



Phase 1 Desktop Study

Hinckley and District Hospital – Proposed Daycase and CDC Units

February 2023

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This document has been prepared and checked in accordance with
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Comments

Rev. 02 completed following site visit on 09/02/2023.

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Executive Summary

Proposed Development

Development proposals are for the following:

- A 70No. space surface car park in the south-western area of the site, accessed off the existing accessed road running parallel to the site boundary.
- A new Daycase unit in the south-eastern corner of the site, utilising much of the existing buildings.
- A new CDC and Endoscopy unit in the northern section of the site.

Conclusions

Environmental

On the basis of the current assessment, and given the proposed end-use of the development, the site is considered to pose a **Low** risk to human health. The site is also considered to present a **Low** risk with respect to controlled waters.

The risks identified, albeit considered to be low, will require further evaluation in advance of redevelopment in accordance the recommendations provided overleaf.

The recommendations of this report outline preliminary remedial and mitigation measures that require confirmation through additional works. However, once successfully implemented the risks are anticipated to be Low. Therefore, the National Planning Policy Framework requirement that on completion the Site can no longer be captured under the Part IIA regime is expected to be met.

Geotechnical

The following observations in respect of geotechnical considerations are made in relation to the proposed development layout:

The existing and former basements within the existing buildings which are to be demolished. These would need to be backfilled to a suitable specification and foundations of any propose building in proximity to them designed accordingly to take into account the potential varying depths to a suitable founding stratum.

The proposed finished floor levels will need to take account of the existing sloping site and the potential need for independent retaining structures or retaining elements and tanking within the building design.

Site Setting

Current Use

Several buildings current in use as part of Hinckley and District Hospital.

The northernmost building is the Hinckley Health Centre Surgeries building and is proposed to be retained during the redevelopment, but new link corridor constructed from it. The building is two storeys tall and of a brick construction with metal cladding.

The southwestern most building is currently used as a Physiotherapy unit and is accessed from the west via Argents Mead road. The building appears to be a pre-fabricated unit, elevated from the floor with blockwork.

The south-easternmost building appears to be a conglomerate of buildings connected together, all of brick construction over one and two storeys. The building is currently used for ultrasound scans and x-rays. A basement is understood to extend along the length of the building.

History

The site has been used for medical purposes since the early 1900's, with several expansions, the latest being in the 1980's.

Geology

Ground conditions at the site are expected to comprise a limited thickness of Made Ground associated with the site's former and current use, underlain by superficial stratum of the Oadby Member, typically recorded as grey to brown CLAY. The bedrock underlying the site is recorded

	as the Mercia Mudstone Group, typically encountered as red to grey interbedded siltstones and mudstones.
Controlled Waters	The nearest surface water to the Site is the pond / moat 29m to the north of the site. The underlying strata is classified as Secondary Undifferentiated and Secondary B Aquifers.
Ground Gas and Vapour	The Made Ground could present a limited potential source of ground gas. A vapour and localised contamination risk does exist on site owing to a pollution incident on 16 th June 1997, however the significance of this event will be investigated as part of the ground investigation.

Recommendations

Based on the conclusions outlined in Section 7, Waterman makes the following recommendations:

- Before the development proceeds, it is recommended that an intrusive ground investigation is undertaken to confirm any risks associated with contamination, together with an assessment of the potential geotechnical issues that may be present.

The investigation should include a combination of the following:

- Shallow boreholes and trial pits to assess the nature of shallow deposits underlying the site, identify a suitable founding stratum and permit the installation of ground gas monitoring wells; and
- Following completion of the investigation, allowance should be made for the completion of ground gas monitoring over a 3 month period.
- In the event that material is to be taken off site, a waste classification assessment should be undertaken to determine the most appropriate route for recovery and/or disposal. If Made Ground materials are recorded, and are required for off-site disposal, Waste Acceptance Criteria (WAC) testing will be required to identify any inert soils, or soils that require treatment prior to disposal including identification of possible asbestos containing materials which may be classified as hazardous wastes.

Foundation design at the site should only be completed following detailed conceptualisation of the underlying strata.

1. Introduction

1.1 Objectives

WT Partnerships, on behalf of NHS Property Services, instructed Waterman Infrastructure & Environment Limited ("Waterman") to undertake a Phase 1 Desktop Study for the proposed redevelopment of a new Daycase Unit and a CDC and Endoscopy Unit at Hinckley and District Hospital, Mount Rd, Hinckley LE10 1AG (hereafter termed "the Site").

This Phase 1 report will produce a preliminary conceptual model for the Site, identifying potential pollutant linkages in relation to ground contamination. This will be achieved through a desk top review of the Site and surrounding area's environmental setting, history, and current uses. The preliminary conceptual model will incorporate a critical review of the sources pathways and receptors in line with Land Contamination Risk Management (LCRM) 2020. In addition, potential geotechnical constraints will be highlighted.

1.2 Proposed Development

Development proposals details a 70No. space surface car park on the south-western area of the site, accessed off the existing accessed road running parallel to the site boundary. 4No. disabled spaces will be provided within the parking area.

A new Daycase unit will be constructed in the south-eastern corner of the site, occupying 745m², and utilising much of the existing buildings.

