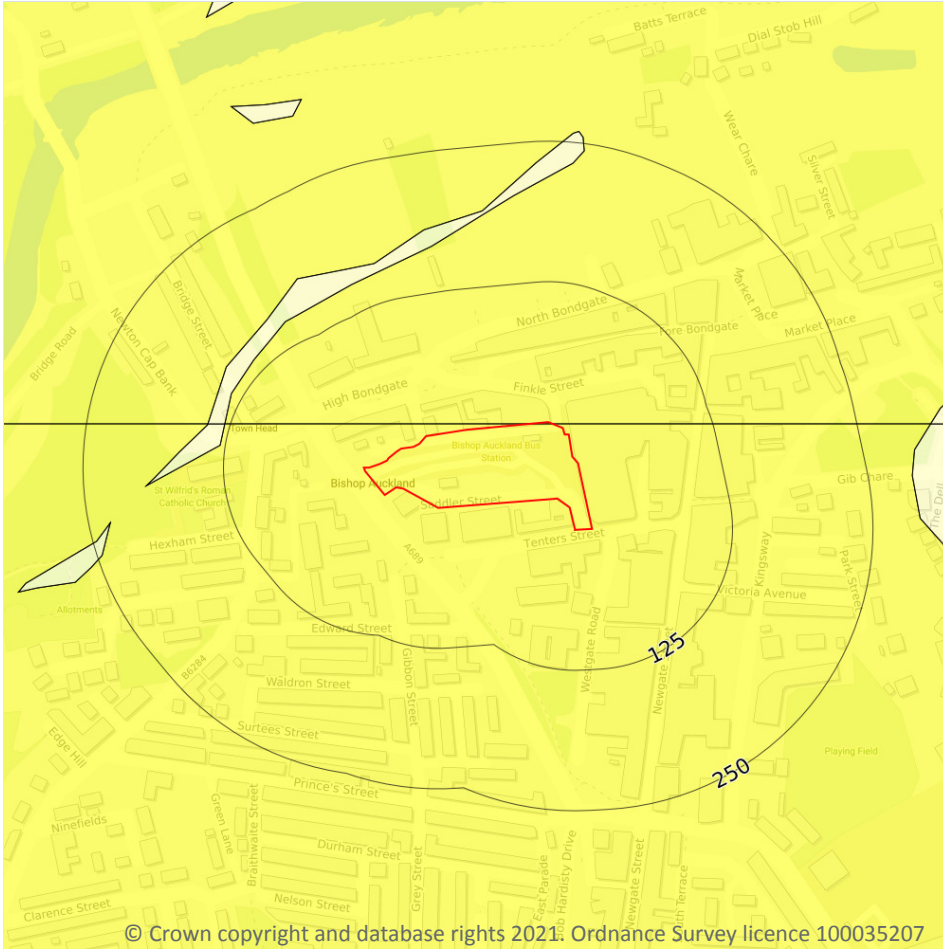
ID	Location	Grid reference	Name	Length	Confidential	Web link
I	181m W	420608 529958	NURSING HOME, HEXHAM STREET, BISHOP AUCKLAND TP2	1.7	N	17914716
I	187m W	420609 529912	NURSING HOME, HEXHAM STREET, BISHOP AUCKLAND TP4	2.2	N	17914717
I	187m W	420613 529898	NURSING HOME, HEXHAM STREET, BISHOP AUCKLAND 5	5.0	N	17914714
I	193m W	420600 529924	NURSING HOME, HEXHAM STREET, BISHOP AUCKLAND TP6	1.75	N	17914719
I	193m W	420597 529940	NURSING HOME, HEXHAM STREET, BISHOP AUCKLAND TP3	2.3	N	17914718
J	204m NW	420730 530160	NEWTON CAP VIADUCT 6A	27.2	N	745148
J	204m NW	420730 530160	NEWTON CAP VIADUCT 6 & 6R	51.44	N	745147
K	208m SW	420625 529832	RUSSELL STREET, BISHOP AUCKLAND 1	4.0	N	17511578
I	210m W	420582 529924	NURSING HOME, HEXHAM STREET, BISHOP AUCKLAND TP5	2.5	N	17914720
I	211m W	420588 529897	NURSING HOME, HEXHAM STREET, BISHOP AUCKLAND TP10	1.5	N	17914724
I	213m W	420580 529918	NURSING HOME, HEXHAM STREET, BISHOP AUCKLAND 3	10.0	N	17914713
L	222m NE	421146 530128	BISHOP AUCKLAND TOWN HALL 4	1.2	N	17971964
L	225m NE	421151 530126	BISHOP AUCKLAND TOWN HALL 3	1.25	N	17971962
K	226m SW	420601 529834	RUSSELL STREET, BISHOP AUCKLAND 2	4.0	N	17511579
I	228m W	420567 529908	NURSING HOME, HEXHAM STREET, BISHOP AUCKLAND TP9	2.6	N	17914722
I	232m W	420568 529892	NURSING HOME, HEXHAM STREET, BISHOP AUCKLAND 4	6.0	N	17914712
L	234m NE	421157 530133	BISHOP AUCKLAND TOWN HALL 2	1.0	N	17971963
M	235m NW	420740 530200	NEWTON CAP VIADUCT 5R	53.87	N	745145
M	235m NW	420740 530200	NEWTON CAP VIADUCT 5	26.0	N	745146
18	236m S	420992 529670	BISHOP AUCKLAND CENTRAL AREA BH203	3.35	N	824444
K	240m SW	420586 529832	RUSSELL STREET, BISHOP AUCKLAND 3	4.0	N	17511580
L	245m NE	421165 530141	BISHOP AUCKLAND TOWN HALL 1	1.35	N	17971961
K	246m SW	420569 529850	RUSSELL STREET, BISHOP AUCKLAND 4	4.0	N	17511581



This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.1 Shrink swell clays

Records within 50m

1

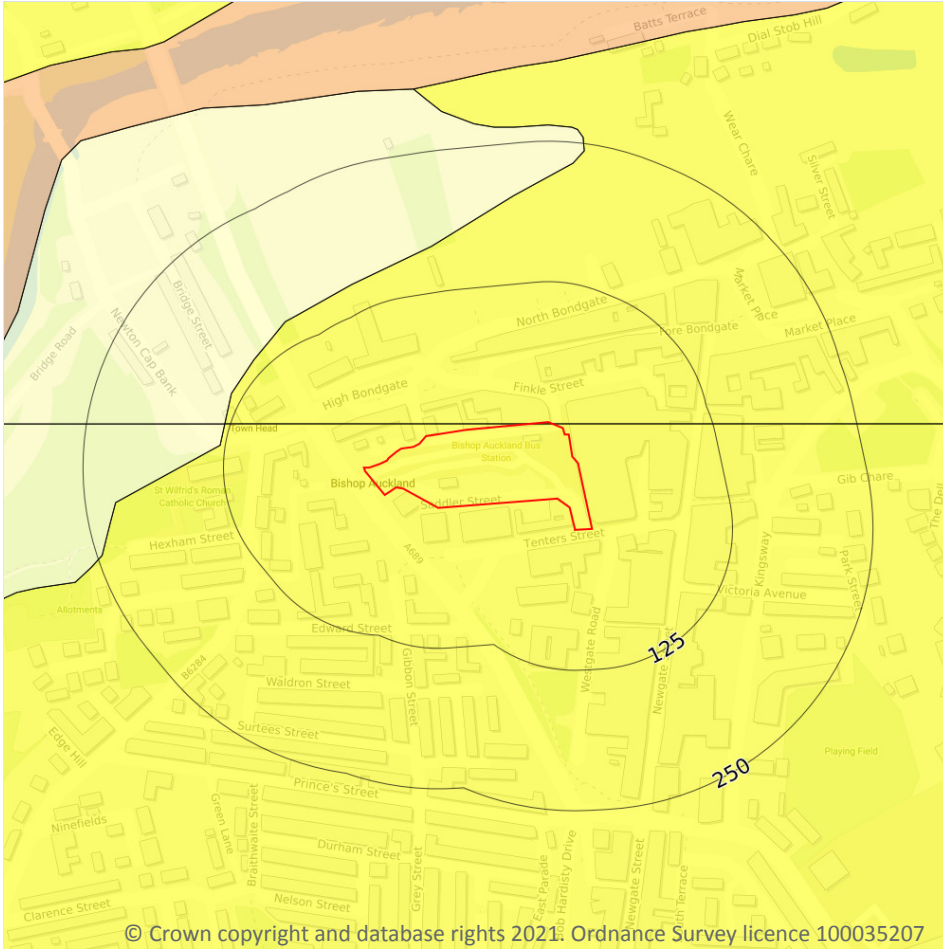
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 98**

Location	Hazard rating	Details
On site	Very low	Ground conditions predominantly low plasticity.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.2 Running sands

Records within 50m

1

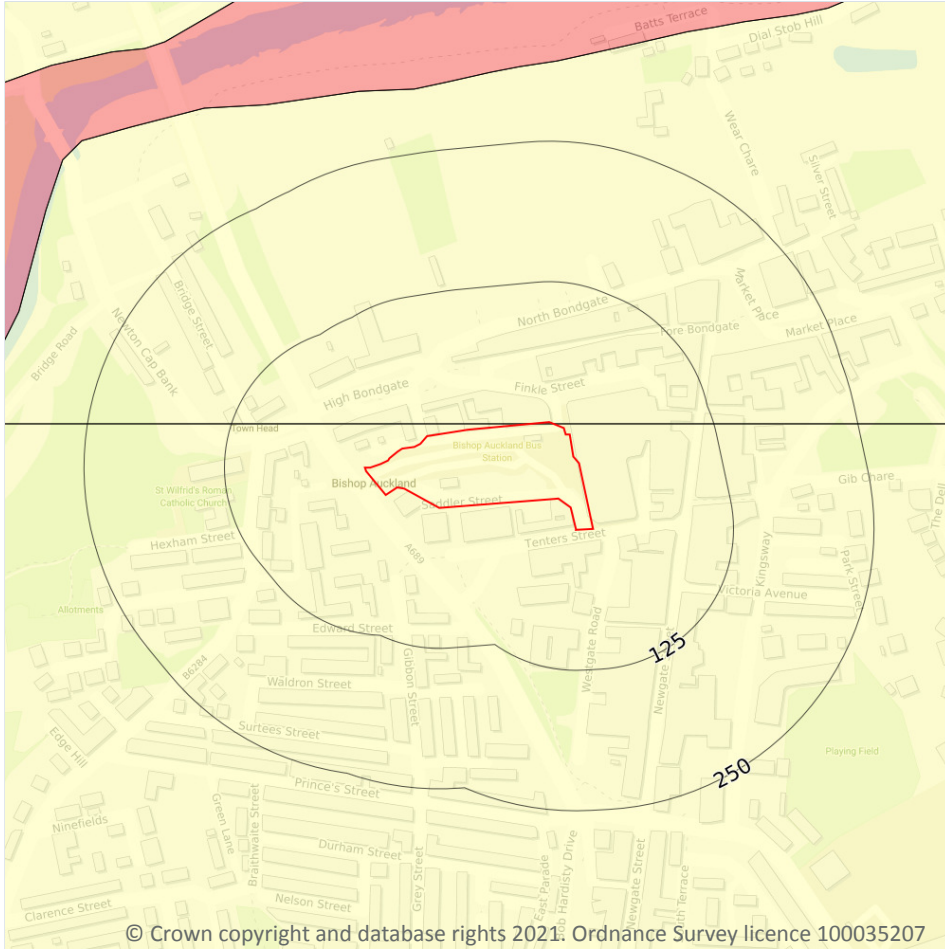
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 99**

Location	Hazard rating	Details
On site	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

1

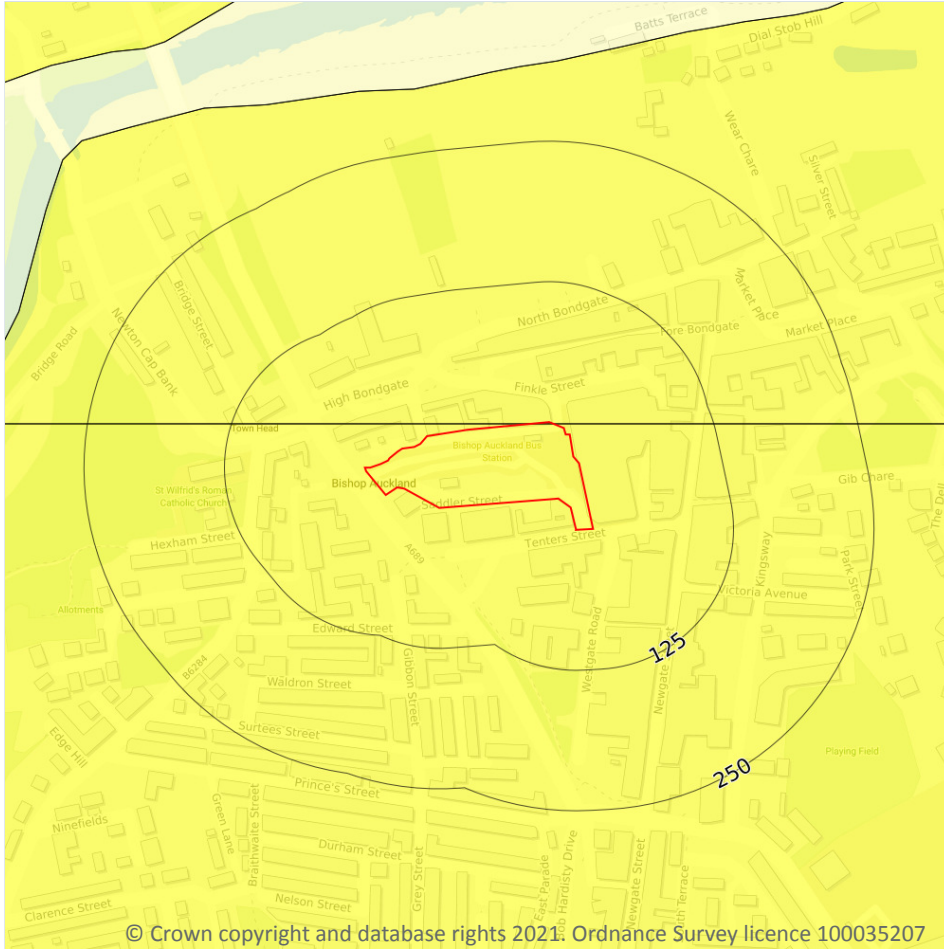
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 100**

Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



17.4 Collapsible deposits

Records within 50m

1

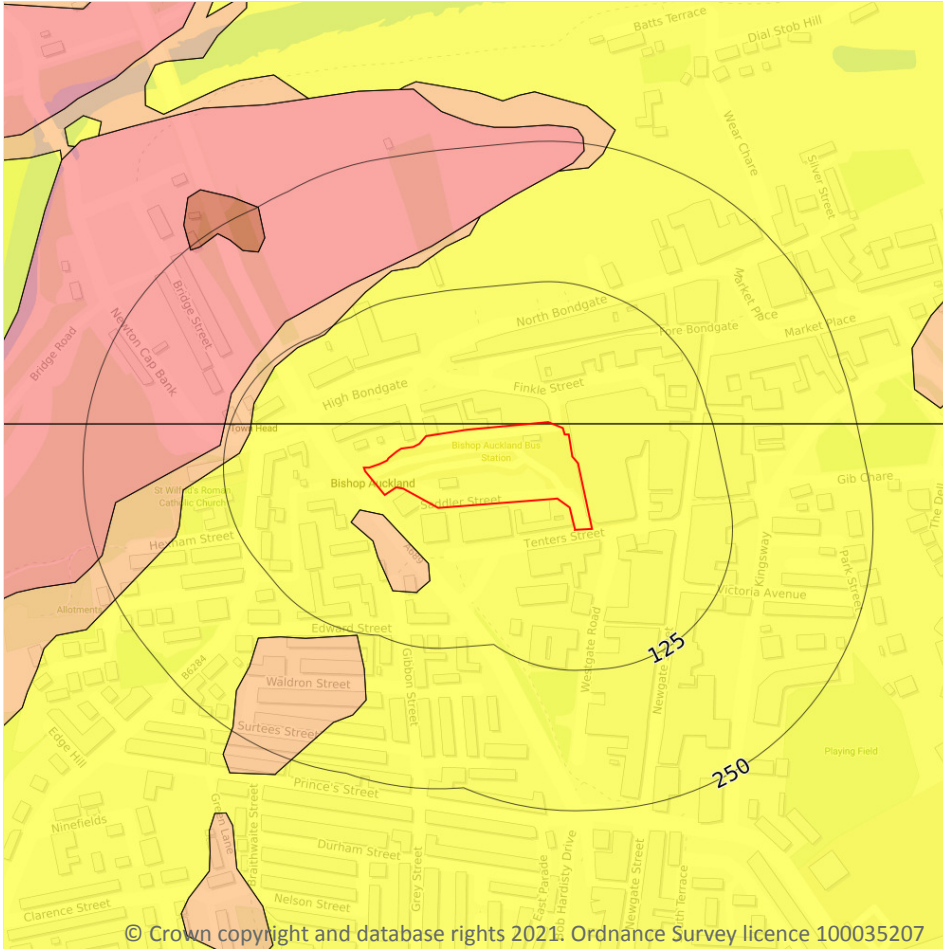
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 101**

Location	Hazard rating	Details
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.5 Landslides

Records within 50m

2

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 102**

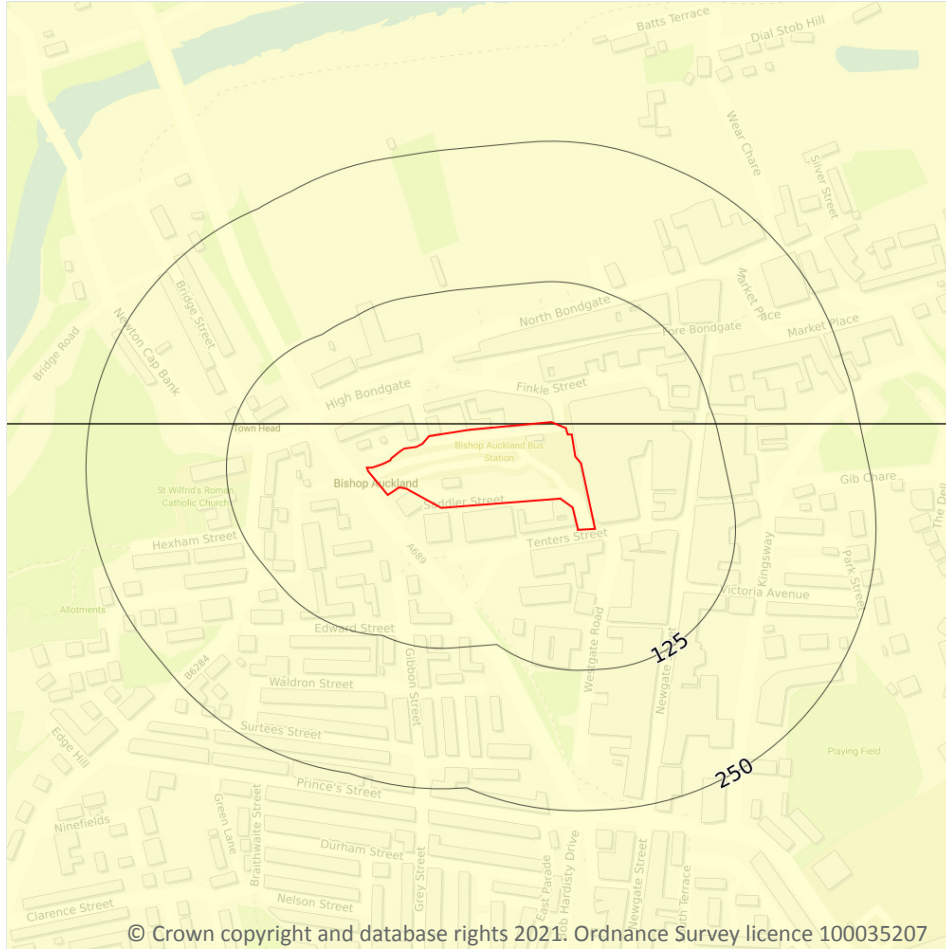
Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

Location	Hazard rating	Details
18m S	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



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17.6 Ground dissolution of soluble rocks

Records within 50m

1

The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

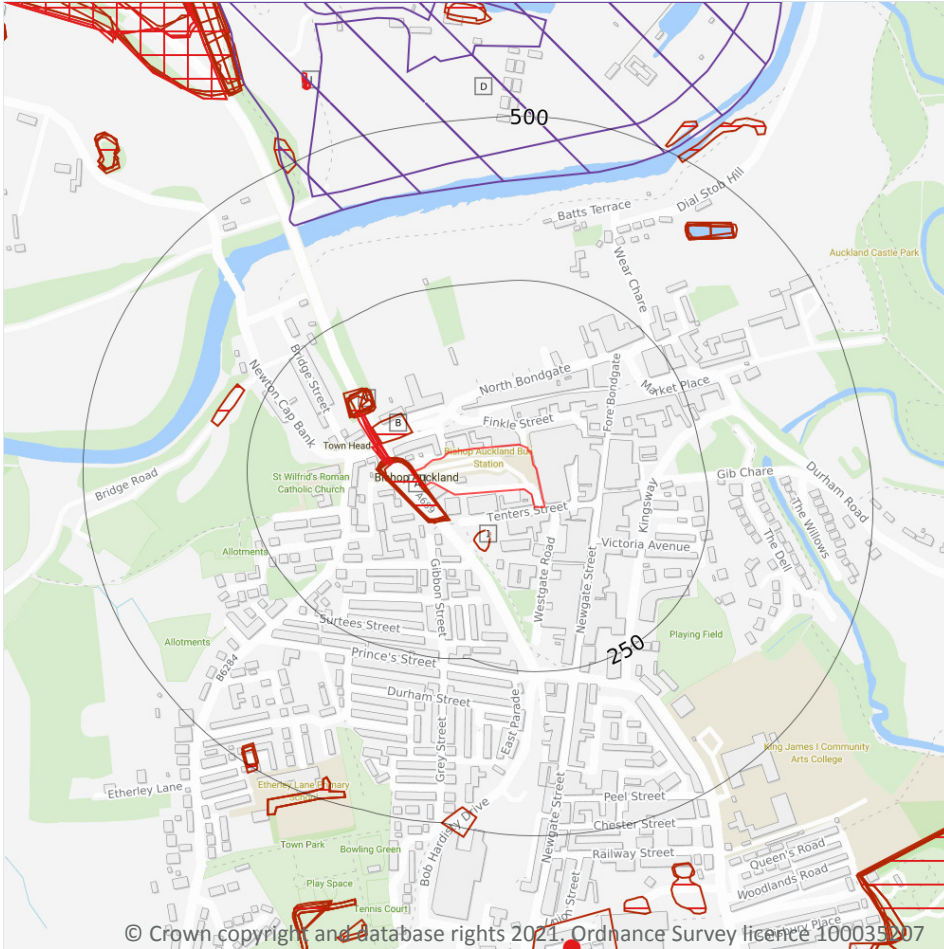
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 104**

Location	Hazard rating	Details
On site	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.