A new CDC and Endoscopy unit will be constructed in the northern section of the site, occupying 1409m², it is proposed that the CDC and Endoscopy unit is a 2 storey building.

The two new units will be connected to the existing Hinckley Health Centre Surgeries building to the north of the site via a new link corridor from the existing staircase on the buildings southern elevation. A series of ramped paths and stepped access are proposed to access the buildings from the north and the car park to the south-west.

Soft landscaping is shown around the new units, with the existing trees along Mount Road retained.

1.3 Limitations and Constraints

The assessment was undertaken in accordance with the scope agreed between Waterman and WT Partnerships and with Waterman's standard Terms of Appointment.

The information contained in this report is based on a review of available historical, geological and hydrogeological sources, consultation with the regulatory authorities and observations made during a Site walkover on 9 February 2023.

Waterman has endeavoured to assess all information provided to them during this investigation but makes no guarantees or warranties as to the accuracy or completeness of this information.

This report does not include an assessment of the potential presence of asbestos containing materials within buildings or structures or below ground structures (basements, buried service ducts and the like).

The conclusions resulting from this study are not necessarily indicative of future conditions or operating practices at or adjacent to the Site.

2. Methodology

This Phase 1 Desktop Study has been undertaken in general accordance with the 2020 LCRM Guidance. Land Contamination: Risk Management Guidance (LCRM: Environment Agency, 8 October 2020).

The report includes the following:

- Definition of overall Site objectives
- Collation of available current and historical information about the Site and the potential contaminants expected to be present;
- A Site walkover;
- Formulation of a preliminary Conceptual Site Model in respect of potential ground contamination;
- Qualitative risk assessment; and
- Record of findings and recommendations for further action.

In addition, potential geotechnical constraints will be identified.

3. Hazard Identification

3.1 Site Description and Reconnaissance

The Site is located at National Grid Reference 442942, 293741 off Mount Road, in Hinckley City Centre. The site is roughly rectangular in shape and forms the western section of Hinckley and District Hospital, comprised of 3No. separate buildings.

The northernmost building is the Hinckley Health Centre Surgeries building and is proposed to be retained during the redevelopment, but new link corridor constructed from it. The building is two storeys tall and of a brick construction with metal cladding.

The southwestern most building is currently used as a Physiotherapy unit and is accessed from the west via Argents Mead road. The building appears to be a pre-fabricated unit, elevated from the floor with blockwork.

The south-easternmost building appears to be a conglomerate of buildings connected together, all of brick construction over one and two storeys. The building is currently used for ultrasound scans and x-rays. From discussions with the clients representative it is understood that basements run the length of the building. The basement rooms are comprised of active and redundant boiler rooms and various storage areas. The land to the west of the building falls away and the western section of basements are exposed. Externally a wooden gated area is used for the stored of gas cylinders.

Period deliveries of fuel occur on site to refuel the generators used to heat the hospital, located in the south-east of the site.

It is noted that a full asbestos survey has recently been undertaken for the hospital with all identified asbestos encapsulated and / or removed. The full survey has been requested from the client.

Externally the site is predominantly covered in macadam surfacing with small grassed areas between the southern buildings and around the surgeries building in the north. It is noted that the macadam surfaces were generally all in good condition with no obvious signs of cracking or spalling.

The levels on site were recorded to drop in the region of 5m from the east to the west of the site.

Figure 1: Current Site Layout



Source: Google Earth, Accessed: 02/02/2023

A Site location plan and Proposed Site layout plan are presented as Appendix A. A selection of photographs taken during the Site inspection is presented as Appendix B.

Current potentially contaminative Site uses were identified during the property inspection and are listed in Table 1

Table 1: Potentially Contaminative Activities Observed on-Site

Potential Issue	Description	Condition
Asbestos within existing buildings	All asbestos is expected to be removed from building prior to demolition. However, the risk still exists within any Made Ground on site.	N/A
Fuel Tank and Generator	In SE of site – potential for hydrocarbon spillage.	Unknown – serviced regularly.
Basement Areas	Old boiler rooms – potential for hydrocarbons and coal/combustible materials.	Numerous vents externally around SE building.

3.1.1 Site Surroundings

The Site is located in a predominately residential area. Table 2 below details the surrounding site uses and highlights potentially significant contamination sources and identified receptors.

Table 2: Site Surroundings

Direction	Land Use	Potentially Signification Contamination Source	Identified Receptors
North	Argents Mead public park and pond / lake. Residential housing and retail stores including surface car parking.	None identified.	Neighbouring residents. Argents Mead surface waterbody.
East	Residential housing and retail stores including surface car parking.	None identified.	Neighbouring residents.
South	Residential housing. Birmingham to Leicester Trainline (Hinckley Station)	None identified.	Neighbouring residents.
West	Hinckley Leisure Centre. Various retail developments including surface car parking. Tesco Petrol Filling Station is noted 550m to the southwest of the site.	Petrol filling station is considered to be sufficiently distant from the site to not represent a risk.	Neighbouring residents.

Sensitive Land Uses

The Landmark Envirocheck report has not identified any sensitive land uses (i.e. SSSI, nature reserves, heritage sites) within 1km of the site boundary.

The Site is located within a nitrate vulnerable zone, however it is not anticipated to impact upon the proposed development.

3.1.2 Environmental Permits

As detailed in the Envirocheck Report the following active Environmental Permits (EP) are identified within 500m of the site boundary;

Table 3: Active Environmental Permits

Permit Type	Location	Operator	Details	Reference No.
Discharge Consents	Various, closest to site is 391m to the South.	Severn Trent Water	Discharge of Public Sewerage: Storm Sewage Overflow to the	T/19/09205/O

			Sketchley Brook and Sibson Brook.	
Local Authority Pollution Prevention and Controls	417m North	Leicester Road Service Station	PG1/14 Petrol Filling Station	EPA49
	487m South-West	Tesco S Station	PG1/14 Petrol Filling Station	PPCA41
Water Abstractions	391m South	Richard Robert Holdings Ltd.	Water abstracted for Textiles and Leather: Process Water Abstracted from unnamed surface water.	03/28/19/0043

4. Previous Environmental Assessments and Consultations

4.1 Previous Environmental Assessments

No previous environmental assessments of the Site have been provided for review.

4.2 Consultations

4.2.1 Environmental Health

Information has been requested from the Environmental Health Officer (EHO) but a response is currently pending.

4.2.2 Planning Department

Hinckley and Bosworth's planning portal was used to assess planning applications within proximity to the site.

No planning applications were noted to have potential to cause contamination on site.

It is noted that a planning application (19/00445/FUL) for a residential development 597m to the southwest of the site had several planning conditions relating to ground gas and the installation of a membrane and sub-floor venting. However, following a review of the historical mapping the aforementioned site is located on former Sewage Works / Filter Beds which are considered likely to be the potential source of ground gases.

4.2.3 Building Control Department

Information has been requested from Building Control Department, but a response is currently pending.

5. Environmental Site Setting

5.1 History

A summary of the Site's and surrounding areas historical potential contamination sources as obtained from the Envirocheck historical maps is included in Table 4.

Table 4: Pertinent Site History

Date (decade)	Feature	On-Site/distance off-site
1880	Agricultural Field	On-Site
	Circular 'Castle Hill' and teardrop shaped moat*	100m North
	Shoe Manufactory structure	100m Northeast
	2No. Hosiery Manufactory	150m North and Northwest
1900	Cottage Hospital	On-Site
1920	2No. buildings constructed in the southwest corner of the site.	On-Site
	Residential Gardens backing onto the site's eastern boundary.	0m East
	Castle Hill to the North of the site now labelled as a War Memorial.	100m North
1960	Cottage Hospital now labelled "Hinckley and District Hospital (General)" and shows further construction in the central section of the site.	On-Site
	A rehabilitation Centre is shown along the site's north-eastern site boundary.	0m Northeast
	Garage (presumed to be an automotive works)	125m North
	Numerous Works	>250m Northwest
1980	Health Centre is constructed in the northern section of the site.	On-Site

*It is anticipated that due to the presence of a former Castle ~100m to the north of the site, the potential for associated relict structures beneath the site cannot be discounted.

5.2 Unexploded Ordnance

A Zetica UXO assessment has been carried out for the site and is included within Appendix C.

The UXO assessment for this site has highlighted that the site is at a **Low** bomb risk.

5.3 Geology

The Site's geology as established from British Geological Survey (BGS) mapping and boreholes is summarised in Table 5.

Table 5: Site Geology

Stratum	Area Covered	Estimated Thickness	Typical Description
Made Ground	Sitewide	0.3-1.5m	Sandy silty clay with brick, ash and clinker.
Oadby Member	Sitewide	2-5m	Grey to brown silty CLAY with chalk and flint.

Stratum	Area Covered	Estimated Thickness	Typical Description
Mercia Mudstone Group	Sitewide	>20m	Red to grey interbedded siltstones and mudstones.

5.3.1 Ground Stability

The Envirocheck Report has identified the following geological hazards (Table 6).

Table 6: Geological hazard risk to the Site

Geological Hazard	Risk
Collapsible ground	Very Low
Shrink swell clay	Low
Landslides	Very low
Running sand	Very low

The BGS map does not reveal any structural, geomorphological or geochemical features on or near to the Site.

The Site is not in an area that could be affected by coal mining activity.

5.4 Radon

Information recovered from the Landmark Report, BGS, and PHE show the Site is not in an area of high radon levels. Correspondingly, no radon protection measures will be required in the proposed development.

5.5 Ground Gas

As identified in the CL:AIRE 2012 RB17 guidance document and CIRIA C665 ground gases only pose a risk to developments when the following can be satisfied, which is in line with the source – pathway – receptor model followed by LCRM.

- An accumulation of a **large volume** of gas in the ground in or near the buildings (source).
- A pathway that allows gas to migrate through and/or out of the ground into a building or other structure sufficiently quickly to allow it to build up inside the building (pathway).
- A confined space within the building or structure where gas can build up to unacceptable levels (receptor).