This data is sourced from the British Geological Survey.



18 Mining, ground workings and natural cavities



18.1 Natural cavities

Records within 500m

0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m

0

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m

18

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining, ground workings and natural cavities map on **page 106**

ID	Location	Land Use	Year of mapping	Mapping scale
A	On site	Cuttings	1953	1:10560
A	On site	Cuttings	1967	1:10560
A	On site	Cuttings	1915	1:10560
A	On site	Cuttings	1939	1:10560
A	On site	Cuttings	1896	1:10560
A	On site	Cuttings	1924	1:10560
A	On site	Cuttings	1857	1:10560
B	53m NW	Cuttings	1915	1:10560
1	58m S	Unspecified Pit	1896	1:10560
C	109m NW	Cuttings	1939	1:10560
C	109m NW	Cuttings	1896	1:10560
C	110m NW	Cuttings	1857	1:10560
C	114m NW	Unspecified Pit	1953	1:10560
C	114m NW	Unspecified Pit	1967	1:10560
C	115m NW	Cuttings	1924	1:10560
C	116m NW	Unspecified Pit	1980	1:10000
C	116m NW	Unspecified Pit	1991	1:10000



ID	Location	Land Use	Year of mapping	Mapping scale
C	116m NW	Unspecified Ground Workings	1915	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m

21

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

Features are displayed on the Mining, ground workings and natural cavities map on **page 106**

ID	Location	Land Use	Year of mapping	Mapping scale
B	31m NW	Tunnel	1939	1:10560
B	31m NW	Tunnel	1896	1:10560
B	31m NW	Tunnel	1857	1:10560
B	38m W	Tunnel	1940	1:10560
B	39m NW	Tunnel	1924	1:10560
I	594m N	Disused Air Shafts	1967	1:10560
I	594m N	Disused Air Shafts	1980	1:10000
I	594m N	Disused Air Shafts	1991	1:10000
I	595m N	Air Shafts	1924	1:10560
I	597m N	Air Shafts	1924	1:10560
I	603m N	Old Air Shafts	1940	1:10560
I	604m N	Air Shafts	1924	1:10560
I	607m N	Air Shafts	1924	1:10560
L	633m NW	Unspecified Mine	1967	1:10560
L	742m NW	Colliery	1924	1:10560
L	746m NW	Colliery	1924	1:10560
L	824m NW	Colliery	1896	1:10560
-	952m N	Air Shaft	1924	1:10560
-	957m N	Air Shaft	1924	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
-	957m N	Air Shaft	1896	1:10560
-	958m N	Old Air Shaft	1940	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

2

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

Features are displayed on the Mining, ground workings and natural cavities map on **page 106**

ID	Location	Site Name	Mineral	Type	Planning Status	Planning Status Date
D	397m N	Flatt's Farm	Sand and gravel	Surface mineral working	Refused	18/5/72
D	426m N	Flatt's Farm	Sand and gravel	Surface mineral working	Refused	3/4/67

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

0

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m

0

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

This data is sourced from Stantec UK Ltd.



18.8 JPB mining areas

Records on site **0**

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site **1**

Areas which could be affected by past, current or future coal mining.

Location	Details
On site	The site is located within a coal mining area as defined by the Coal Authority. A Consultants Coal Mining Report is recommended to further assess coal mining issues at the site. This can be ordered directly through Groundsure or your preferred search provider.

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site **0**

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.11 Gypsum areas

Records on site **0**

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.



18.12 Tin mining

Records on site

0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.13 Clay mining

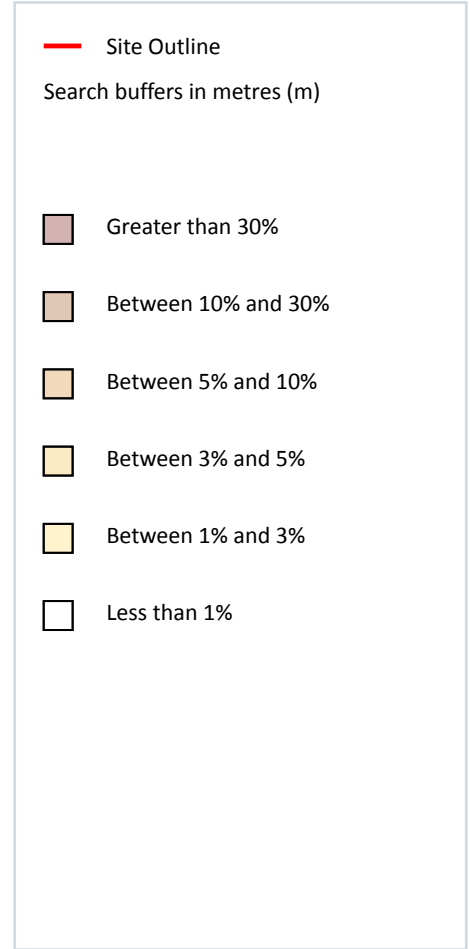
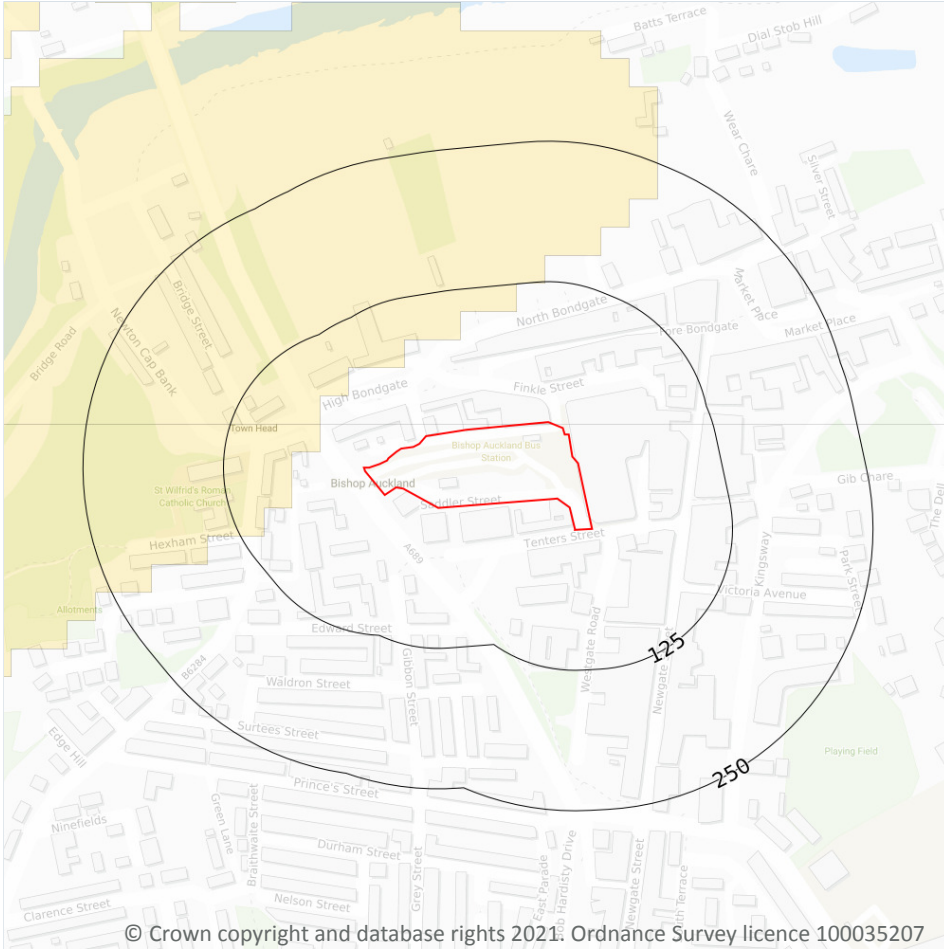
Records on site

0

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).

19 Radon



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19.1 Radon

Records on site

1

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on **page 112**

Location	Estimated properties affected	Radon Protection Measures required
On site	Less than 1%	None**

This data is sourced from the British Geological Survey and Public Health England.



20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

9

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km². In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	45 - 60 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	45 - 60 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	45 - 60 mg/kg
8m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	45 - 60 mg/kg
8m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	45 - 60 mg/kg
30m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	45 - 60 mg/kg
30m NE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	45 - 60 mg/kg
30m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	45 - 60 mg/kg
30m NE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	45 - 60 mg/kg

This data is sourced from the British Geological Survey.



20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km²).

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

Records within 50m

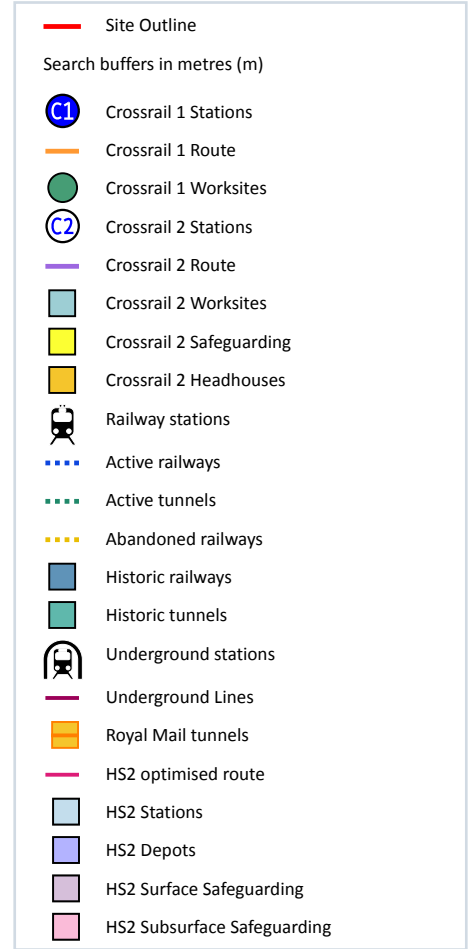
0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

This data is sourced from the British Geological Survey.



21 Railway infrastructure and projects



21.1 Underground railways (London)

Records within 250m

0

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m

0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m

32

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

Features are displayed on the Railway infrastructure and projects map on **page 115**

Location	Land Use	Year of mapping	Mapping scale
On site	Railways	1897	-
On site	Railways	1920	-
On site	Railways	1947	-
30m NW	Tunnel	1857	2500
31m NW	Tunnel	1939	10560
31m NW	Tunnel	1896	10560
31m NW	Tunnel	1857	10560
34m NW	Railway Tunnel	1897	-
34m NW	Railway Tunnel	1920	-
34m NW	Railway Tunnel	1947	-
37m NW	Tunnel	1962	2500
38m W	Tunnel	1953	10560
39m NW	Tunnel	1924	10560
39m NW	Tunnel	1897	2500
39m NW	Tunnel	1920	2500
39m NW	Tunnel	1939	2500
42m S	Railway Sidings	1915	10560



Location	Land Use	Year of mapping	Mapping scale
44m N	Tunnel	1987	2500
44m S	Railway Sidings	1953	10560
45m S	Railway Sidings	1924	10560
49m S	Railway Sidings	1967	10560
50m S	Railway Sidings	1857	2500
53m S	Railway Sidings	1897	2500
53m S	Railway Sidings	1920	2500
53m S	Railway Sidings	1939	2500
54m S	Railway Sidings	1962	2500
64m NW	Tunnel	1961	2500
68m S	Railway Sidings	1939	10560
68m S	Railway Sidings	1896	10560
109m NW	Railways	1897	-
109m NW	Railways	1920	-
109m NW	Railways	1947	-

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m

0

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m

6

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

Features are displayed on the Railway infrastructure and projects map on **page 115**



Location	Description
13m SW	Abandoned
13m SW	Abandoned
13m SW	Abandoned
60m NW	Abandoned
75m NW	Abandoned
129m NW	Abandoned

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m

0

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m

0

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m

0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.



21.10 HS2

Records within 500m

0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

This data is sourced from HS2 Ltd.



Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see <https://www.groundsure.com/sources-reference>.

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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: County Series

Map date: 1857

Scale: 1:2,500

Printed at: 1:2,500



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



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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: County Series

Map date: 1897

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1897
 Revised 1897
 Edition N/A
 Copyright N/A
 Levelled N/A



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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: County Series

Map date: 1920

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1920
 Revised 1920
 Edition N/A
 Copyright N/A
 Levelled N/A

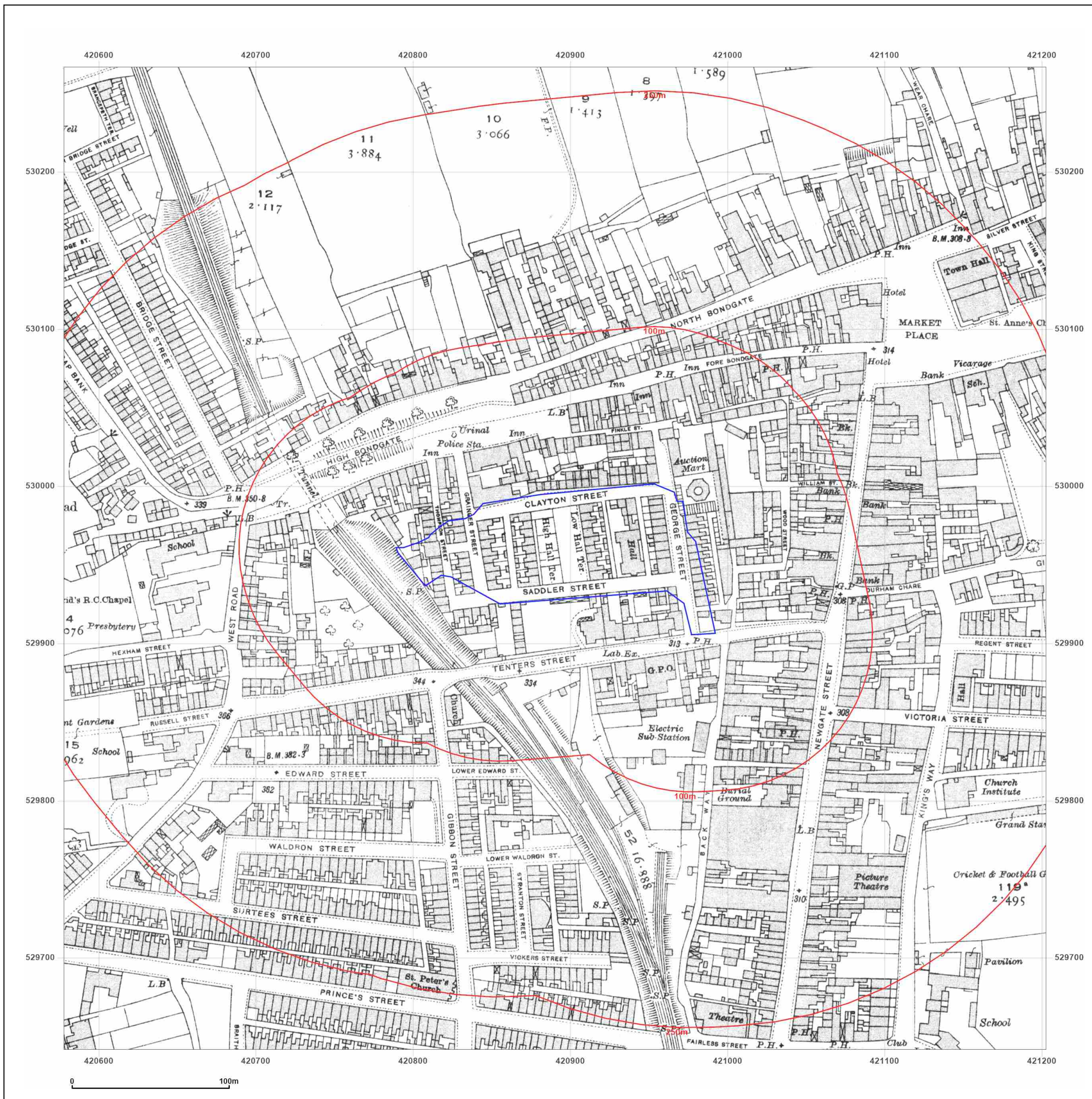


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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: County Series

Map date: 1939

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1939
 Revised 1939
 Edition N/A
 Copyright N/A
 Levelled N/A



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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: National Grid

Map date: 1961-1962

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1961
 Revised 1961
 Edition N/A
 Copyright 1962
 Levelled 1958

Surveyed 1962
 Revised 1962
 Edition N/A
 Copyright 1962
 Levelled 1958

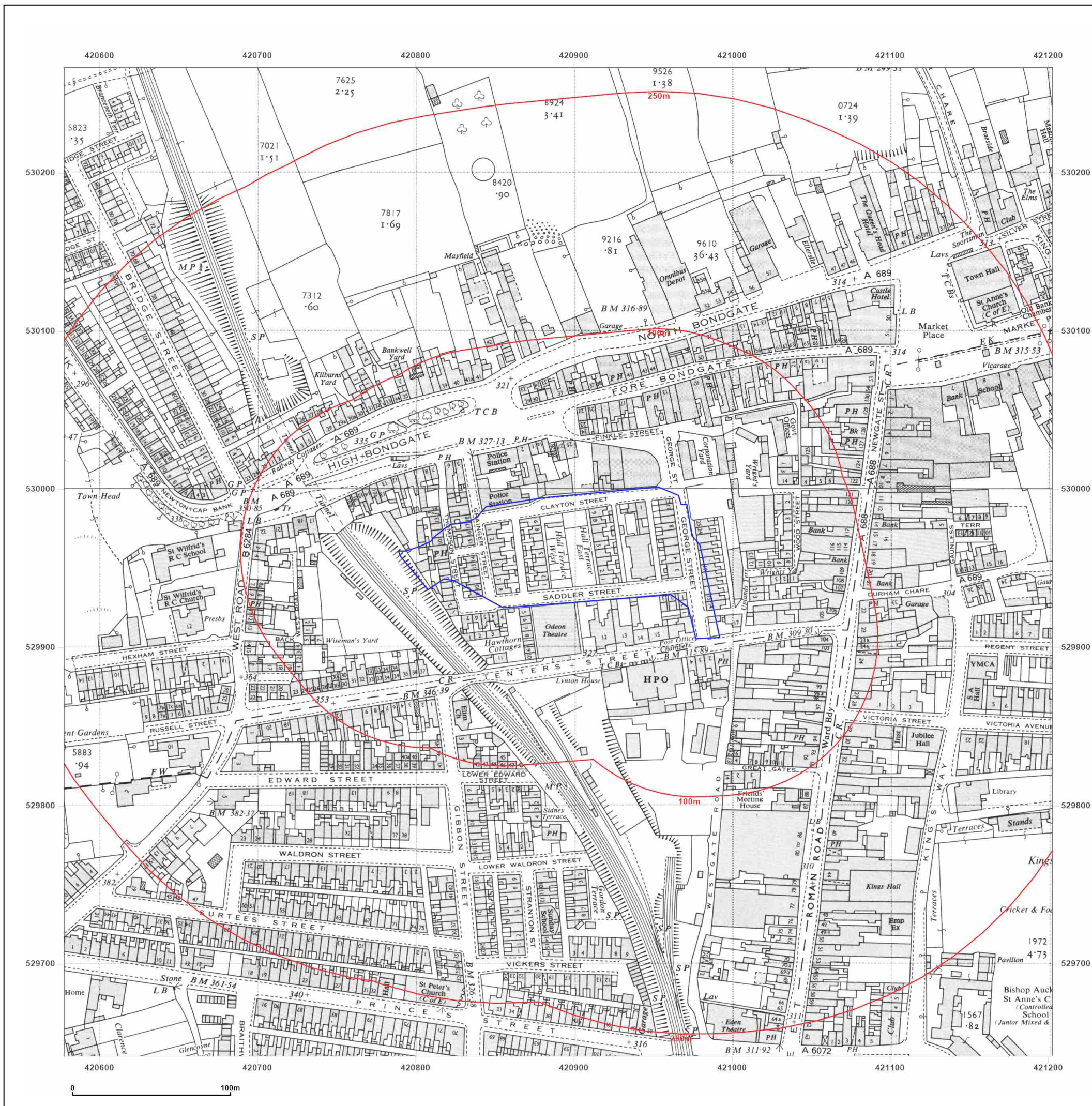


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Production date: 02 November 2021

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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: National Grid

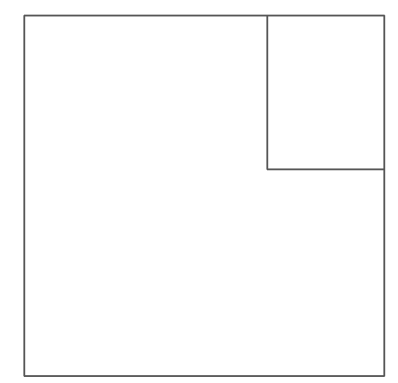
Map date: 1962

Scale: 1:2,500

Printed at: 1:2,500



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

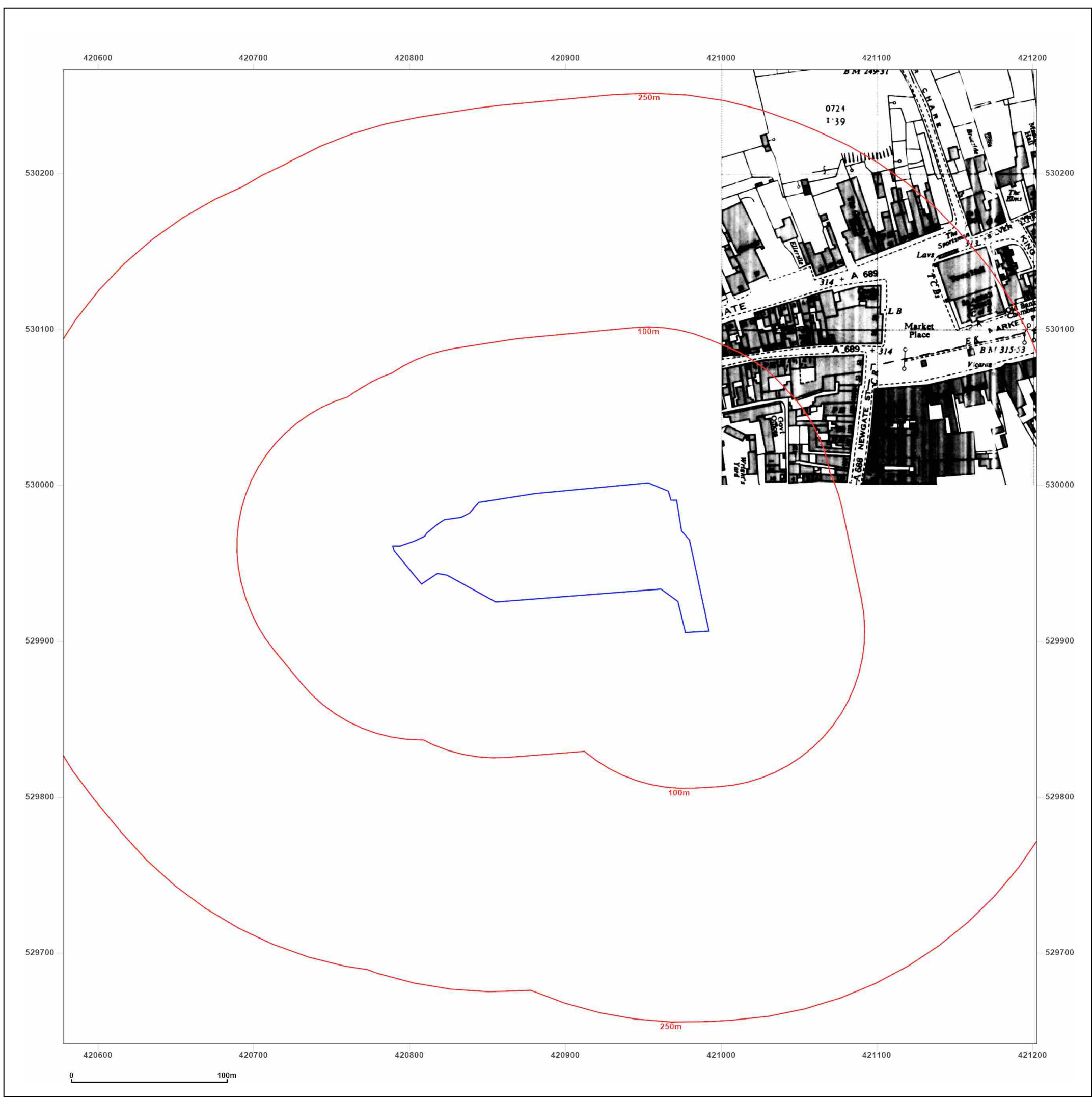


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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: National Grid

Map date: 1978-1980

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1978
 Revised 1978
 Edition N/A
 Copyright 1978
 Levelled 1965

Surveyed 1978
 Revised 1978
 Edition N/A
 Copyright 1978
 Levelled 1965

Surveyed 1978
 Revised 1978
 Edition N/A
 Copyright 1979
 Levelled 1965

Surveyed 1978
 Revised 1978
 Edition N/A
 Copyright 1980
 Levelled 1965



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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: National Grid

Map date: 1979-1984

Scale: 1:1,250

Printed at: 1:2,000



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

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

Surveyed 1965
 Revised 1984
 Edition N/A
 Copyright 1984
 Levelled 1965



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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: National Grid

Map date: 1981-1985

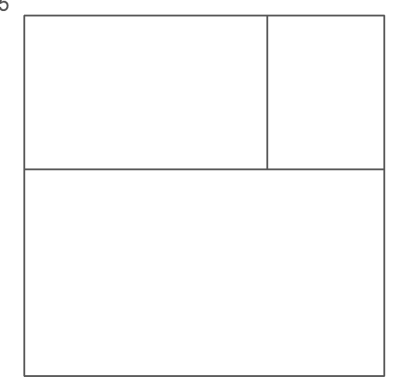
Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1978
 Revised 1981
 Edition N/A
 Copyright 1982
 Levelled 1965

Surveyed 1965
 Revised 1985
 Edition N/A
 Copyright 1985
 Levelled 1965

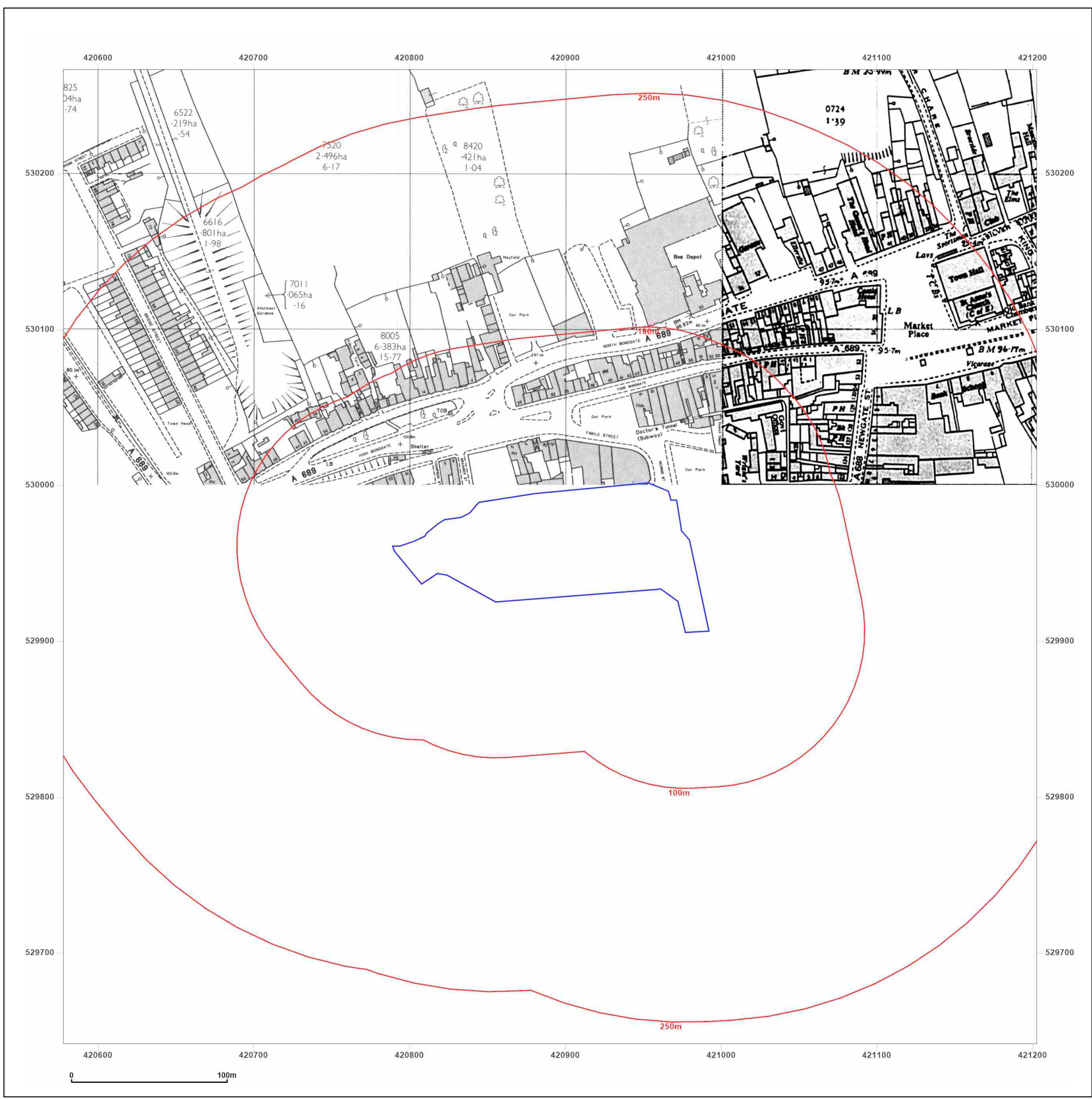


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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: National Grid

Map date: 1987

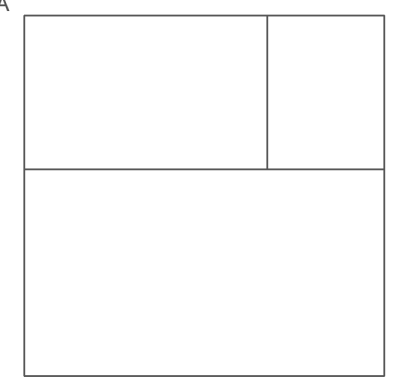
Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1987
 Revised 1987
 Edition N/A
 Copyright 1987
 Levelled N/A

Surveyed 1987
 Revised 1987
 Edition N/A
 Copyright 1987
 Levelled N/A

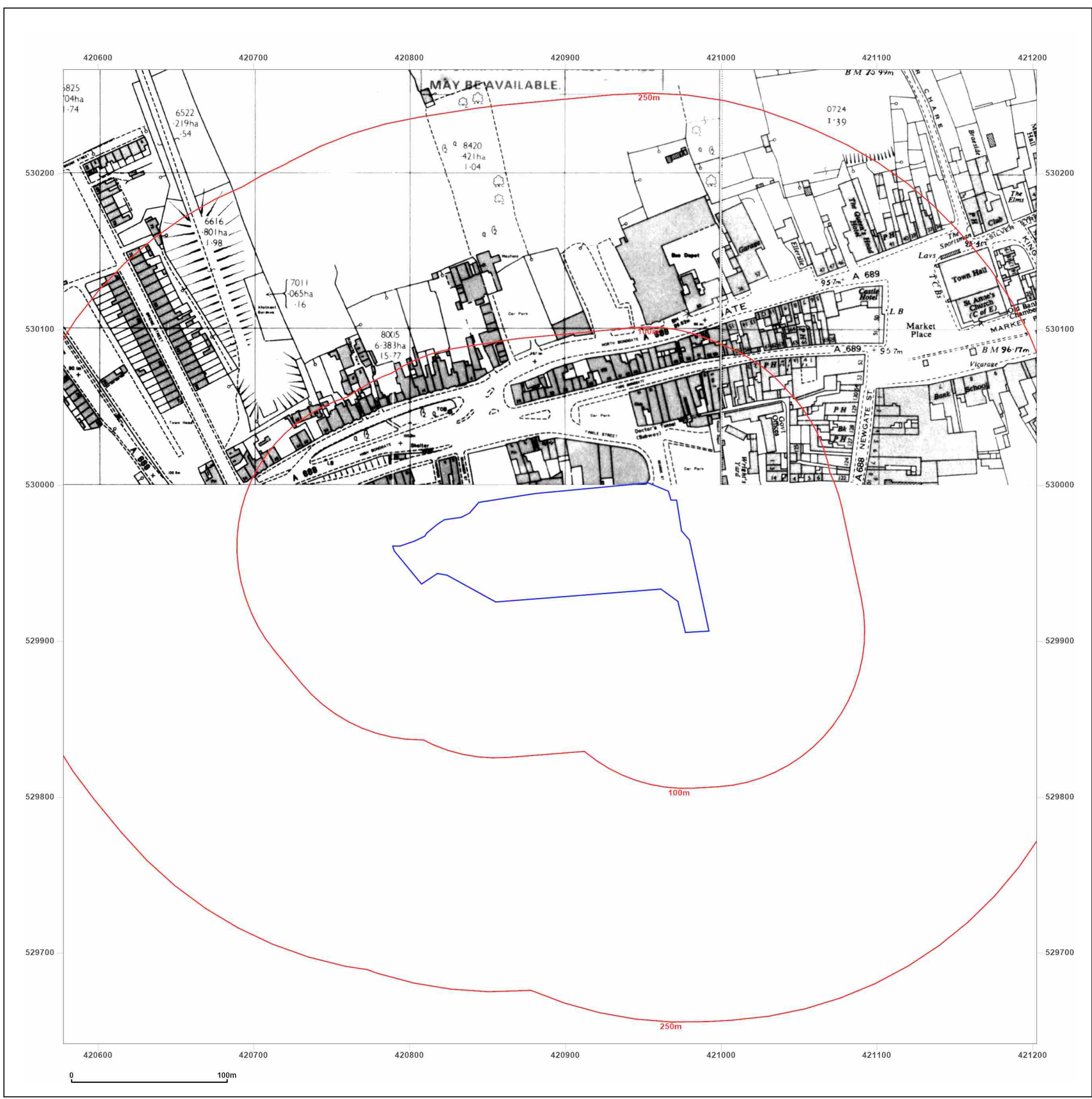


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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: National Grid

Map date: 1985-1988

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1987
 Revised 1987
 Edition N/A
 Copyright 1987
 Levelled N/A

Surveyed 1965
 Revised 1987
 Edition N/A
 Copyright 1987
 Levelled 1965

Surveyed 1978
 Revised 1987
 Edition N/A
 Copyright 1988
 Levelled 1965

Surveyed 1965
 Revised 1985
 Edition N/A
 Copyright 1985
 Levelled 1965

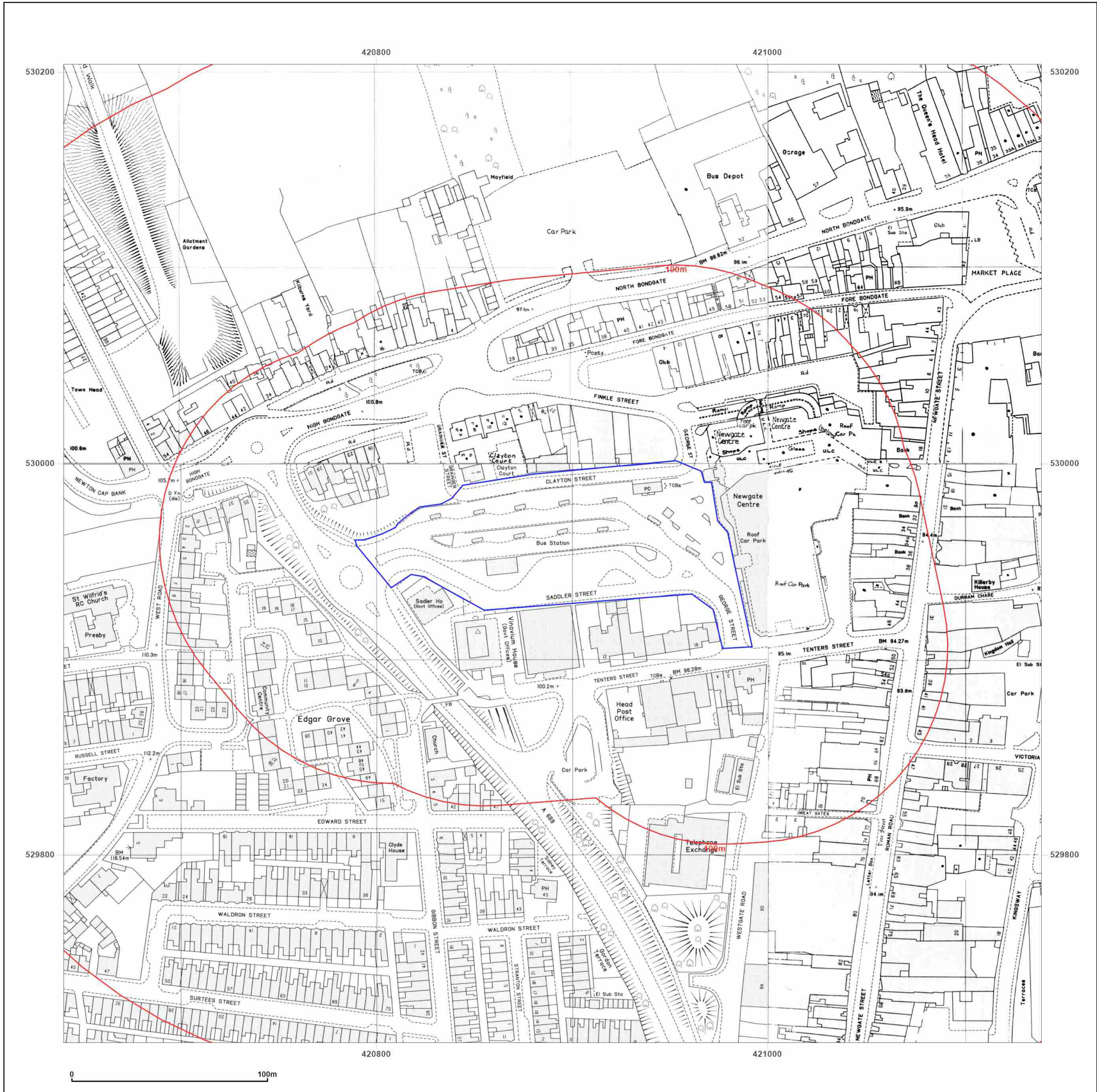


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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: National Grid

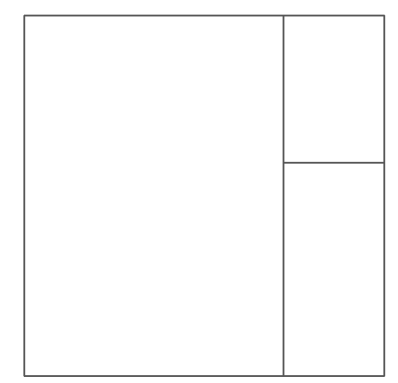
Map date: 1987-1988

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1965
 Revised 1987
 Edition N/A
 Copyright 1987
 Levelled 1965



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

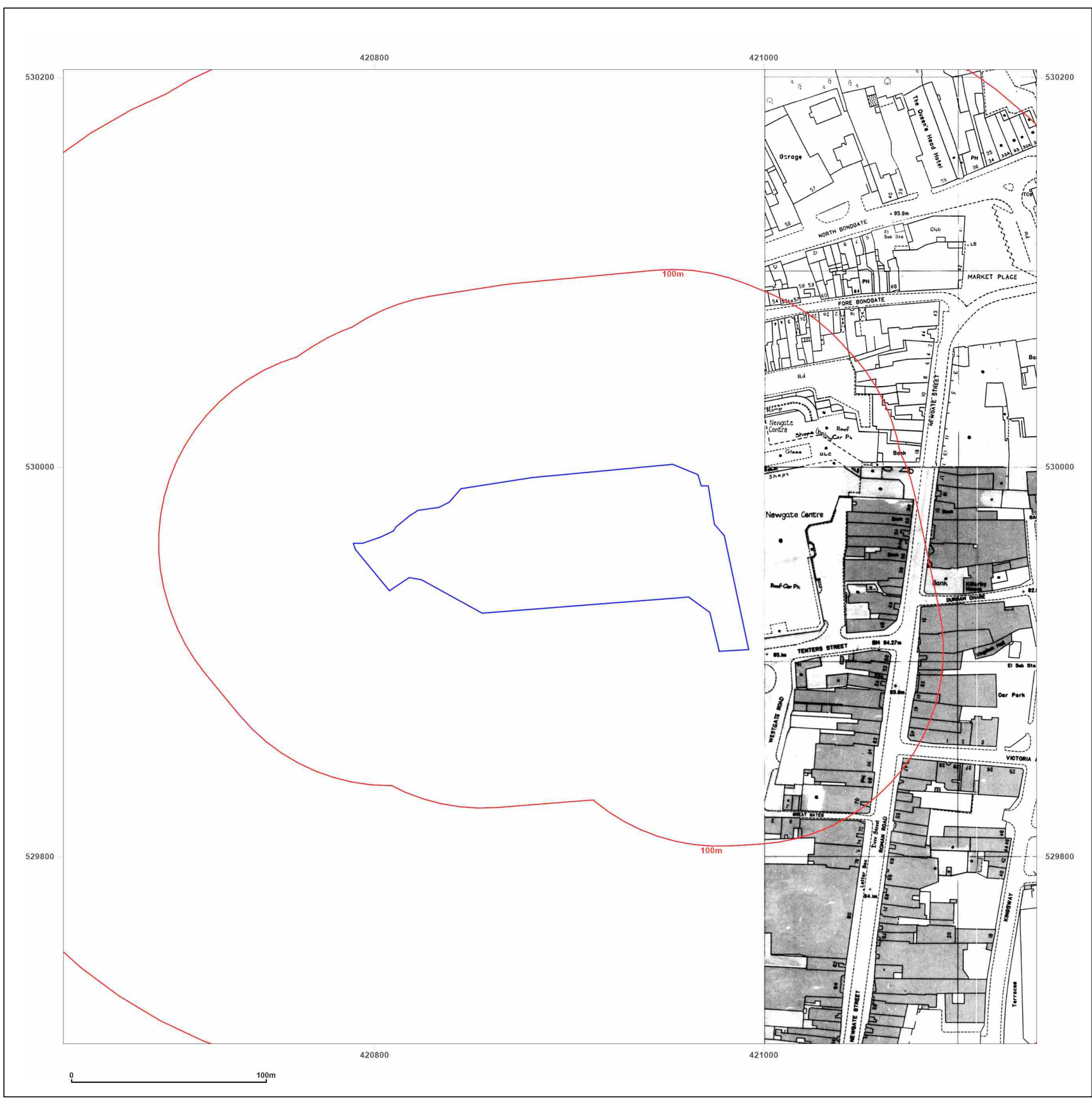


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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: National Grid