In order for a risk from ground gases a source – pathway – receptor linkage needs to be present. This requires a sufficient quantity of gas to pose a hazard and one or more pathways by which it may cause significant harm to people. For sustained gas migration to occur gas must be replenished at the source to negate the effects of attenuating factors such as oxidation of the methane/carbon dioxide to oxygen in the aerobic zone or low permeability soils decreasing the migration potential. Therefore, sustained high levels of gas generation are required for ground gas to migrate via advective or diffusive flow and cause high ground gas concentrations at the surface/within built structures. The volume of ground gas is therefore the principal factor which should be considered rather than the ground gas concentration and not the gas concentration present in the ground (or monitoring well) which is commonly mistaken as posing a risk to future Site users.

There are no licensed or historic landfill sites within 500m of the site and the nearest potentially infilled land is in excess of 300m away. In addition, the nearest Waste Management Facility is in excess of 750m

from the site.

Hence, a review of the Site's environmental setting, and ground conditions identifies low ground gas generating sources;

- Any Made Ground on-site has been in place for around 100 years, and likely comprises a generally inert material with low quantities of readily degradable material. The environment in which any Made Ground has been left in-situ is likely to have few inhibitors to organic matter degradation, coupled with the time the Made Ground has been in place, on-site small quantities of readily degradable material are likely to be present in the Made Ground. A qualitative assessment of the Made Ground identifies it has having a low ground gas generation potential.
- Off-site ground gas sources should only be considered a risk where a significant ground gas generating source is present. A review of historical maps identifies historical land uses similar to those on-site or residential uses. Historical or current landfills are absent in the surrounding area, removing landfills as a viable ground gas source. The surrounding land uses are therefore likely to have a similar Made Ground composition and unlikely to represent a significant ground gas generating source.

5.6 Vapour

Land uses with the potential to result in ground contamination with vapour risks to the Site have not been identified.

The Landmark Envirocheck dataset recorded a single pollution incident relating to oils or fuels within 250m of the Site.

A single incident was recorded on site on 16th June 1997 where 50 gallons of diesel was spilt during a delivery. The receiving water was not specified. The incident was categorised as Category 3 – Minor Incident (Ref. 2702670). Given the age of the pollution incident it is considered unlikely that the contaminant still has potential to create a vapour risk on site. However, this will be investigated further as part of the ground investigation.

5.7 Controlled Waters

5.7.1 Surface Waters

The nearest surface water to the Site is the pond / moat 29m to the north of the site. The EA has not classified the Ecological Potential of this surface water body under the Water Framework Directive.

1No. pollution incident has been recorded within 250m of the site boundary, details have been provided above in Section 5.6.

No surface water abstractions are recorded within 250m of the site boundary.

5.7.2 Groundwater

The EA has classified the geological deposits on-site as having the following classification (Table 7).

Table 7: Summary of Hydrogeological Properties of the Main Geological Strata

Stratum	EA Classification	Hydrogeological Significance
Oadby Member	Secondary Aquifer Undifferentiated	– May be important in supporting local abstractions or in providing baseflow to rivers and streams
Mercia Mudstone Group	Secondary B Aquifer	May be important in supporting local abstractions or in providing baseflow to rivers and streams

The Site is not located within a groundwater Source Protection Zone.

Based on available information, it is anticipated groundwater flow will be in a northern direction.

Given the anticipated cohesive nature of the superficial deposits on site, it is possible that perched groundwater will be recorded on site, and should be recorded and monitored as part of the ground investigation.

No groundwater abstractions are recorded within 250m of the site boundary.

5.7.3 Flood Risk

According to the EA's indicative flooding data, the Site is located in an area that is at a Low Risk of surface water flooding, and a Very Low Risk of flooding from rivers and tidal sources.

The Landmark Envirocheck report records the site as having a Limited Potential for Groundwater Flooding to Occur.

6. Hazard Assessment and Preliminary Conceptual Model

The Preliminary Conceptual Model for the Site is presented in Table 9 below. The risk rating included in Table 9 has been assessed qualitatively using the criteria given in Appendix E and the potential receptors identified using the criteria given in Appendix F.

6.1 Contaminants of Concern

Potential contaminants of concern identified at the Site are summarised in Table 8. The potential contaminants associated with former and current land uses are informed by DoE Industry Profiles (1995) where applicable.

Table 8: Contaminants of Concern

Source	Metals	PAHs	TPHs	Combustible Material	BTEX	VOC/SVOC	Asbestos	Detergents, acid/alkali	Ground Gas	Vapours
Made Ground – including area of former diesel fuel spill.	x	x	x			x	x			x
Diesel refuelling area (Generator)		x	x							x
Former Boiler Rooms		x	x	x			x			
Current Site Use	x	x	x							

Table 9: Outline Conceptual Site Model

Source	Linkage	Receptor	Risk	Justification / Mitigation	Residual Risk
Human Health					
Contamination in site soils and perched groundwater associated with previous site use and surrounding area.	Dermal Contact Ingestion Inhalation	Future Site Users	Low	Potential for localised hydrocarbon contamination in the area of the generator and fuel tanks, and possible combustible material in the vicinity of the former boiler rooms. The site is anticipated to be underlain by a limited thickness of Made Ground and localised contamination may be present as a result of the site's former and current use and that of the immediate surrounding area. This will need to be confirmed as part of a ground investigation.	Low
		Off-site / neighbouring site users	Low	The increased areas of hardstanding across the site following redevelopment will limit migration of contaminants. Appropriate cover systems may be required in the proposed areas of soft landscaping. Dusts/ vapours are very unlikely to be generated at significant concentrations to migrate off-site and cause harm. Risks during the construction phase to be managed by use of appropriate working practices.	Low
		Construction workers	Low	Risks to construction workers will be low and of limited duration, hence can be managed through use of appropriate working practices and Personal Protective Equipment. Consideration to be given to the potential presence of hazardous ground gas in excavations.	Low
	Ground Gas	Migration followed by asphyxiation / explosion	Future Site Users	Low	Limited Made Ground beneath the site and the surrounding area may present a limited source of hazardous ground gas. The risks to future site users to be mitigated by the inclusion of appropriate ground gas mitigation measures in the construction of proposed structures, if required following site monitoring as part of the ground investigation.
Property					
Contamination in site soils and groundwater associated with previous site use and surrounding area.	Direct contact	On-site structures and services	Low	Levels of contamination unlikely to be present at concentrations capable of adversely impacting below ground structures and services. A geotechnical investigation at the Site will allow concrete classification to be designed accordingly. Concrete to be appropriately specified based on the results of BRE SD1 testing. TPH testing during the ground investigation, especially if the recorded spillage is within the site boundary, will support the design of new water supply pipes.	Low

Source	Linkage	Receptor	Risk	Justification / Mitigation	Residual Risk
Controlled Waters					
Contamination in soil and groundwater associated with recent and historical use of the Site (hydrocarbons from boilers, generator and fuel tank)	Leaching Migration Preferential Pathways	Nearby Surface Waters	Low	The Site is assumed to be underlain by a thickness of Made Ground, however following redevelopment, the site will be covered with hardstanding and drainage will be controlled, limiting the potential for leaching/ run-off.	Low
		Groundwater in Secondary Aquifers (superficial and bedrock geology)	Low	Limited potential sources of contamination have been identified hence the risk of a source being present is considered low. In addition, there are no groundwater abstractions from the underlying aquifer within 250m of the site, as such a preferential pathway for leaching of contaminants does not exist. However, following development, site drainage will be controlled, limiting the quantity of water available for leaching for any potential future groundwater abstractions.	Low

7. Conclusions

7.1 Environmental

Waterman has undertaken a Phase 1 desktop assessment for the site that included a review of the site's history together with the development of a preliminary Conceptual Site Model. The site has been used for medical purposes since the early 1900's, with several expansions, the latest being in the 1980's.

The potential for localised hydrocarbon contamination has been identified in the area of the boiler rooms, the diesel generator and fuel tank. In addition, given the age of the site, there is the potential for possible combustible materials to be present in the vicinity of the former boiler rooms.

Ground conditions at the site are expected to comprise a limited thickness of Made Ground associated with the site's former and current use, underlain by superficial stratum of the Oadby Member, typically recorded as grey to brown CLAY. The bedrock underlying the site is recorded as the Mercia Mudstone Group, typically encountered as red to grey interbedded siltstones and mudstones.

The Made Ground could present a limited potential source of ground gas.

A vapour and localised contamination risk does exist on site owing to a pollution incident on 16th June 1997, however the significance of this event will be investigated as part of the ground investigation.

There is a potential risk of asbestos containing materials within structures/ducts/ etc at the site.

On the basis of the current assessment, and given the proposed end-use of the development, the site is considered to pose a **Low** risk to human health. The site is also considered to present a **Low** risk with respect to controlled waters.

The risks identified, albeit considered to be low, will require further evaluation in advance of redevelopment in accordance the recommendations provided overleaf.

The recommendations of this report outline preliminary remedial and mitigation measures that require confirmation through additional works. However, once successfully implemented the risks are anticipated to be Low. Therefore, the National Planning Policy Framework requirement that on completion the Site can no longer be captured under the Part IIA regime is expected to be met.

7.2 Geotechnical

The following observations in respect of geotechnical considerations are made in relation to the proposed development layout:

- There are basements within the east of the site and there is also the potential for former basements to be present. If in areas where the existing buildings are to be demolished, these would need to be backfilled to a suitable specification and foundations of any proposed building in proximity to them designed accordingly to take into account the potential varying depths to a suitable founding stratum.
- The proposed finished floor levels will need to take account of the existing sloping site and the potential need for independent retaining structures or retaining elements and tanking within the building design.

8. Recommendations

Based on the conclusions outlined in Section 7, Waterman makes the following recommendations:

- Before the development proceeds, it is recommended that an intrusive ground investigation is undertaken to confirm any risks associated with contamination, together with an assessment of the potential geotechnical issues that may be present.
- The investigation should include a combination of the following:
 - Shallow boreholes and trial pits to assess the nature of shallow deposits underlying the site, identify a suitable founding stratum and permit the installation of ground gas monitoring wells; and
- Following completion of the investigation, allowance should be made for the completion of ground gas monitoring over a 3 month period.
- In the event that material is to be taken off site, a waste classification assessment should be undertaken to determine the most appropriate route for recovery and/or disposal. If Made Ground materials are recorded, and are required for off-site disposal, Waste Acceptance Criteria (WAC) testing will be required to identify any inert soils, or soils that require treatment prior to disposal including identification of possible asbestos containing materials which may be classified as hazardous wastes.