Map date: 1993

Scale: 1:1,250

Printed at: 1:2,000



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

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

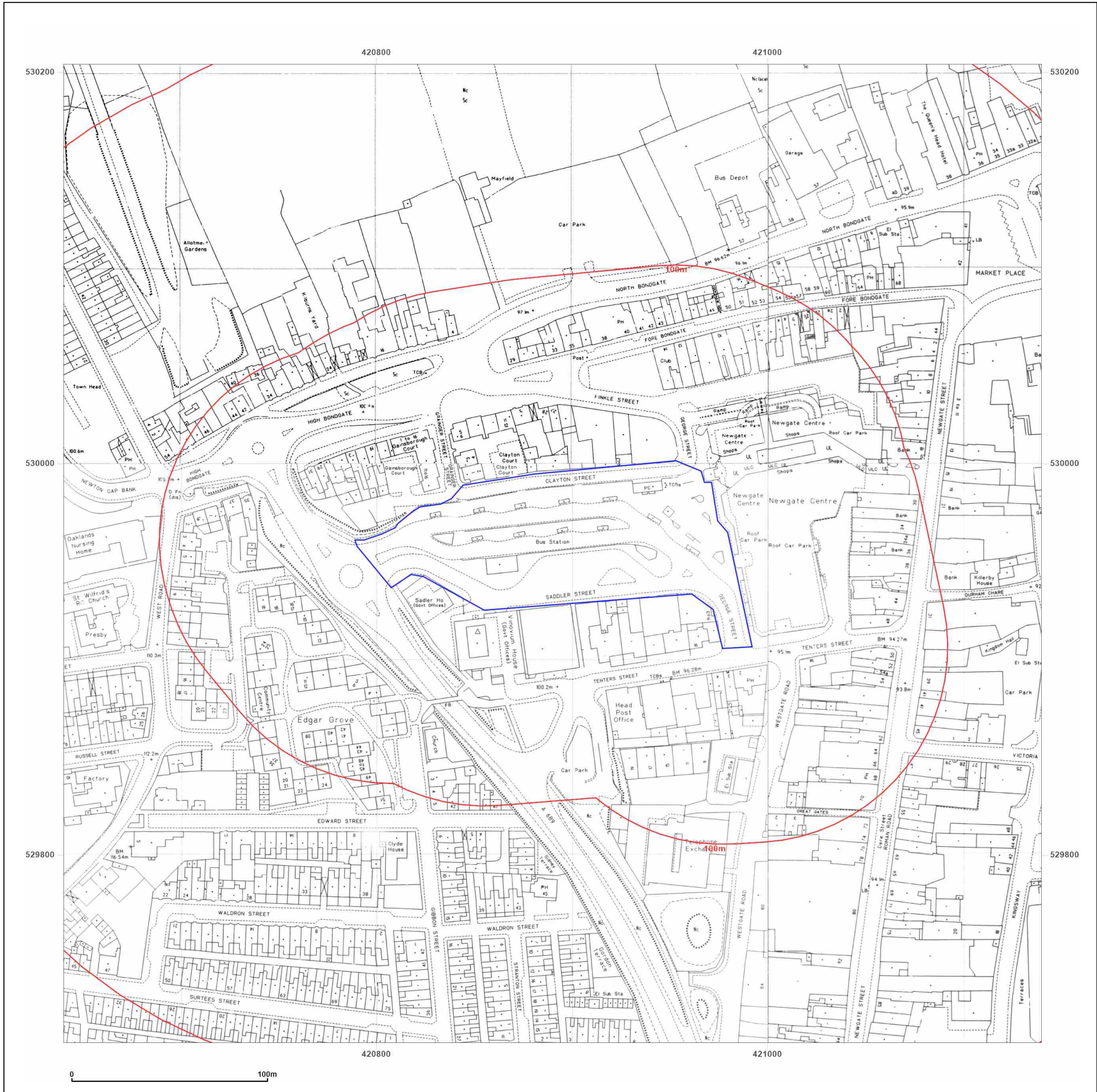


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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: National Grid

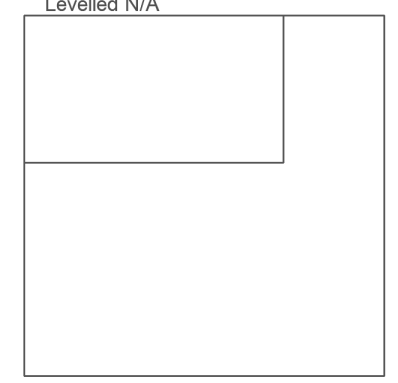
Map date: 1995

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1995
 Revised N/A
 Edition N/A
 Copyright 1995
 Levelled N/A

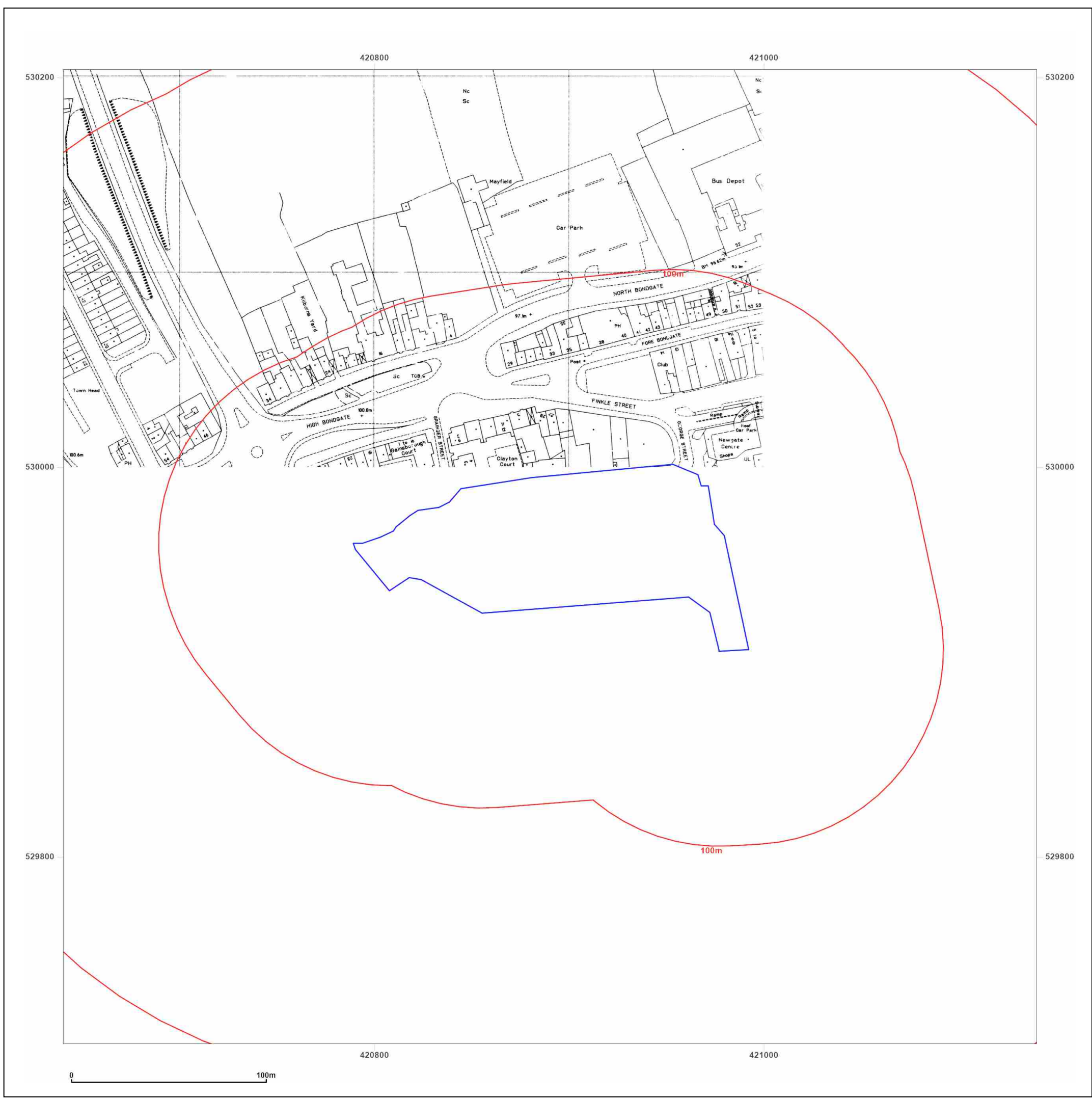


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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: National Grid

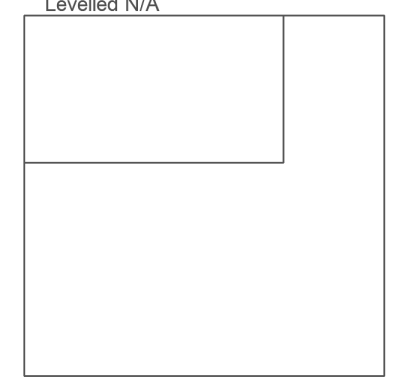
Map date: 1995

Scale: 1:1,250

Printed at: 1:2,000



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

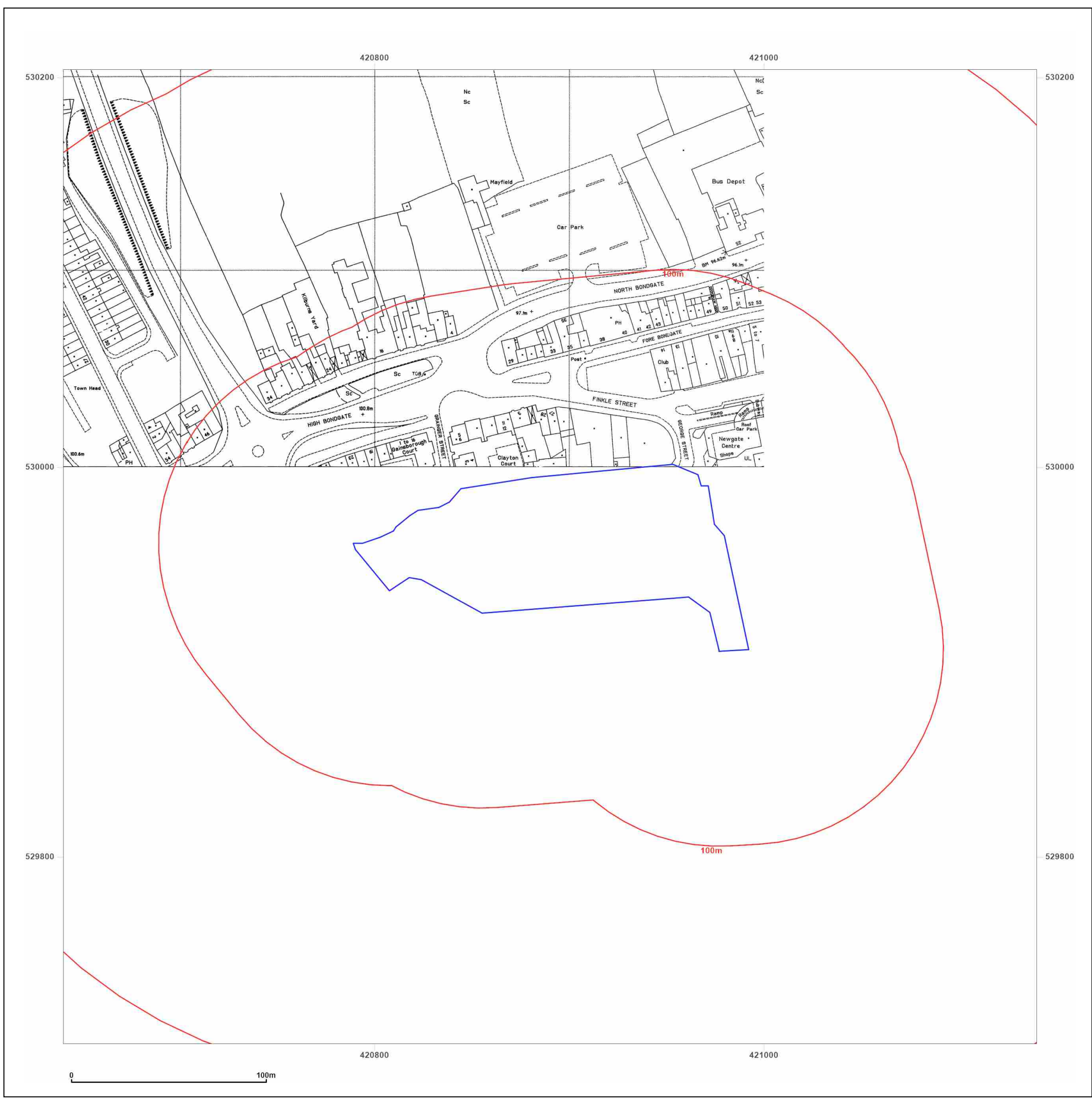


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Site Details:

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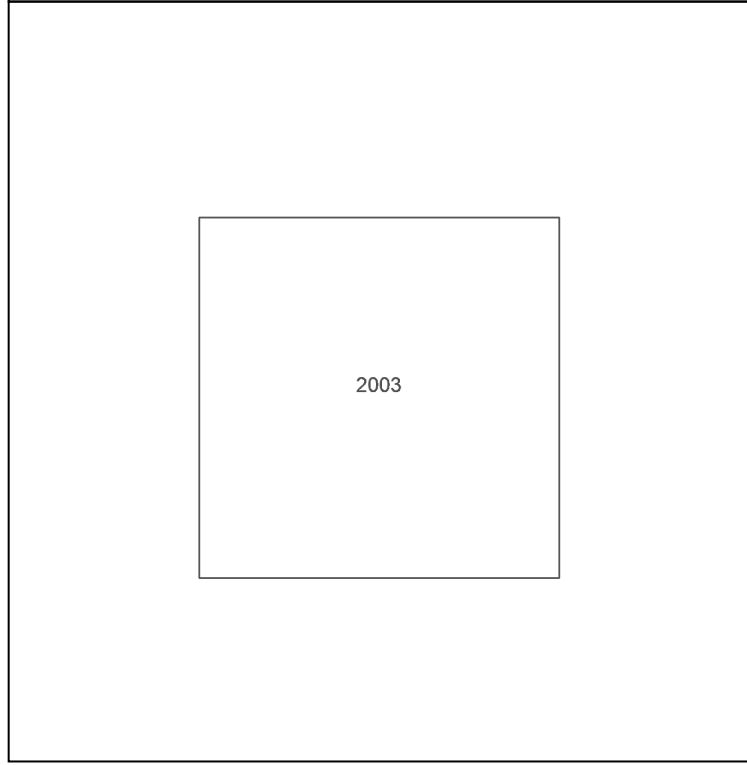
Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



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Production date: 02 November 2021

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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: County Series

Map date: 1857

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1857
 Revised 1857
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1857
 Revised 1857
 Edition N/A
 Copyright N/A
 Levelled N/A

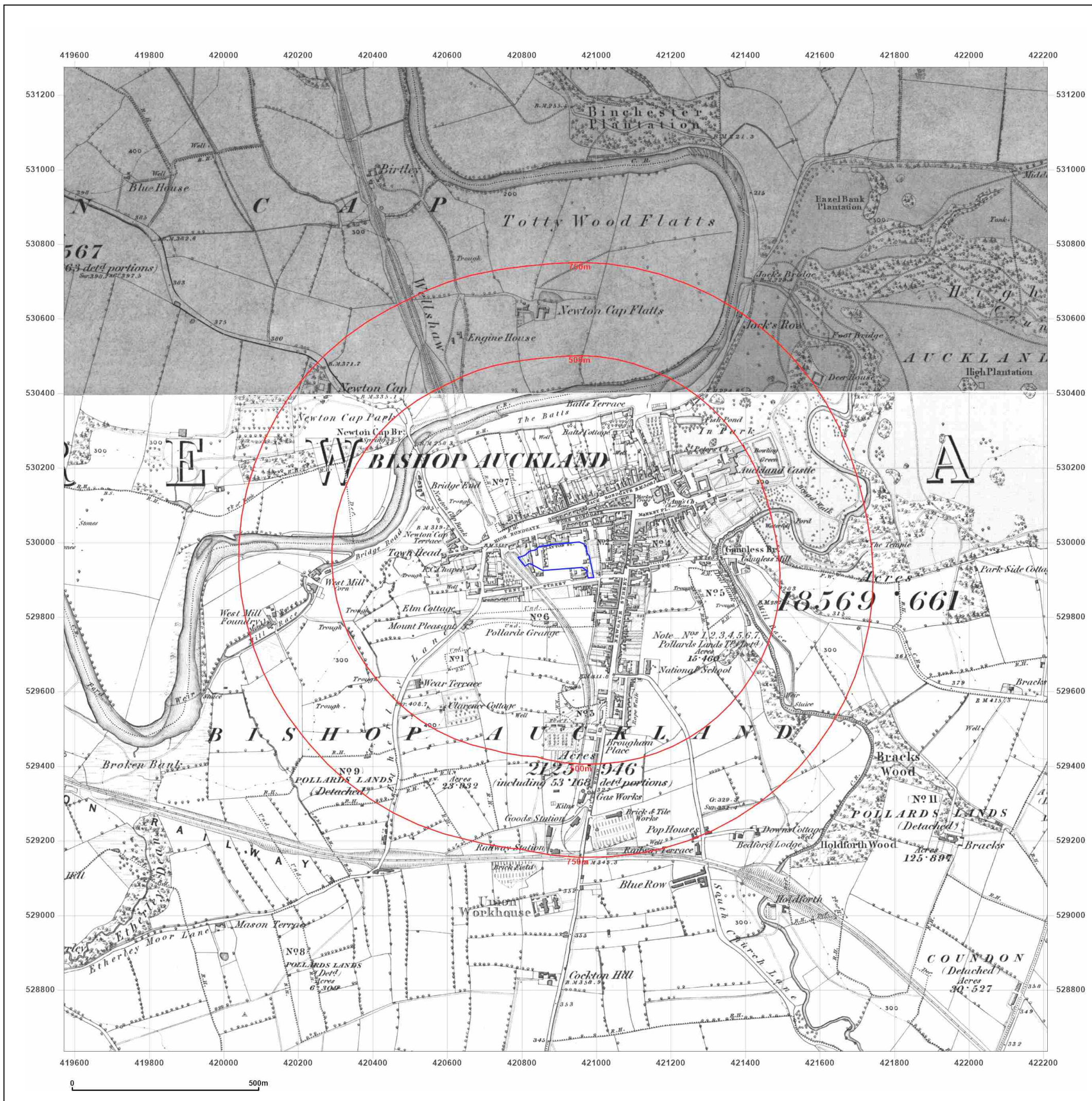


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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: County Series

Map date: 1896

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1856
 Revised 1896
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1857
 Revised 1896
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1857
 Revised 1896
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1856
 Revised 1896
 Edition N/A
 Copyright N/A
 Levelled N/A