Foundation design at the Site should only be completed following detailed conceptualisation of the underlying strata.

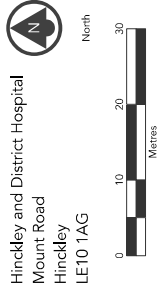
APPENDICES

A. Site Plan

OPTION 9

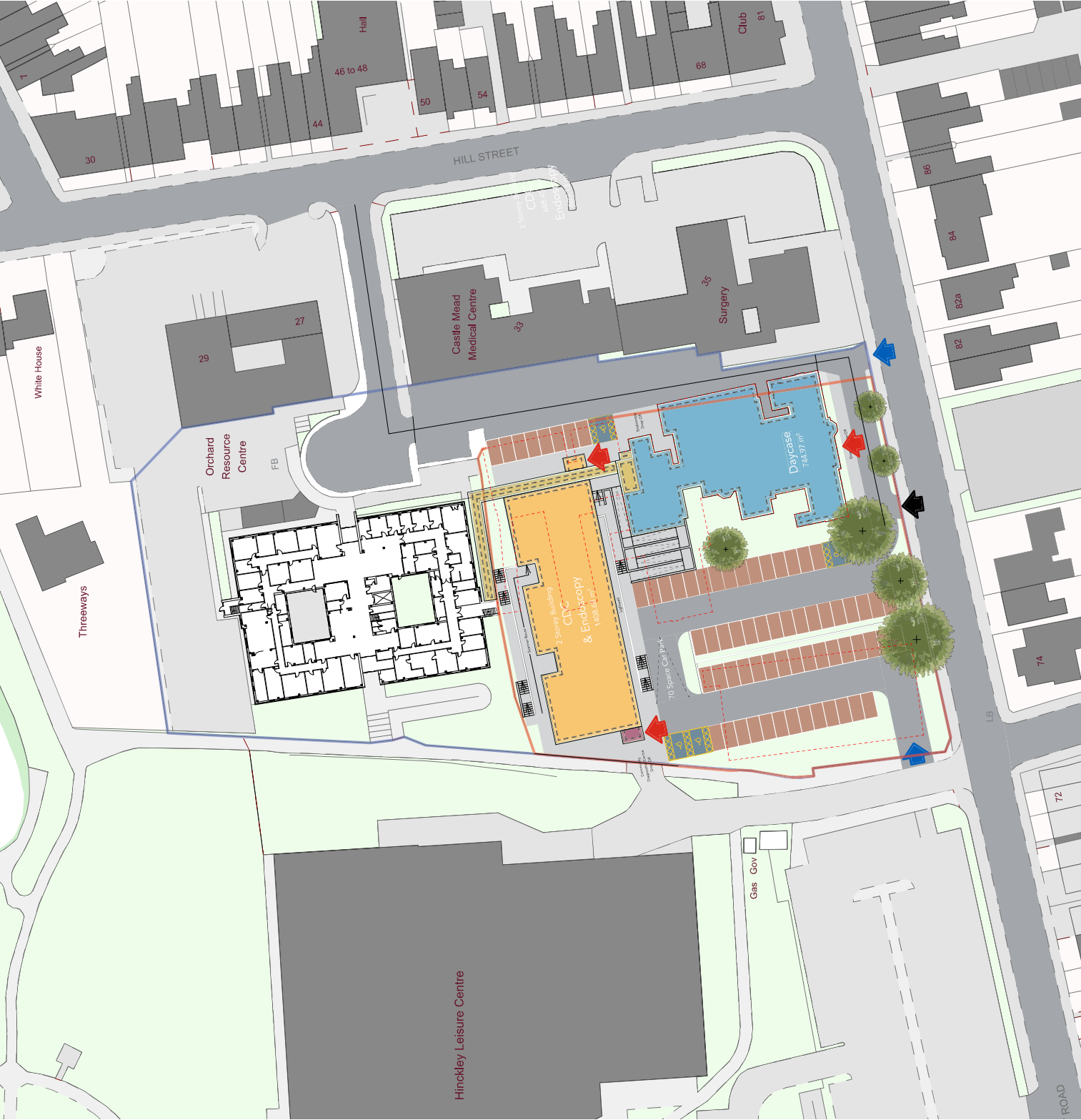
Site Info

Hinckley and District Hospital
Mount Road
Hinckley
LE10 1AG



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P01	26/01/2023	Issued for Information		BCP
Rev	Date	Revision Details	Author	
Status	Purpose For Issue			
S0	Initial Issue			

design büro

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Client	NHS Property Services				
Job	Hindley Daycare & CDC Business Case Support				
Title	Site Plan Option 9				
Drawn BCP	Date Dec 2022	Checked MH	Date Dec 2022		
Scale/Size	1:500	@	A2		
Drawing Number					Revision
1782-D8C-ZZ-00-DR-A0724				P01	

The copyright of this drawing is reserved in the Architect's Designer and must not be copied or reproduced without his written consent. Figured dimensions only to be taken from this drawing. All corrections and / or special instructions must use the site and be responsible for taking and checking all dimensions before this work.

B. Site Photographs

Appendices

Phase 1 Desktop Study

Document Reference:

WIE19831

Photo 1: Physiotherapy Unit accessed off Mount Road.



Photo 2: Water tank on the northern elevation of the Physiotherapy Unit

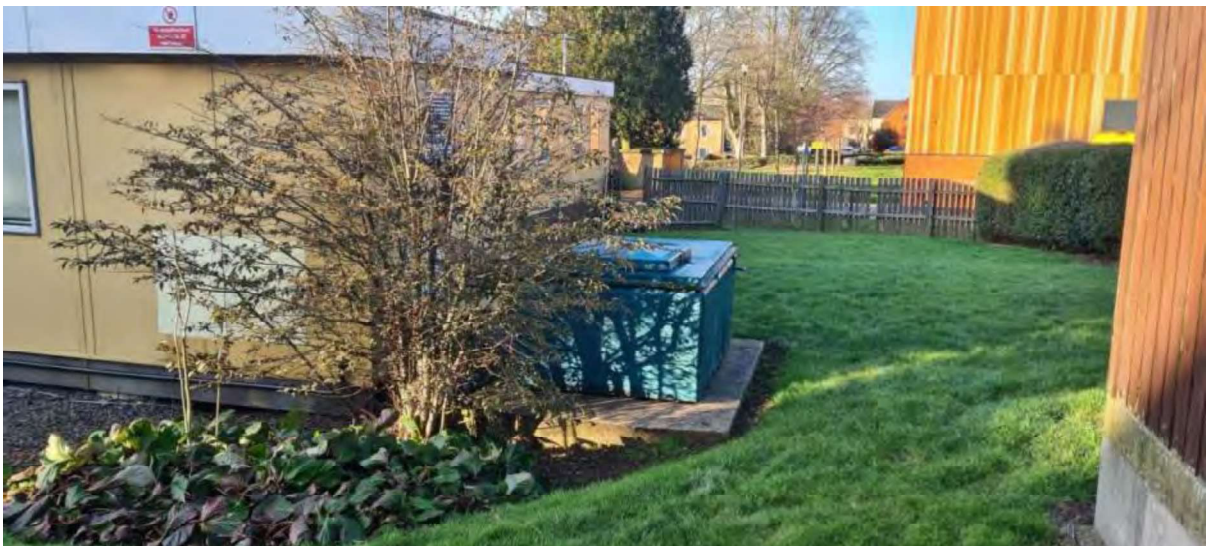


Photo 3: Eastern elevation of the Physiotherapy Unit.



Photo 4: Southern elevations of the Physiotherapy Unit



Photo 5: Main entrance to the Hinckley Health Centre Surgeries



Photo 6: Northern building and surface car parking



Photo 7: Northern elevation and car park of Hinckley Health Centre Surgeries



Photo 8: Northern and eastern elevation of Hinckley Health Centre Surgeries



Photo 9: Southern elevation and surface car parking. The glass corridor connects the Hinckley Health Centre Surgeries and the X-Ray and surgery building to the south.



Photo 10: Entrance to the x-ray and ultrasound building in the south-eastern corner of the site, off Mount road (Southern elevation).



Photo 11: Western elevation of the x-ray and ultrasound building.



Photo 12: Exposed basement on the western elevation of the x-ray and ultrasound building.



Photo 13: Basement entrance at ground floor level on the northern / western elevation of the x-ray and ultrasound building.



Photo 14: Wooden cladded building with basement access on the western elevation.



C. Dataset and Consultation Information

- Landmark Envirocheck Report
- Zetica UXO Report

Appendices

Phase 1 Desktop Study
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Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

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

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	ODT	Oadby Member	Diamicton	Not Supplied - Anglian
	DMG	Dunsmore Gravel	Sand and Gravel	Not Supplied - Anglian
	BOSW	Bosworth Clay Member	Clay and Silt	Not Supplied - Anglian
	THT	THRUSSINGTON MEMBER	Diamicton	Not Supplied - Anglian
	WOSG	Wolston Sand and Gravel	Sand and Gravel	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	MMG	Mercia Mudstone Group	Mudstone	Not Supplied - Early Triassic

Geology 1:50,000 Maps

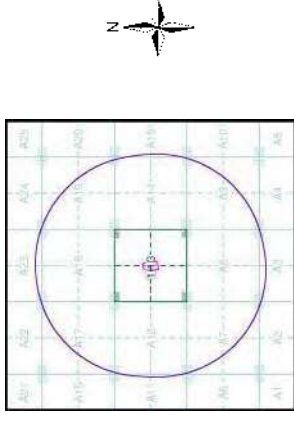
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published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

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

Geology 1:50,000 Maps Coverage

Map ID:	1
Map Sheet No:	189
Map Date:	Country
Map Date:	1994
Bedrock Geology:	Available
Superficial Geology:	Available
Artificial Geology:	Available
Faults:	Not Supplied
Landslip:	Not Available
Rock Segments:	Not Supplied