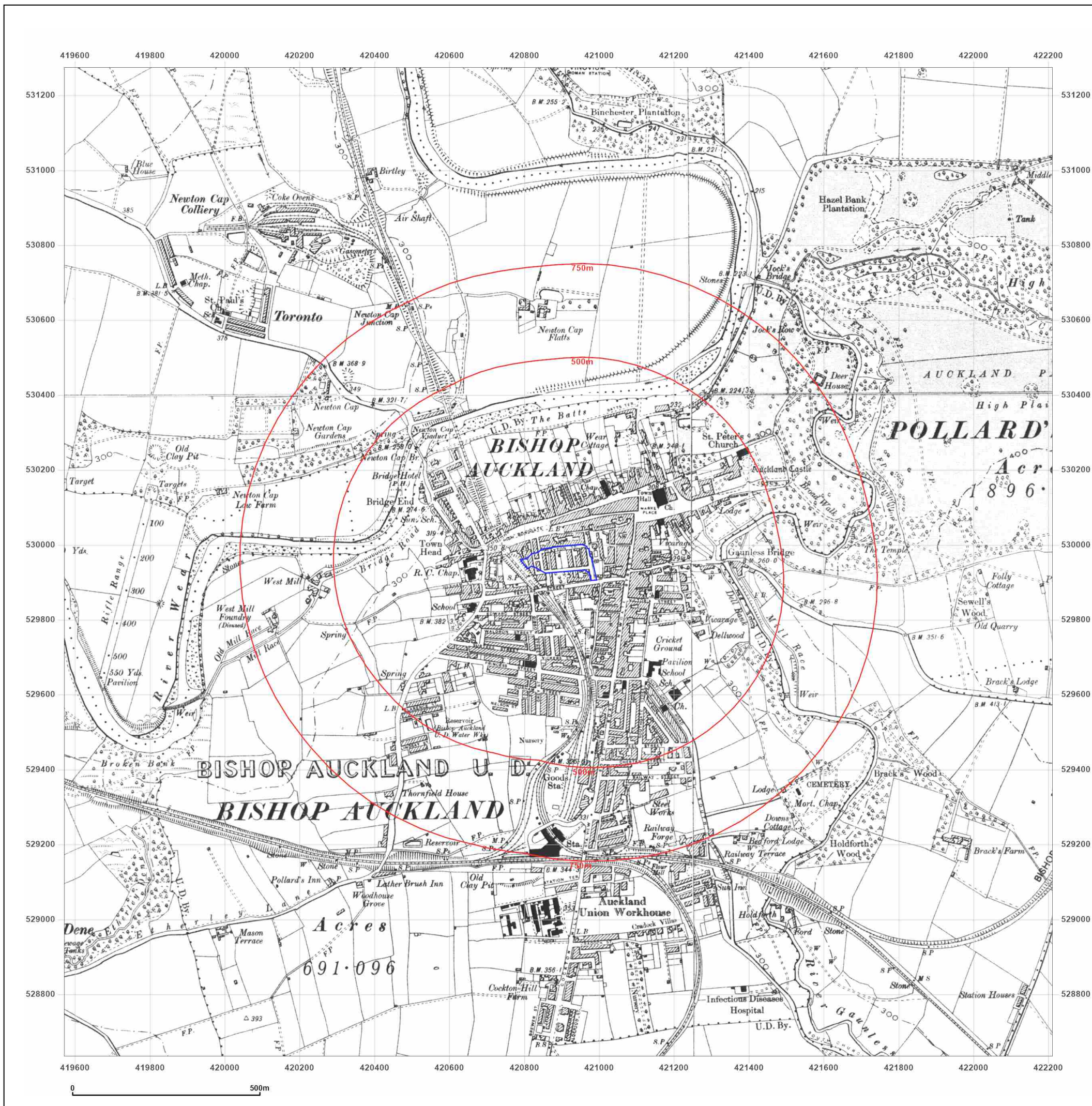


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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: County Series

Map date: 1915

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1856
 Revised 1915
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1856
 Revised 1915
 Edition N/A
 Copyright N/A
 Levelled N/A

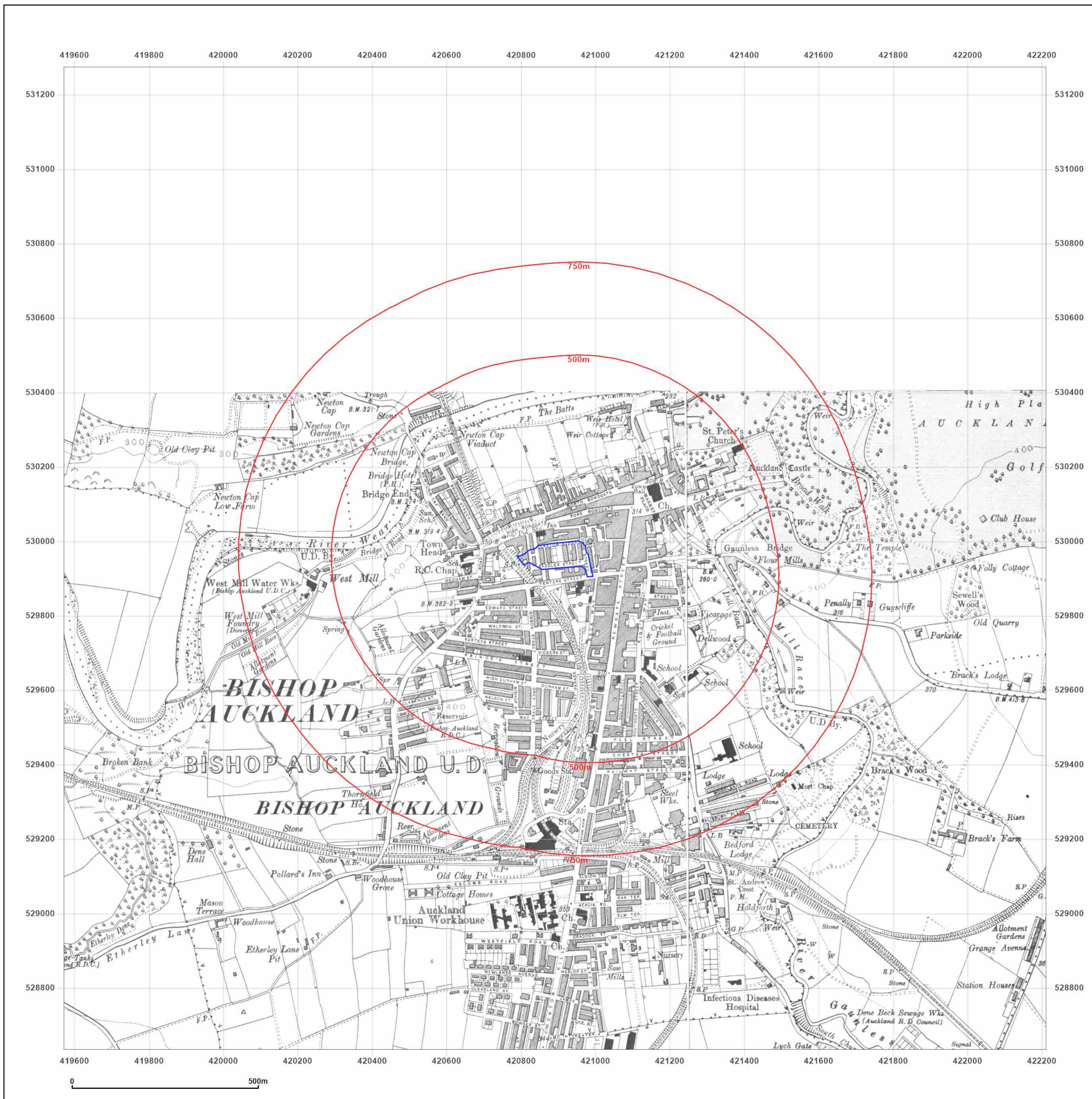


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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: County Series

Map date: 1924

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1857
 Revised 1924
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1856
 Revised 1924
 Edition N/A
 Copyright N/A
 Levelled N/A

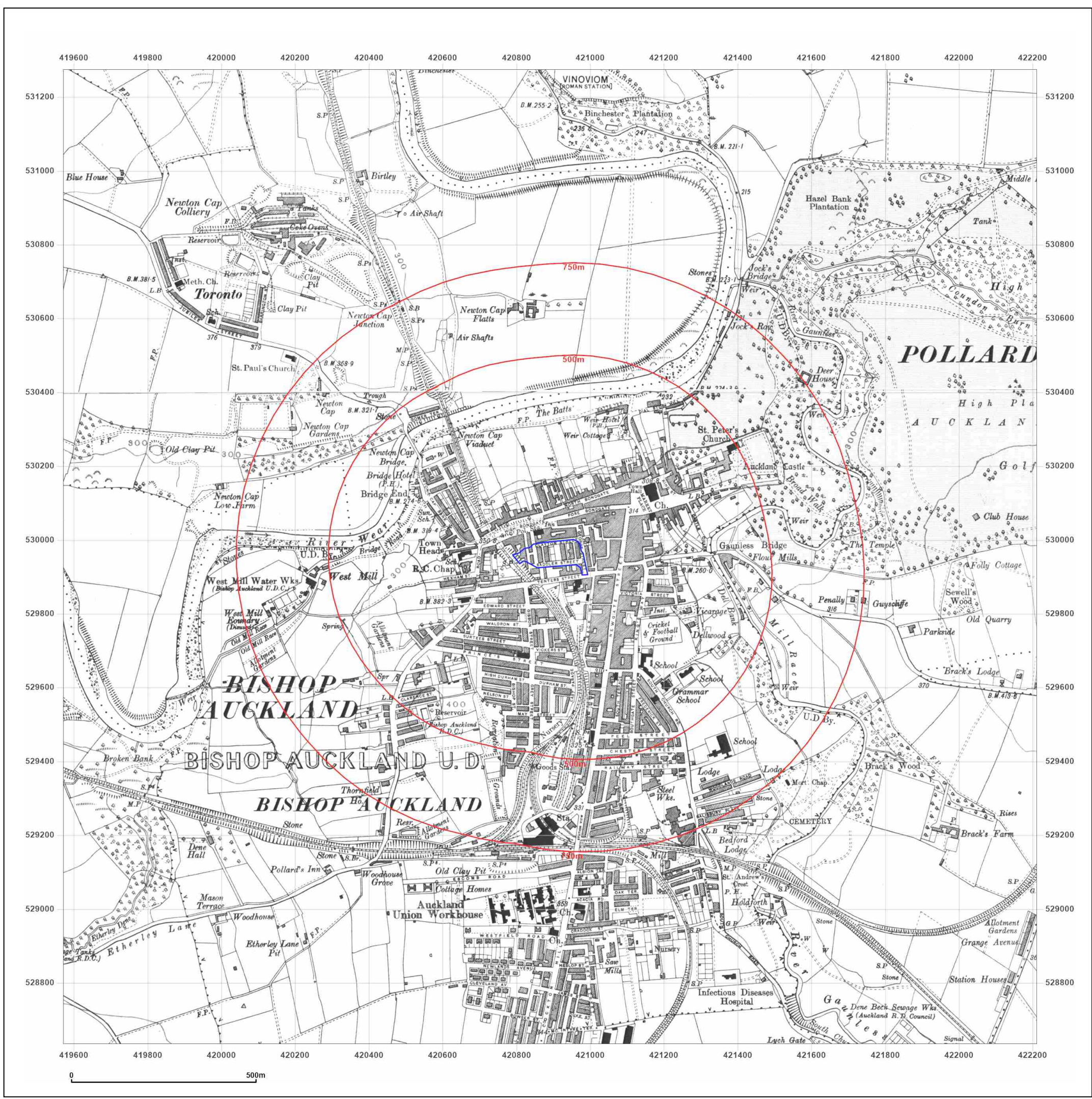


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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: County Series

Map date: 1924

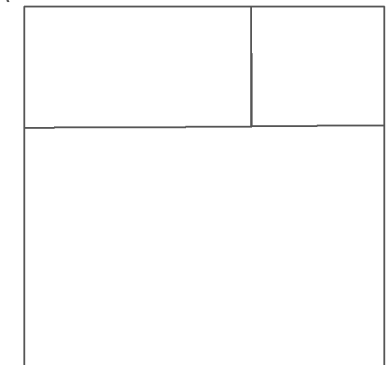
Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1856
 Revised 1924
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1857
 Revised 1924
 Edition N/A
 Copyright N/A
 Levelled N/A

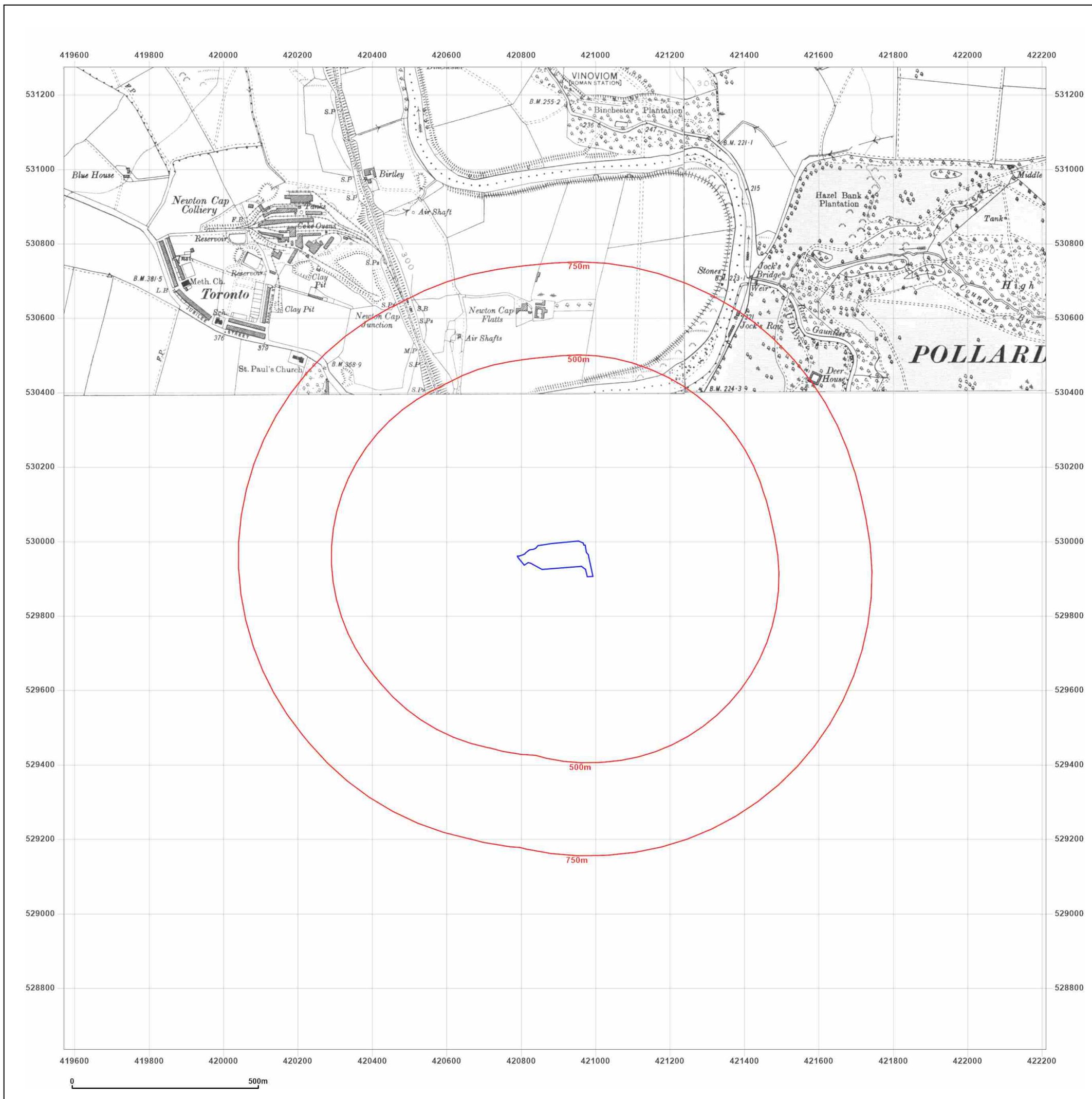


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Site Details:

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Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

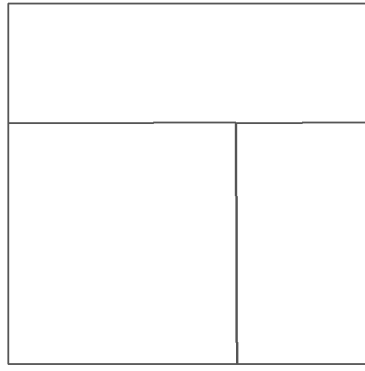
Map Name: County Series

Map date: 1939

Scale: 1:10,560

Printed at: 1:10,560



<p>Surveyed 1856 Revised 1939 Edition N/A Copyright N/A Levelled N/A</p>		<p>Surveyed 1856 Revised 1939 Edition N/A Copyright N/A Levelled N/A</p>
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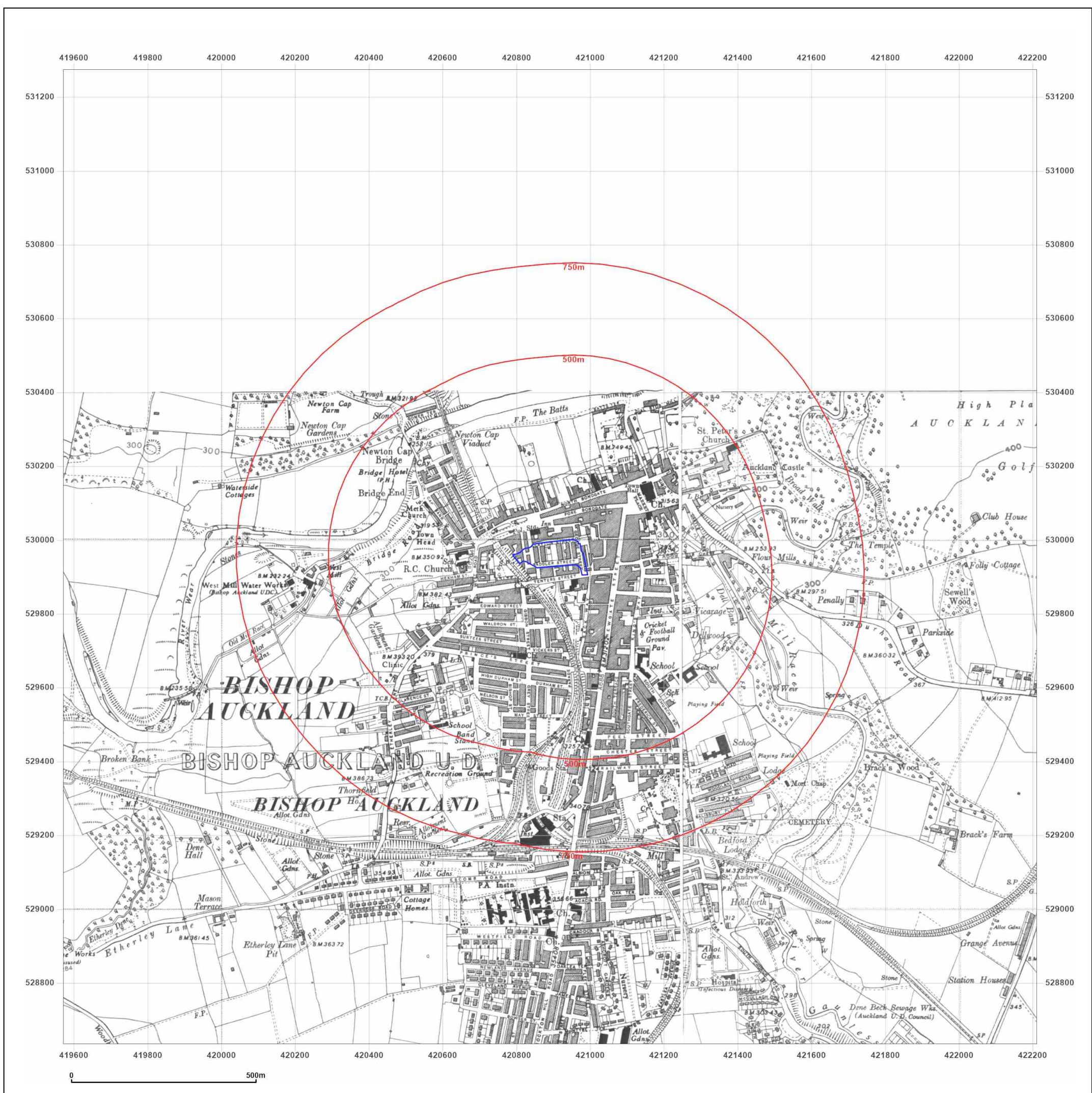


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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: Provisional

Map date: 1951-1954

Scale: 1:10,560

Printed at: 1:10,560



Surveyed N/A
 Revised 1953
 Edition 1954
 Copyright N/A
 Levelled 1940

Surveyed N/A
 Revised 1950
 Edition N/A
 Copyright 1951
 Levelled 1940

Surveyed N/A
 Revised 1953
 Edition 1954
 Copyright N/A
 Levelled 1940

Surveyed 1940
 Revised 1953
 Edition N/A
 Copyright 1954
 Levelled 1940

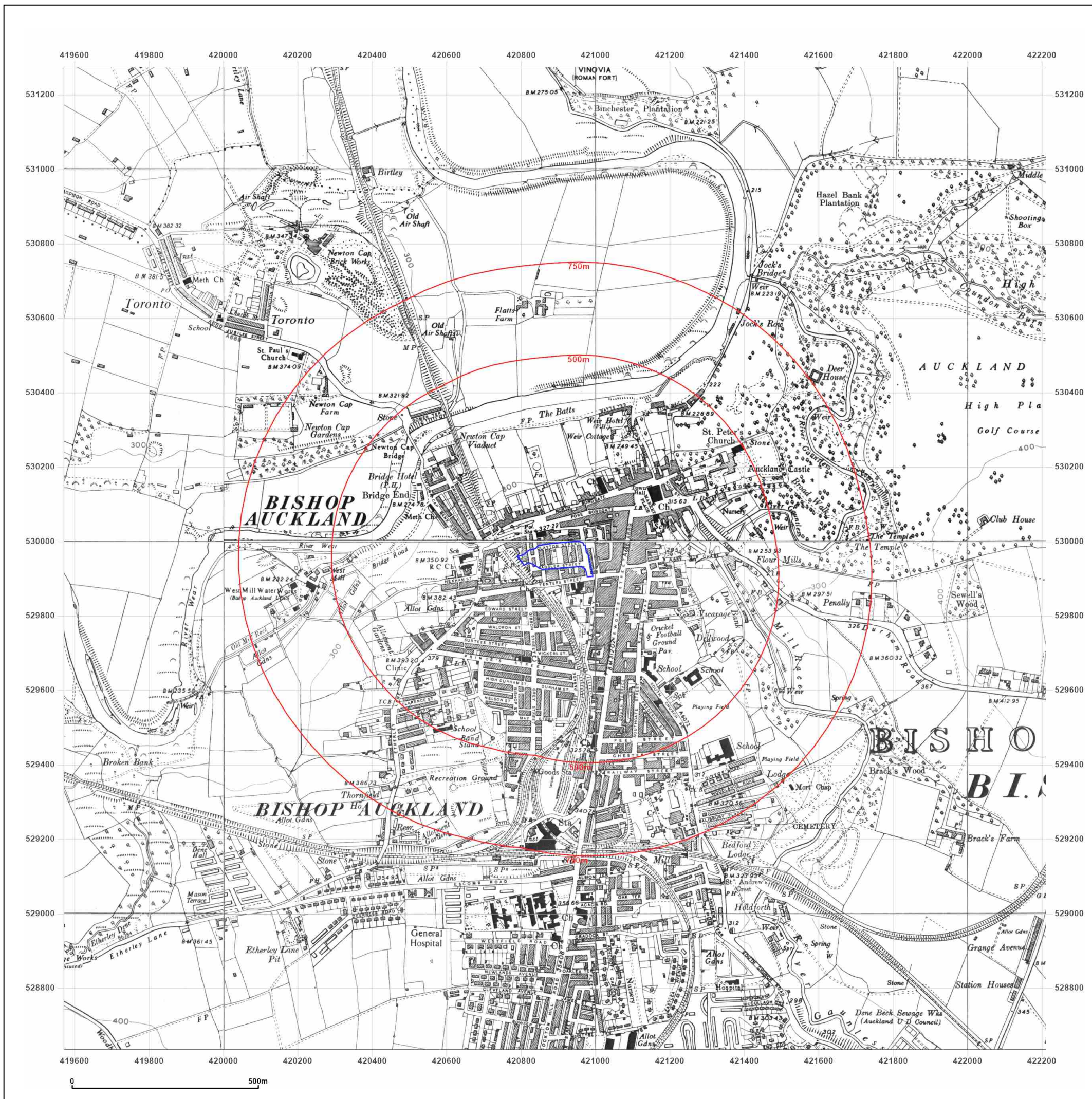


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Production date: 02 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: Provisional

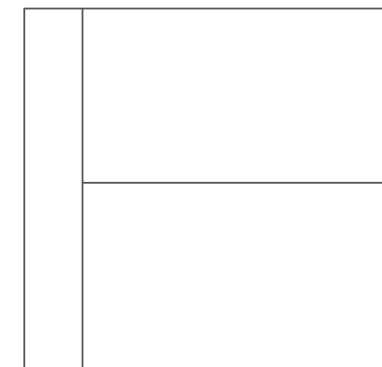
Map date: 1967

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1967
 Revised 1967
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1967
 Revised 1967
 Edition N/A
 Copyright N/A
 Levelled N/A

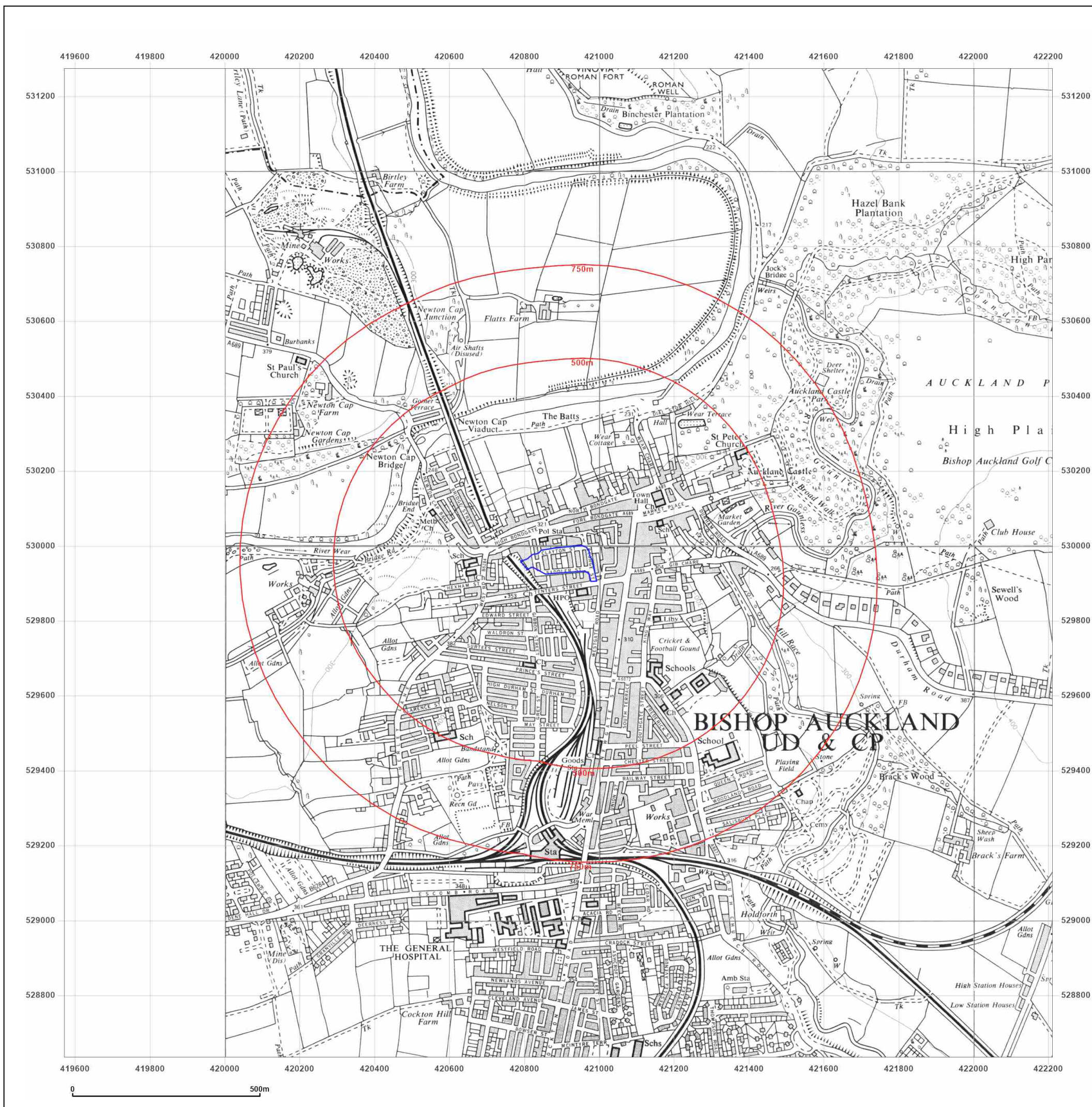


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Production date: 02 November 2021

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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: National Grid

Map date: 1975-1980

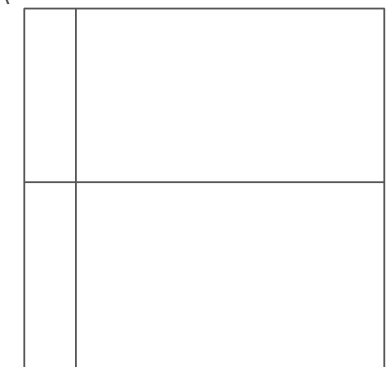
Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1972
 Revised 1975
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1978
 Revised 1980
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1980
 Revised 1980
 Edition N/A
 Copyright N/A
 Levelled N/A

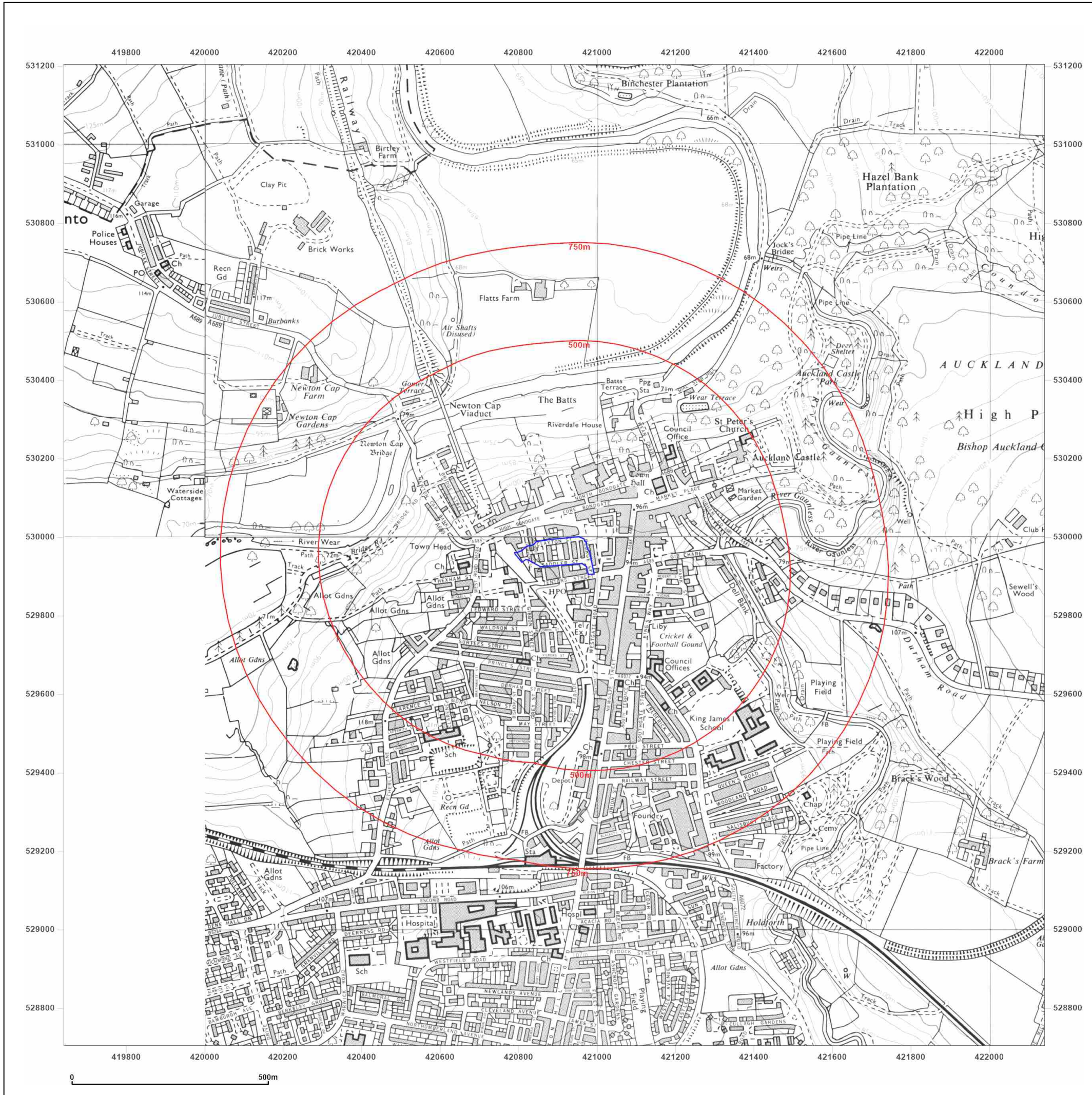


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Site Details:

420871 529975

Client Ref: Bishop_Auckland
Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: National Grid

Map date: 1988-1992

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1990
 Revised 1991
 Edition N/A
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 Revised 1992
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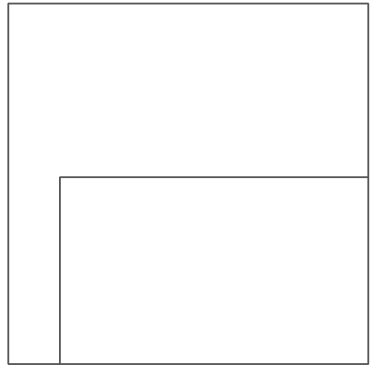
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Grid Ref: 420890, 529954

Map Name: National Grid

Map date: 1992

Scale: 1:10,000

Printed at: 1:10,000

Surveyed 1990
 Revised 1992
 Edition N/A
 Copyright N/A
 Levelled N/A

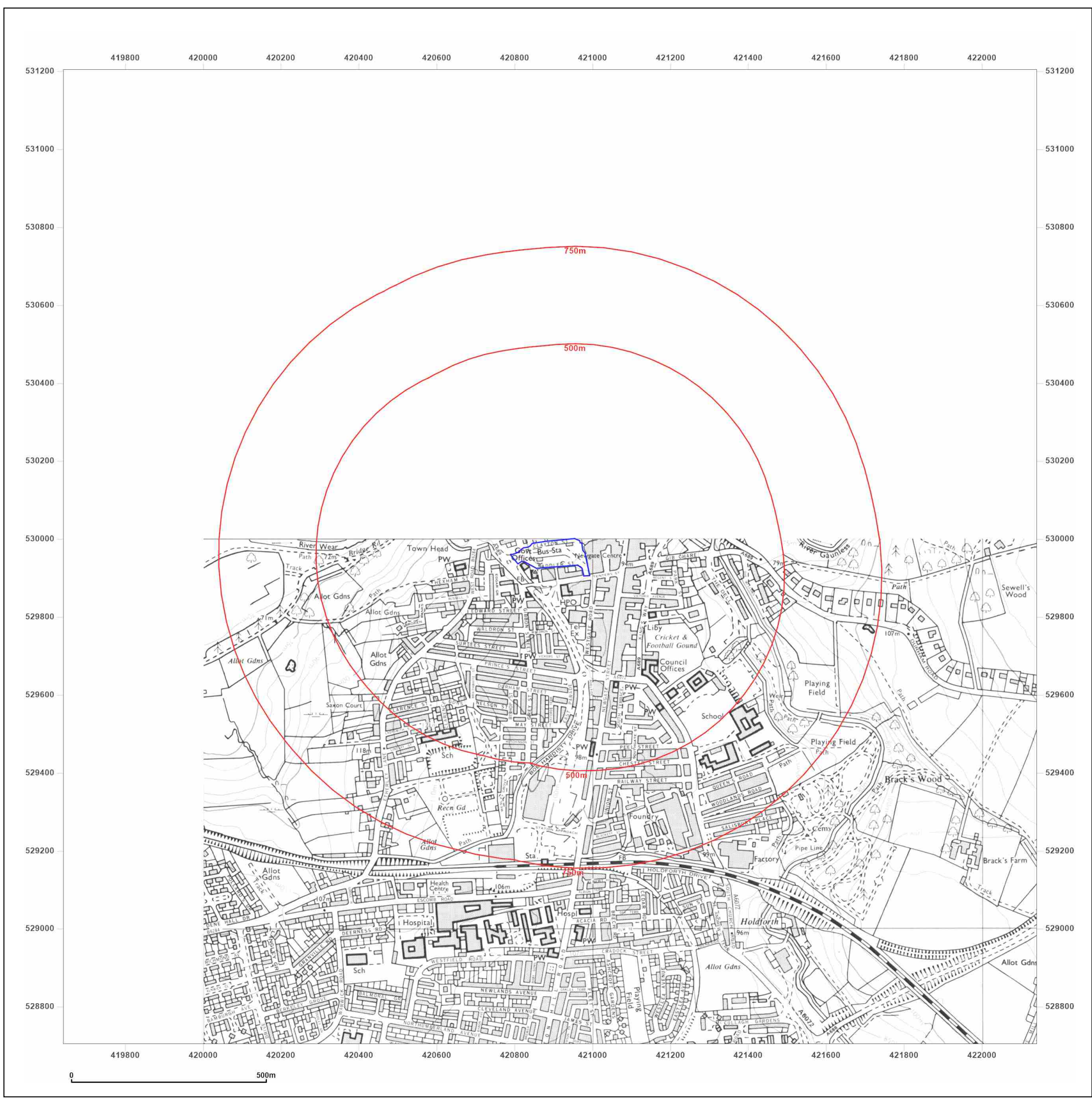


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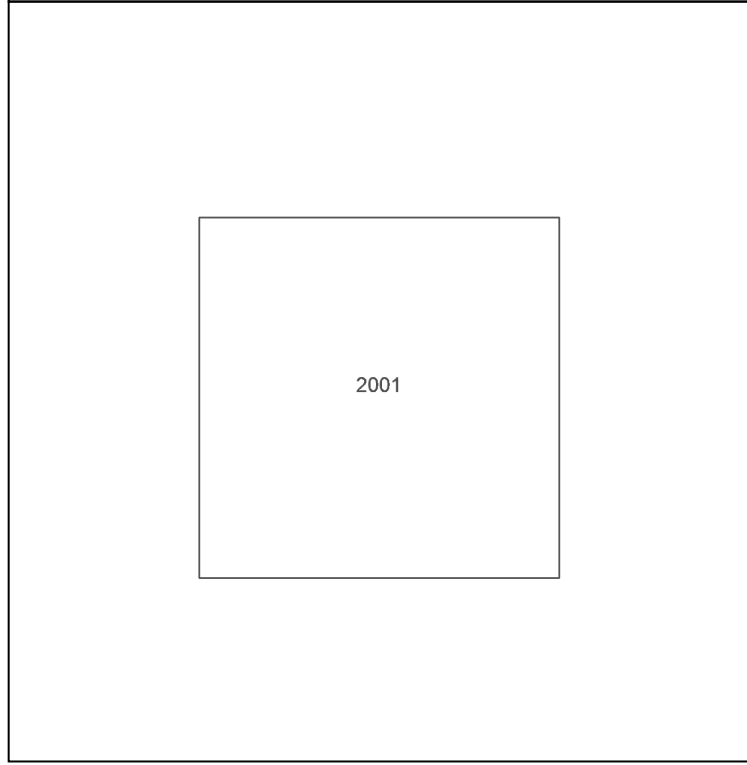
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Grid Ref: 420890, 529954

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

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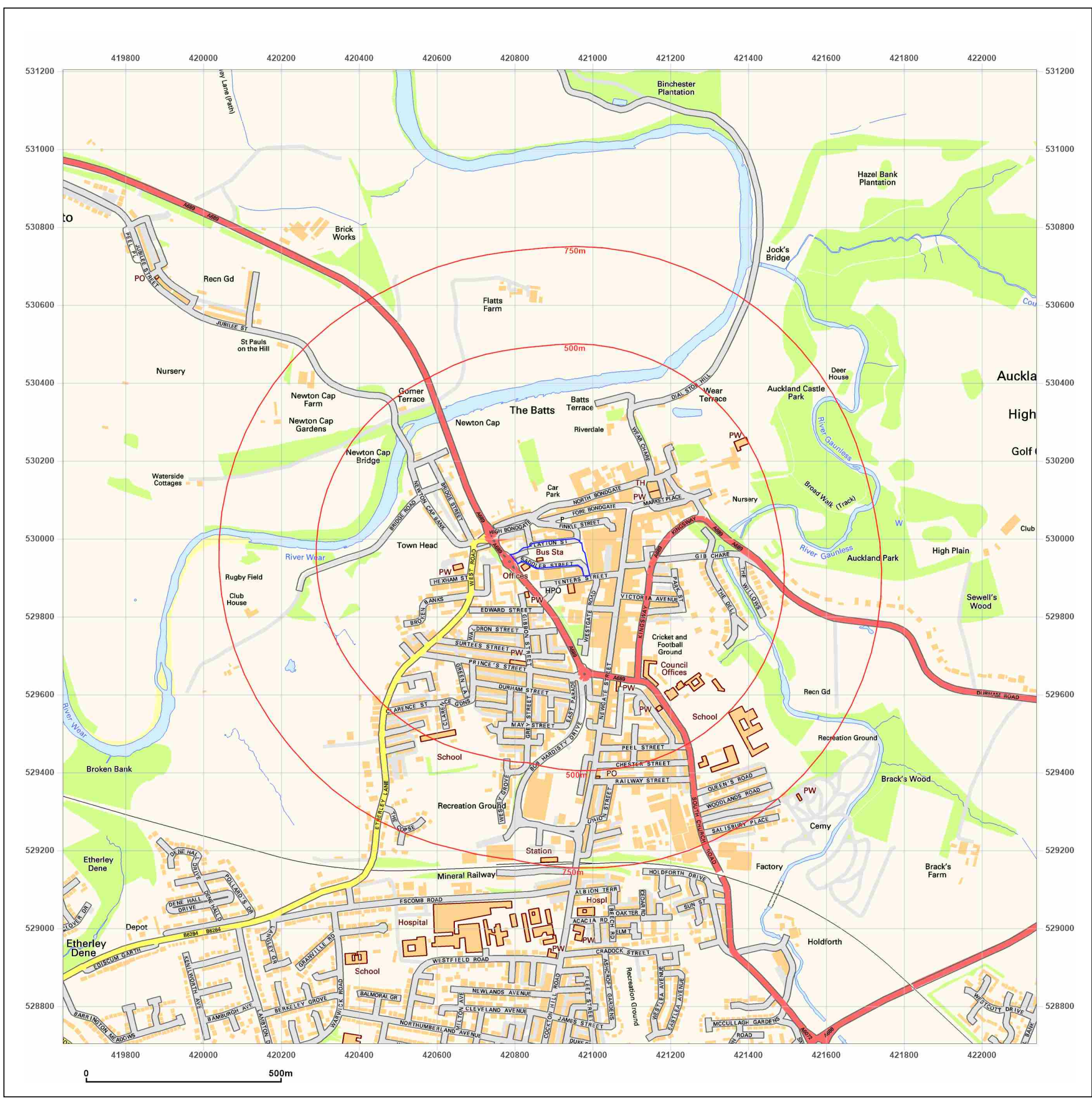


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Site Details:

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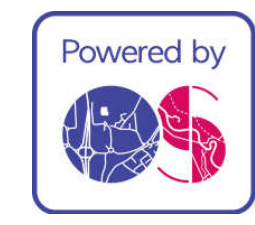
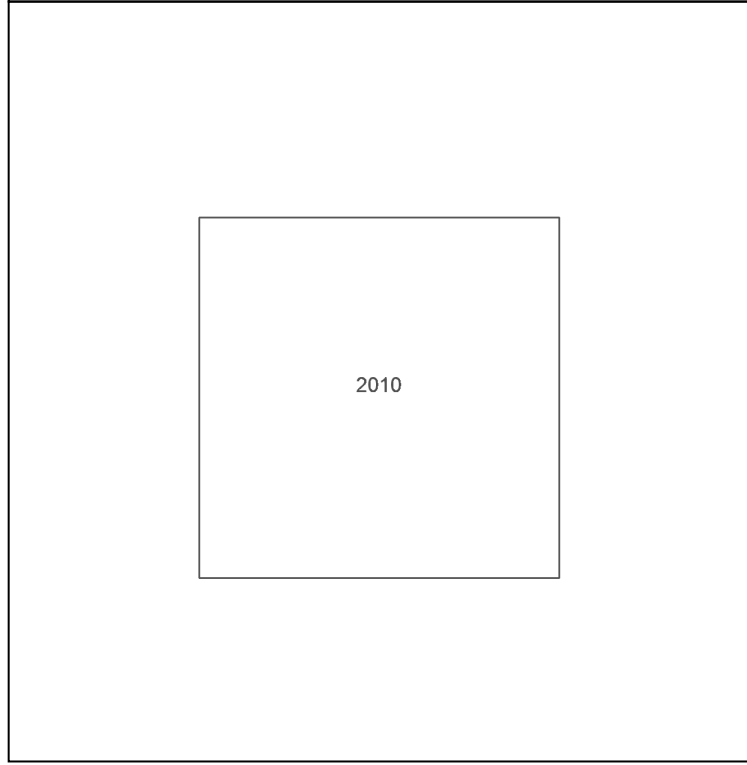
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Report Ref: GS-8305173
Grid Ref: 420890, 529954

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000

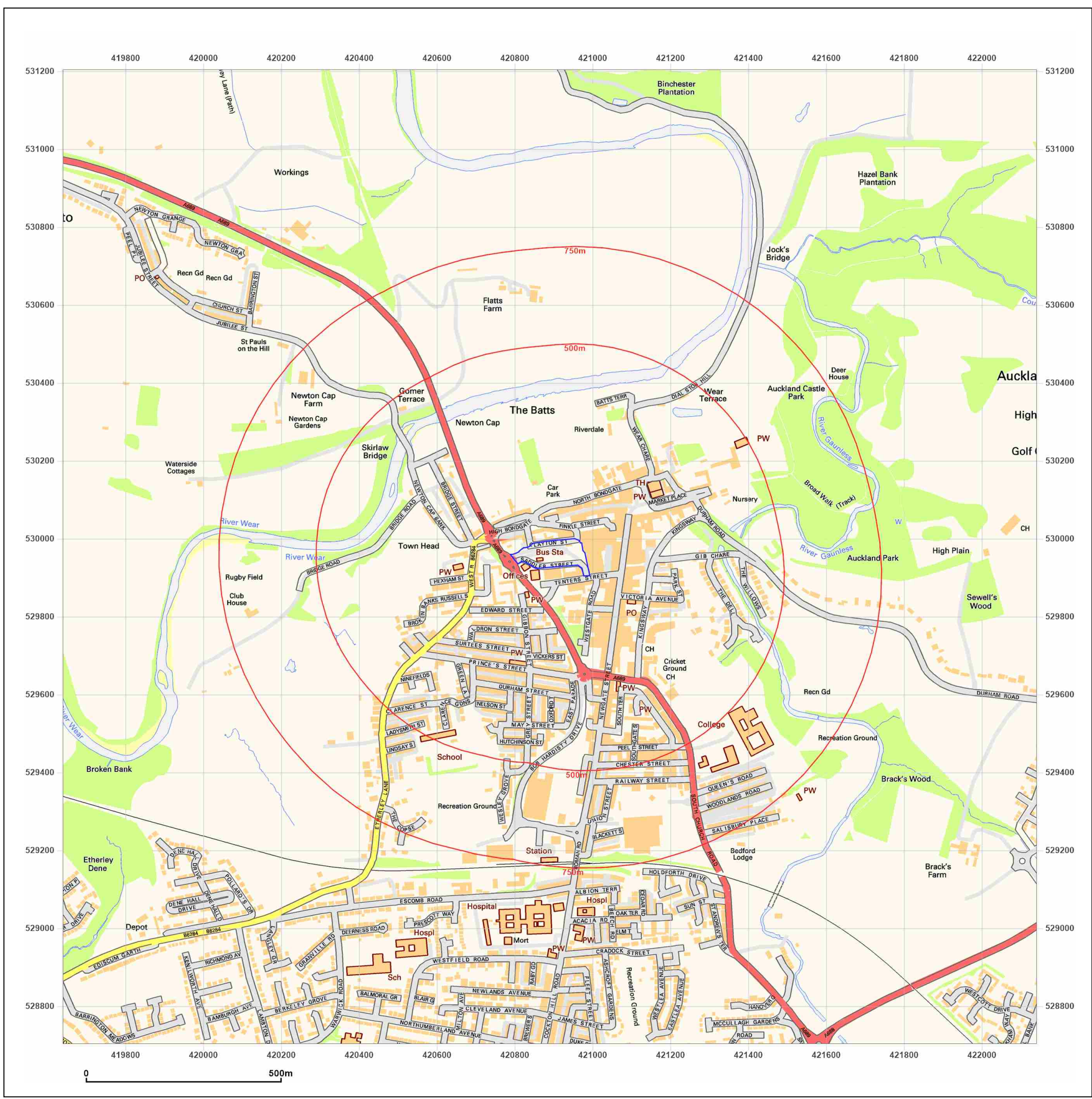


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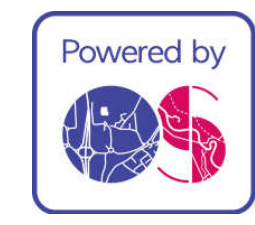
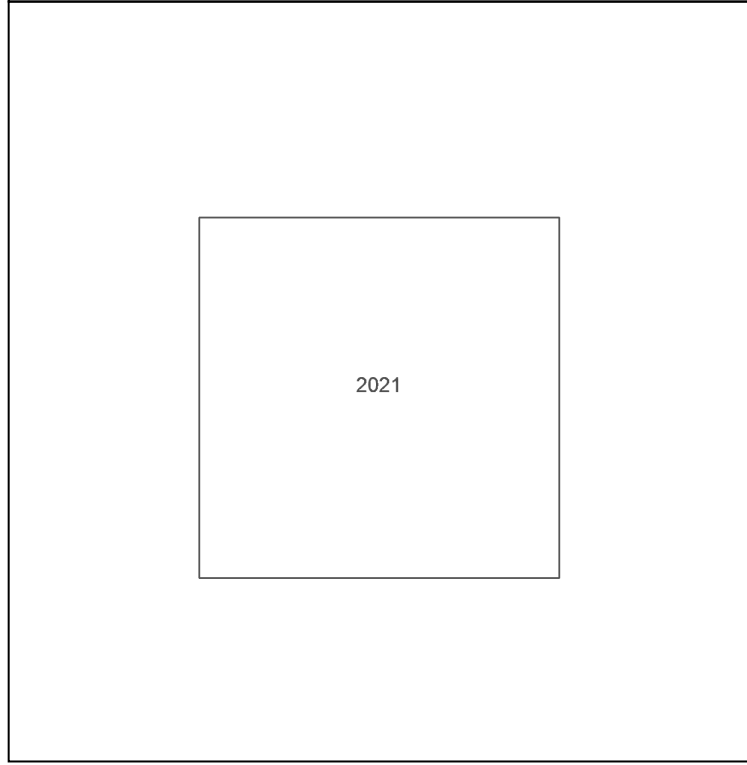
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Map Name: National Grid

Map date: 2021

Scale: 1:10,000

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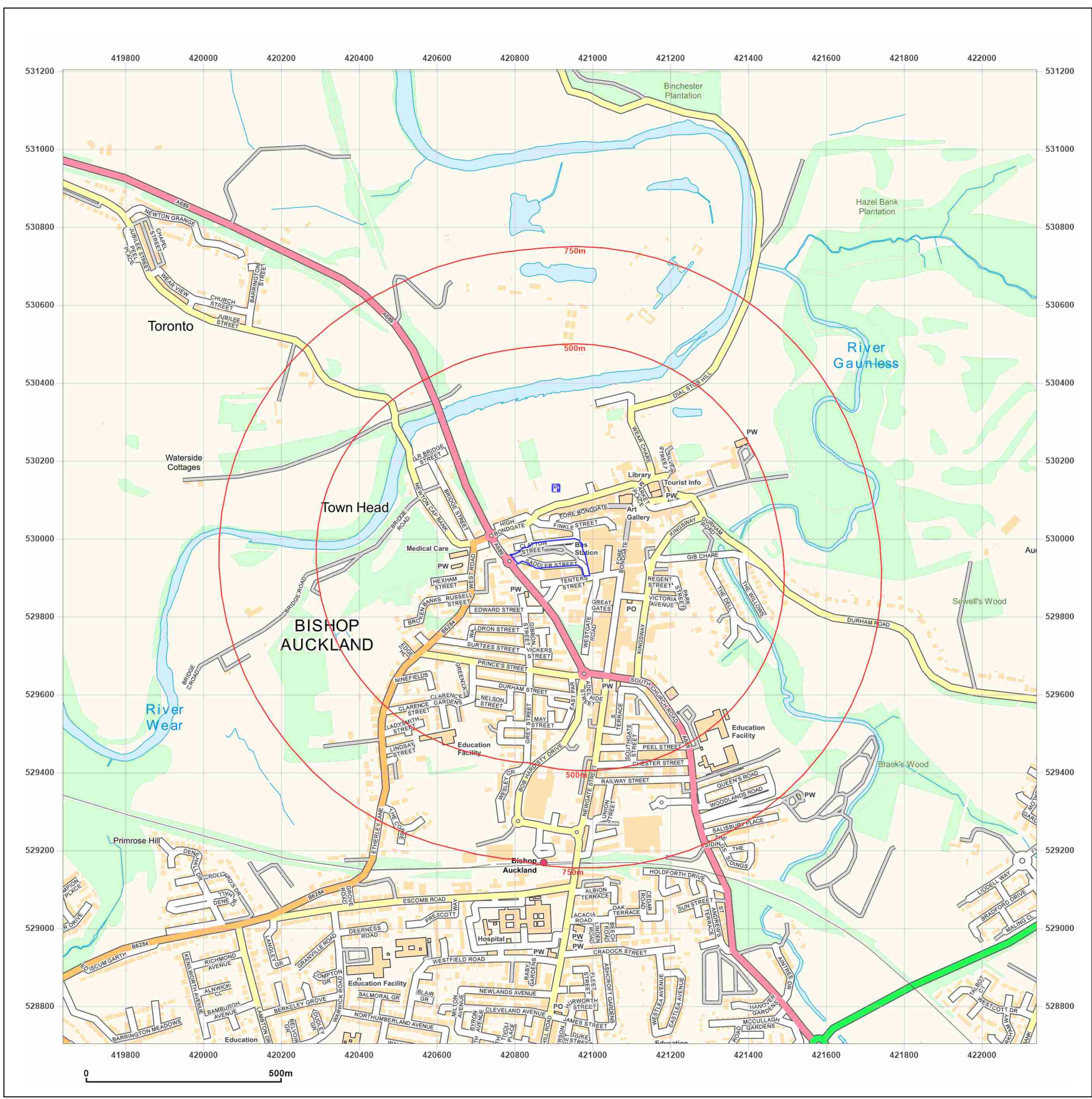


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Appendix D. 1:10,560 Geological Map

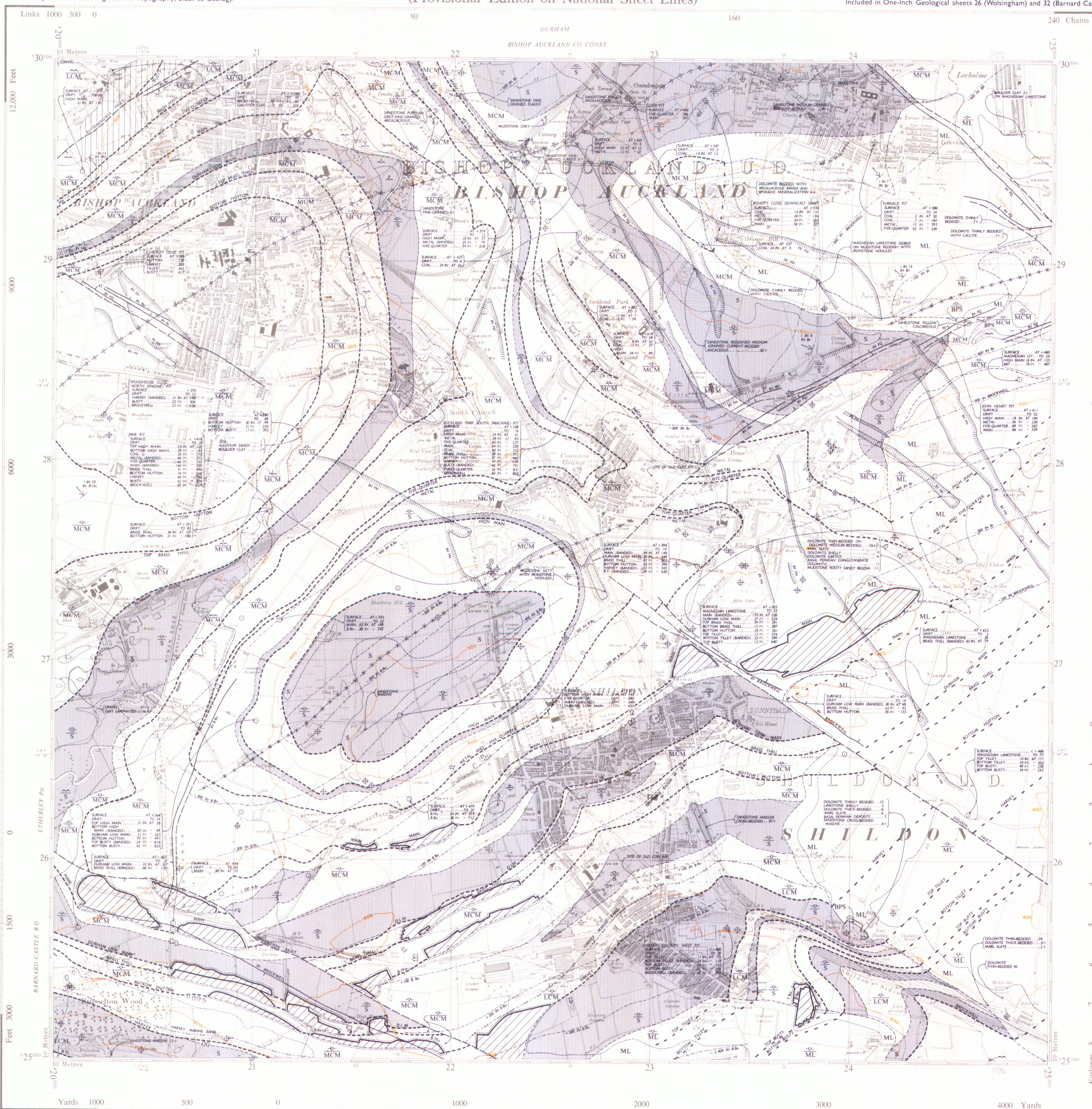
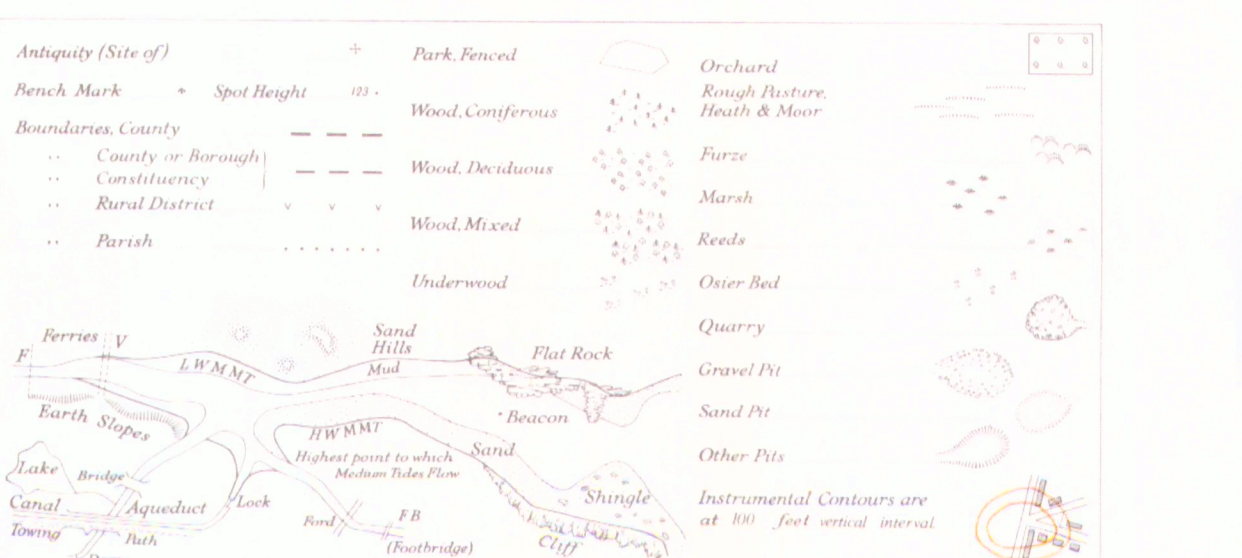


Table with 2 columns: Road/Track/Path and Symbol. Includes categories like Roads, Railways, Electricity, and Trigonometrical Station.

INDEX TO ADDING SHEETS. A grid showing how sheets are numbered relative to a central sheet.

REVISION DIAGRAM. A grid showing the history of map revisions from 1940 to 1955.

Table with 2 columns: Symbol and Description. Includes symbols for Borehole, Shaft, Pit, and Adit.



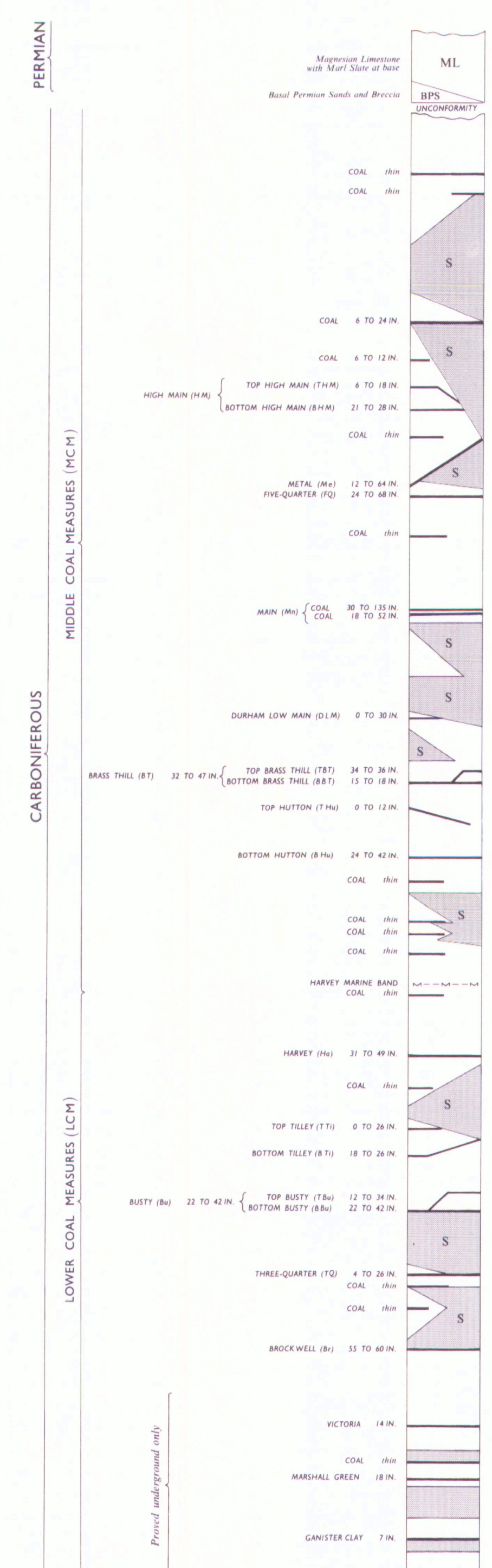
Original geological survey by H. H. Howell, published 1875. Revised by R. H. Price (northern margin) in 1950. Revised in part by J. H. Hall 1965. E. H. Francis, District Geologist. Published 1967. A. C. Dunham, D.Sc., F.R.S., Director, Institute of Geological Sciences incorporating the Geological Survey of Great Britain, the Museum of Practical Geology and Overseas Geological Surveys. 100/67

The Altitudes of Bench Marks and surface heights are given in Feet above the mean level of the sea at NEWCASTLE and are based on the primary levelling of 1912-21. The datum is the Liverpool datum. Note that the figure applies to the sheet only and is approximate. A distance indicated that is 1/4" = 34.13 metres to the north margin and 1/4" = 34.13 metres to the south margin. The above Full Reference is omitted. For many purposes the first and last can be omitted, giving a reference of 272184, which refers to intervals of 500 Kilometres. If both grid letters are omitted, the resulting reference 272184 refers to intervals of 100 Kilometres. When the area concerned is sufficiently restricted, it will usually be the case with maps on scales of one inch to the mile and larger, that the grid letters are normally omitted. 1 metre inch on this map represents 1770 acres on the ground. Grid North at the centre of this sheet is 0° 11' 04" E of True North. Magnetic Variation is 10° 30' 00" W of Grid North for JUNE 1954. Annual Change is about 7 E. No. 1000 is 1933-45. The approval of the Director General, Ordnance Survey, and of the Controller, H.M. Stationery Office, in whom Crown Copyright is vested, is necessary before any Ordnance Survey map or plan can be copied. Reference to the Director General, Ordnance Survey, will be made in the first instance.

Made and published by the Director General of the Ordnance Survey, Chessington, Surrey, 1967, for the Institute of Geological Sciences.

INDEX AND EXPLANATION

- Landlip
DRIFT
Alluvium
First and Second River Terrace
Glacial Sand and Gravel
Boulder Clay and Glacial Drift, undifferentiated
Glacial Laminated Clay
SOLID
Magnesian Limestone
Basal Permian Sands and Breccia
MIDDLE LOWER MEASURES
Undivided
Sandstone
Undivided
Sandstone
See also Generalized Vertical Section.
Inclined strata, dip in degrees
Inclined strata, underground
Anticlinal axis
Synclinal axis
Geological boundary, Drift
Geological boundary, Solid
Coal-crop
Coal-crop on Sub-Permian surface (assumed position)
Faults on surface (white on coloured copies)
Faults underground in horizon named (yellow on solid coloured copies); the note on side from which fault was proved
Three of faults, where known, is given in feet at point indicated; crossmark indicates downthrow side.
Marine Band
Broken lines denote uncertainty.
Borehole
Borehole - exact site uncertain
Shaft commencing underground (staple pit or blind shaft)
Pit or mine shaft, abandoned
Adit or mine mouth, showing direction of entry
Adit or mine mouth, abandoned, showing direction of entry
Contour or level course in seam named (figures for levels above datum on the high side of the line and those below datum on the low side)
Wash-out or barren ground in seam (margin of wash-out (if only one side shown)
Worked out coal seam area
Depths and thicknesses are given in feet unless otherwise stated.
Figures preceded by + or - indicate levels above or below Ordnance Datum (O.D.).
Abbreviations:
Approximately
Inches
Limestone
Sandstone



Appendix E. CON29M Coal Mining Report



The Coal
Authority

CON29M

coal mining report

BUS STATION, CLAYTON STREET, BISHOP AUCKLAND, DURHAM, DL14 7PJ



Known or potential coal mining risks

Past underground coal mining	Page 4
Future underground coal mining	Page 4
Mine entries	Page 5



Further action

No further reports from the Coal Authority are required. Further information on any next steps can be found in our Professional opinion.

For more information on our reports please visit
www.groundstability.com



Professional opinion

According to the official mining information records held by the Coal Authority at the time of this search, evidence of, or the potential for, coal mining related features have been identified. In view of the coal mining circumstances we would recommend that any planned or future development should follow detailed technical advice before beginning work on site. Please see **page 3** for further details on **Future development**.

Your reference: **BL000034**
Our reference: **51002704468001**
Date: **29 October 2021**

Client name:
HALCROW GROUP LIMITED

If you require any further assistance please
contact our experts on:
0345 762 6848
groundstability@coal.gov.uk

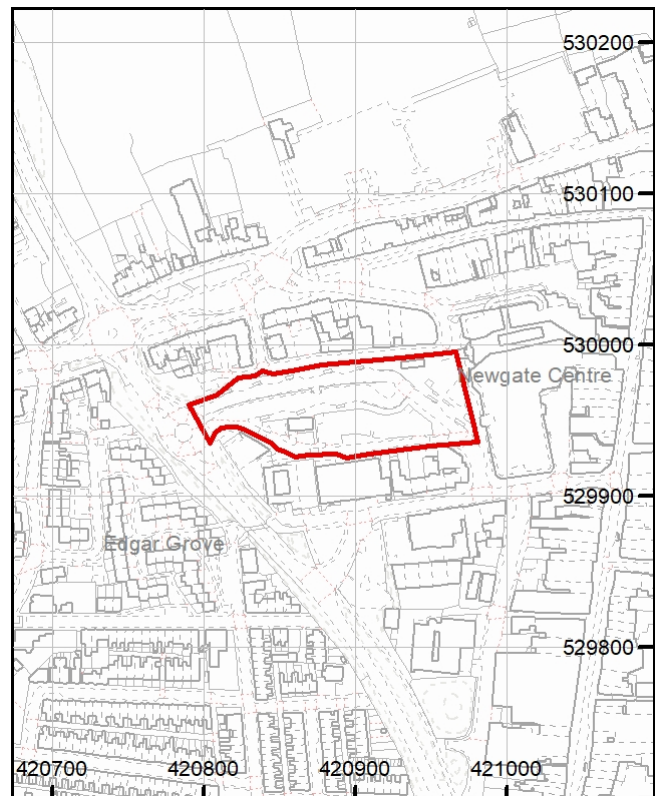


The Law
Society

Enquiry boundary

Key

Approximate position of enquiry boundary shown



We can confirm that the location is **on the coalfield**



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This report is prepared in accordance with the latest Law Society's Guidance Notes 2018, the User Guide 2018 and the Coal Authority's Terms and Conditions applicable at the time the report was produced.



Accessibility

If you would like this information in an alternative format, please contact our communications team on 0345 762 6848 or email communications@coal.gov.uk.

Professional opinion



Future development

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed.

If you are looking to develop, or undertake works, within a coal mining development high risk area your Local Authority planning department may require a Coal Mining Risk Assessment to be undertaken by a qualified mining geologist or engineer. Should you require any additional information then please contact the Coal Authority on **0345 762 6848** or email cmra@coal.gov.uk.

Detailed findings

Information provided by the Coal Authority in this report is compiled in response to the Law Society's CON29M Coal Mining enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL.

The Coal Authority owns the copyright in this report and the information used to produce this report is protected by our database rights. All rights are reserved and unauthorised use is prohibited. If we provide a report for you, this does not mean that copyright and any other rights will pass to you. However, you can use the report for your own purposes.

1 Past underground coal mining

The property is in a surface area that could be affected by underground mining in 1 seam of coal at 260m depth, and last worked in 1900.

Any movement in the ground due to coal mining activity associated with these workings should have stopped by now.

In addition the property is in an area where the Coal Authority believes there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered, particularly prior to any site works or future development activity, as ground movement could still be a risk. Your attention is drawn to the Professional opinion sections of the report.

2 Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

3 Future underground coal mining

The property is not in an area where the Coal Authority has received an application for, and is currently considering whether to grant a licence to remove or work coal by underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

4 Mine entries

There are no recorded coal mine entries known to the Coal Authority within, or within 20 metres, of the boundary of the property.

This information is based on the information that the Coal Authority has at the time of this enquiry.

Based on the Coal Authority's knowledge of the mining circumstances at the time of this enquiry, there may be unrecorded mine entries in the local area that do not appear on Coal Authority records.

5 Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

6 Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

7 Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

8 Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

9 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.

10 Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

11 Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Coal Authority, under its Emergency Surface Hazard Call Out procedures.

12 Withdrawal of support

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.

13 Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

14 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.

Statutory cover



Coal mining subsidence

In the unlikely event of any coal mining related subsidence damage, the Coal Authority or the mine operator has a duty to take remedial action in respect of subsidence caused by the withdrawal of support from land or property in connection with lawful coal mining operations.

When the works are the responsibility of the Coal Authority, our dedicated public safety and subsidence team will manage the claim. The house or land owner ("the owner") is covered for these works under the terms of the Coal Mining Subsidence Act 1991 (as amended by the Coal Industry Act 1994). Please note, this Act does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

If you believe your land or property is suffering from coal mining subsidence damage and you need more information on what to do next, please use the following link to our website which sets out what your rights are and what you need to consider before making a claim.

www.gov.uk/government/publications/coal-mining-subsidence-damage-notice-form



Coal mining hazards

Our public safety and subsidence team provide a 24 hour a day, 7 days a week hazard reporting service, to help protect the public from hazards caused by past coal workings, such as a mine shaft or shallow working collapse. To report any hazards please call **01623 646 333**. Further information can be found on our website: www.gov.uk/coalauthority.

Glossary



Key terms

adit - horizontal or sloped entrance to a mine

coal mining subsidence - ground movement caused by the removal of coal by underground mining

Coal Mining Subsidence Act 1991 - the Act setting out the duties of the Coal Authority to repair damage caused by coal mining subsidence

coal mining subsidence damage - damage to land, buildings or structures caused by the removal of coal by underground mining

coal seams - bed of coal of varying thickness

future opencast coal mining - a licence granted, or licence application received, by the Coal Authority to excavate coal from the surface

future underground coal mining - a licence granted, or licence application received, by the Coal Authority to excavate coal underground. Although it is unlikely, remaining coal reserves could create a possibility for future mining, which would be licensed by the Coal Authority

mine entries - collective name for shafts and adits

payments to owners of former copyhold land - historically, copyhold land gave rights to coal to the copyholder. Legislation was set up to allow others to work this coal, but they had to issue a notice and pay compensation if a copyholder came forward

shaft - vertical entry into a mine

site investigation - investigations of coal mining risks carried out with the Coal Authority's permission

stop notice - a delay to repairs because further coal mining subsidence damage may occur and it would be unwise to carry out permanent repairs

subsidence claim - a formal notice of subsidence damage to the Coal Authority since it was established on 31 October 1994

withdrawal of support - a historic notice informing landowners that the coal beneath their property was going to be worked

working facilities orders - a court order which gave permission, restricted or prevented coal mine workings

Appendix F. Zetica UXO Pre-Desk Study Assessment

Pre-Desk Study Assessment

Site:	Bishop Auckland Bus Depot, County Durham
Client:	Jacobs
Contact:	Ray Dobiecki
Date:	3 rd November 2021
Pre-WWI Military Activity on or Affecting the Site	None identified.
WWI Military Activity on or Affecting the Site	None identified.
WWI Strategic Targets (within 5km of Site)	The following strategic targets were located in the vicinity of the Site: <ul style="list-style-type: none"> ■ Transport infrastructure and public utilities. ■ Industries important to the war effort, including engineering works. ■ Royal Flying Corps (RFC) Spennymoor.
WWI Bombing	None identified on the Site.
Interwar Military Activity on or Affecting the Site	None identified.
WWII Military Activity on or Affecting the Site	None identified.
WWII Strategic Targets (within 5km of Site)	The following strategic targets were located in the vicinity of the Site: <ul style="list-style-type: none"> ■ Transport infrastructure and public utilities. ■ Industries important to the war effort, including engineering works.
WWII Bombing Decoys (within 5km of Site)	None identified.
WWII Bombing	During WWII the Site was located in the Urban District (UD) of Bishop Auckland, which officially recorded 112No. High Explosive (HE) bombs with a bombing density of 12.0 bombs per 405 hectares (ha). No readily available records have been found to indicate that the Site was bombed.
Post-WWII Military Activity on or Affecting the Site	None identified.
Recommendation	A detailed desk study, whilst always prudent, is not considered essential in this instance.
Further information	For information about Zetica's detailed UXO desk studies and other UXO services, please visit our website: www.zeticauxo.com . Details and downloadable resources covering the most common sources of UXO hazard affecting sites in the UK can be found here . If you have any further queries, please don't hesitate to get in contact with us at uxo@zetica.com or 01993 886 682.

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.

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.

Appendix G. Land Contamination Risk Assessment Methodology

Risk assessment is the process of collating known information on a hazard or set of hazards in order to estimate actual or potential risks to receptors. The receptor may be human health, a water resource, a sensitive local ecosystem or even future construction materials. Receptors can be connected with the hazard under consideration via one or several exposure pathways (e.g. the pathway of direct contact). Risks are generally managed by isolating or removing the hazard, isolating the receptor, or by intercepting the exposure pathway. Without the three essential components of a source (hazard), pathway and receptor, there can be no risk. Thus, the mere presence of a hazard at a site does not mean that there will necessarily be attendant risks. The following risk assessment thus focuses on those parts of the site where hazards or potential hazards have been identified and is not general to the whole site.

Hazards

Potential sources of contamination are identified for the site, based on a review of the current and previous site uses. Not only the nature but also the likely extent of any contamination is considered, e.g. whether such contamination is likely to be localised or widespread.

Receptors

The varying effects of a hazard on individual receptors depends largely on the sensitivity of the target. Receptors include any people, animal or plant population, or natural or economic resources within the range of the source which are connected to the source by the transport pathway. Receptors can, in addition, extend to remediation processes and future construction materials that may be adversely affected by on-site contamination. In general, however, receptors can be divided into a number of groups depending on the final use of the site.

Pathways

The mere presence of contamination does not infer a risk. The exposure pathway determines the dose delivered to the receptor and the effective dose determines the extent of the adverse effect on the receptor. The pathway which transports the contaminants to the receptor or target generally involves conveyance via soil, water or air.

Exposure Assessment

By considering the source, pathway and receptor, an assessment is made for each contaminant on a receptor by receptor basis with reference to the significance and degree of the risk. In assessing this information, a measure is made of whether the source contamination can reach a receptor, determining whether it is of a major or minor significance. The exposure risks are assessed against the present site conditions.

A risk assessment has been undertaken for these potential source-pathway-receptor linkages to identify potentially unacceptable risks on a qualitative basis. This approach is based on CIRIA guidance on risk assessment and LCRM. Risk is based on a consideration of both:

The likelihood of an event (probability); [takes into account both the presence of the hazard and receptor and the integrity of the pathway].

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

In order to then determine the risk to the identified receptor, both the likelihood and severity of the potential hazard is input into a risk assessment matrix as follows:

		Consequence			
		Severe	Medium	Mild	Minor/Negligible
Probability (Likelihood)	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

Under such a classification system the following categorisation of risk has been developed and the terminology adopted as follows:

Term	Description
Very high risk	Severe harm to a receptor may already be occurring OR a high likelihood that severe harm will arise to a receptor, unless immediate remedial action works / mitigation measures are undertaken.
High risk	Harm is likely to arise to a receptor, and is likely to be severe, unless appropriate remedial actions / mitigation measures are undertaken. Remedial works may be required in the short term, but likely to be required over the long term.
Moderate risk	Possible that harm could arise to a receptor but low likelihood that such harm would be severe. Harm is likely to be medium. Some remedial works may be required in the long term.
Moderate / low risk	Possible that harm could arise to a receptor, but where a combination of likelihood and consequence results in a risk that is above low, but is not of sufficient concern to be classified as medium. It can be driven by cases where there is an acute risk which carries a severe consequence, but where the exposure is unlikely.
Low risk	Possible that harm could arise to a receptor. Such harm would at worst normally be mild.
Very low risk	Low likelihood that harm could arise to a receptor. Such harm unlikely to be any worse than mild.

The colour coding for each risk category is used in the risk assessment summary table. The classifications for consequences and likelihood of occurrence are as follows:

Classification	Definition
Severe	<ul style="list-style-type: none"> ▪ Acute risks to human health ▪ Short-term risk of pollution of sensitive water resource (e.g. major spillage into controlled waters) ▪ Impact on controlled waters e.g. large-scale pollution or very high levels of contamination ▪ Catastrophic damage to buildings or property (e.g. explosion causing building collapse) ▪ Ecological system effects – irreversible adverse changes to a protected location. Immediate risks.
Medium	<ul style="list-style-type: none"> ▪ Chronic risks to human health

Classification	Definition
	<ul style="list-style-type: none"> ▪ Pollution of sensitive water resources (e.g. leaching of contaminants into controlled waters) ▪ Ecological system effects – substantial adverse changes to a protected location. ▪ Significant damage to buildings, structures and services (e.g. damage rendering a building unsafe to occupy, such as foundation damage)
Mild	<ul style="list-style-type: none"> ▪ Non-permanent health effects to human health ▪ Pollution of non-sensitive water resources (e.g. pollution of non-classified groundwater) ▪ Damage to buildings, structures and services (e.g. damage rendering a building unsafe to occupy, such as foundation damage) ▪ Substantial damage to non-sensitive environments (unprotected ecosystems e.g. crops)
Minor / Negligible	<ul style="list-style-type: none"> ▪ Non-permanent health effects to human health (easily prevented by appropriate use of PPE) ▪ Minor pollution to non-sensitive water resources ▪ Minor damage to non-sensitive environments (unprotected ecosystems e.g. crops) ▪ Easily repairable effects of damage to buildings, structures, services or the environment (e.g. discoloration of concrete, loss of plants in a landscaping scene).

Classification	Definition
High Likelihood	<ul style="list-style-type: none"> ▪ An event is very likely to occur in the short term, and is almost inevitable over the long term OR there is evidence at the receptor of harm or pollution
Likely	<ul style="list-style-type: none"> ▪ It is probably that an event will occur. It is not inevitable, but possible in the short term and likely over the long term
Low Likelihood	<ul style="list-style-type: none"> ▪ Circumstances are possible under which an event could occur. It is by no means certain that even over a longer period such an event would take place, and less likely in the short term
Unlikely	<ul style="list-style-type: none"> ▪ It is improbable that an event would occur even in the very long term

Referenced in this Appendix:

ISO 21365:2019 Soil quality — Conceptual site models for potentially contaminated sites. *International Standards Organisation* (2019).

D J Rudland, R M Lancefield and P N Mayell. Contaminated land risk assessment. A guide to good practice (C552). *CIRIA* (2001).

Appendix H. Graphic Conceptual Site Model

R Receptors


Construction Workers
 Maintenance Workers
 Future Site Users / Staff
 Adjacent Land Users
 Buildings and Services (post development)
 Controlled Waters (Secondary Undifferentiated Aquifer)
 Controlled Waters (Secondary A Aquifer)
 Controlled Waters (Rivers Wear and Gaunless)

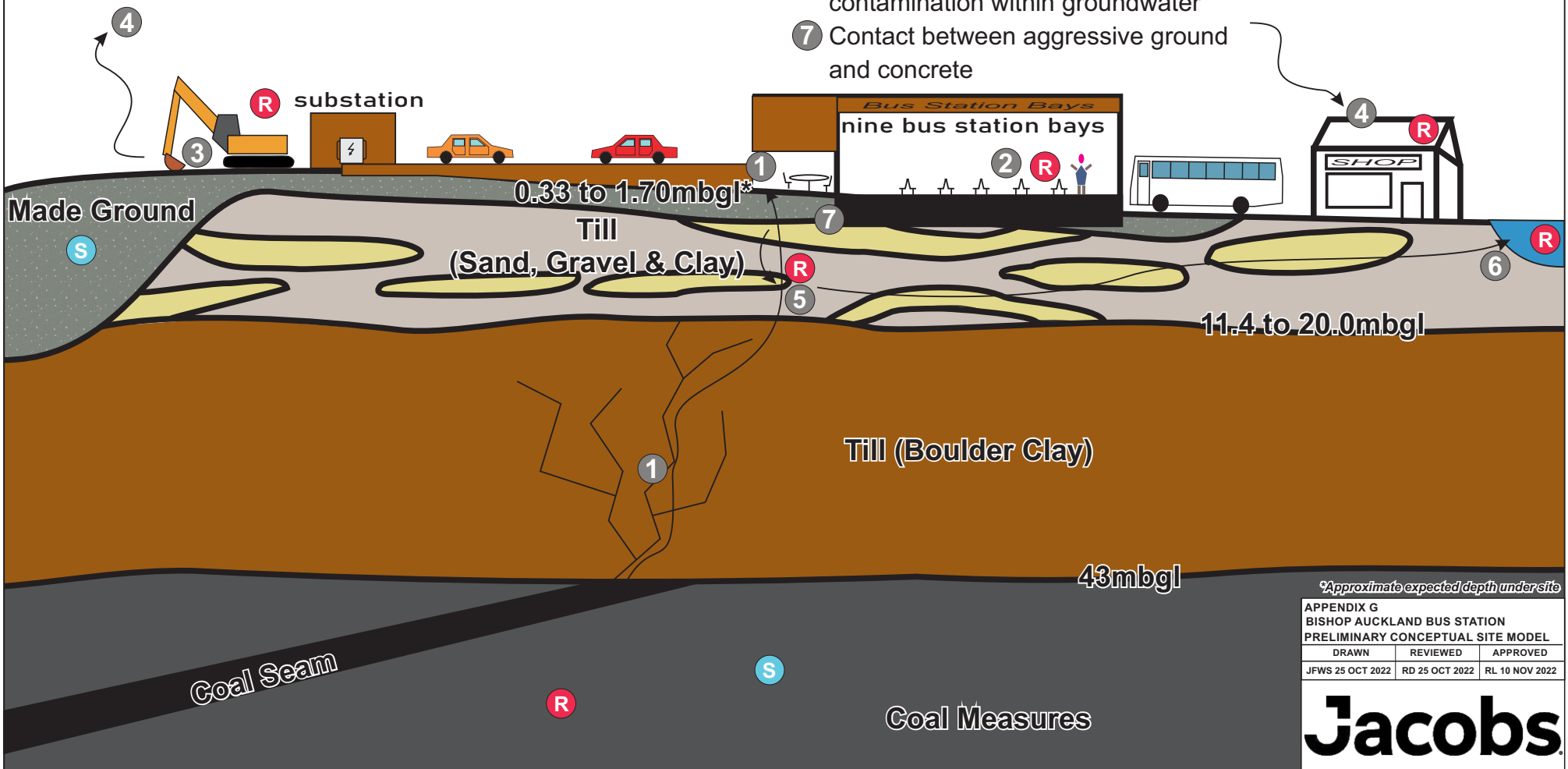
S Sources

Made Ground
 Coal Measures

Pathways

- 1 Migration of ground gasses through permeable strata & preferential flow paths, accumulation in confined spaces
- 2 Inhalation of ground gasses in confined spaces
- 3 Dermal contact/ingestion/inhalation
- 4 Off site inhalation of contaminated soil dust
- 5 Leaching of contaminants from soils and vertical migration to groundwater
- 6 Migration to surface waters from contamination within groundwater
- 7 Contact between aggressive ground and concrete

Not to Scale 



*Approximate expected depth under site

APPENDIX G BISHOP AUCKLAND BUS STATION PRELIMINARY CONCEPTUAL SITE MODEL		
DRAWN	REVIEWED	APPROVED
JFWS 25 OCT 2022	RD 25 OCT 2022	RL 10 NOV 2022