Geology 1:50,000 Maps - Slice A



Order Details:

Order Number:	306633563_1_1
Customer Reference:	WIE19831
National Grid Reference:	442930, 293750
Slice:	A
Site Area (Ha):	0.96
Search Buffer (m):	1000

Site Details:

Hinckley & District Hospital, Mount Road, HINCKLEY, LE10 1AG

Artificial Ground and Landslip

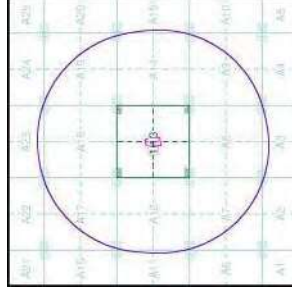
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions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

Artificial ground includes:

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

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

Artificial Ground and Landslip Map - Slice A

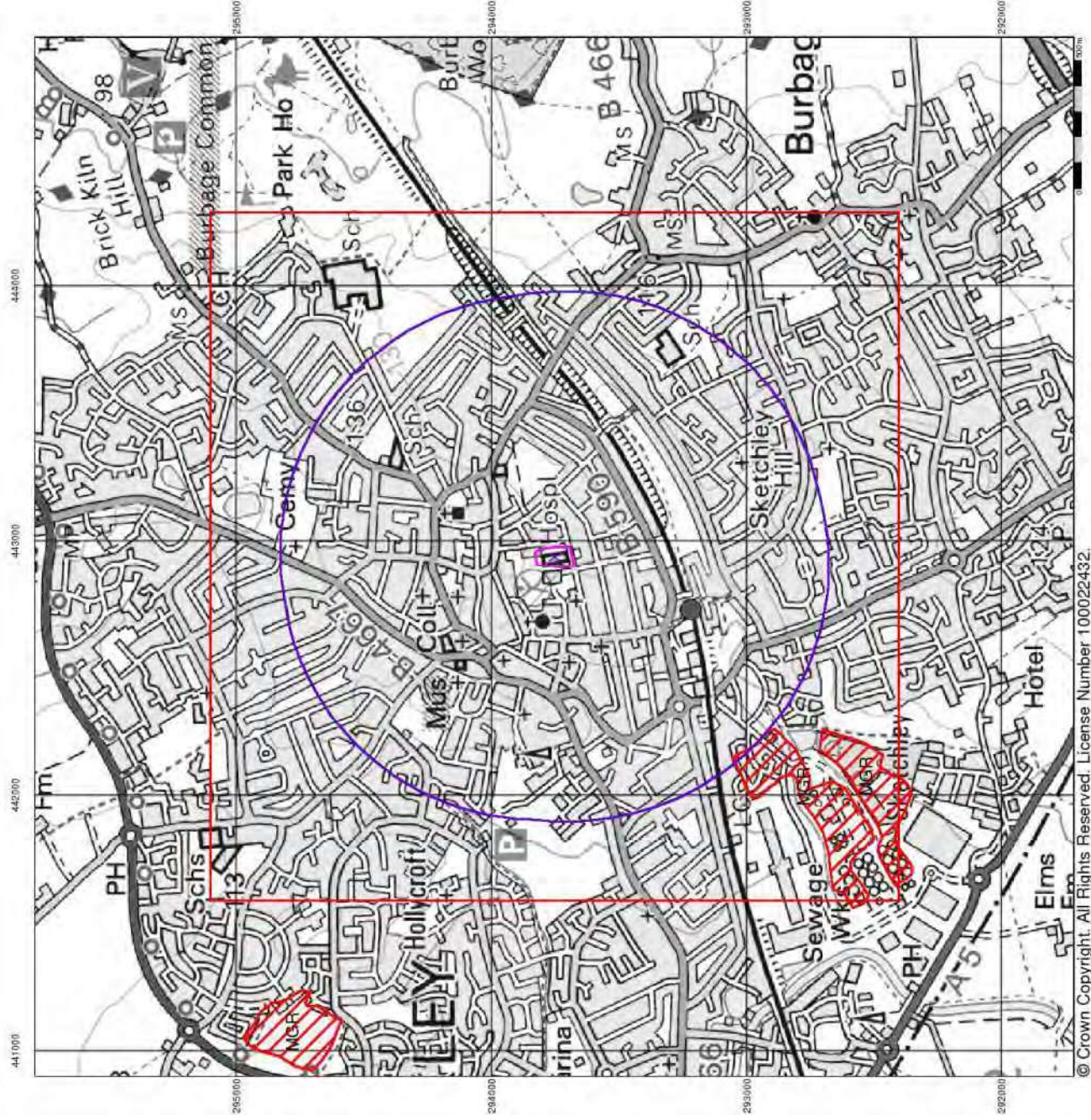


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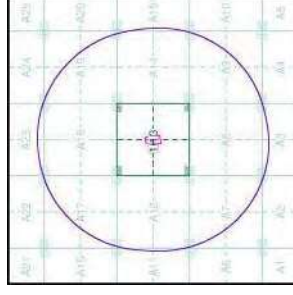
Superficial Geology

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

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

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

Superficial Geology Map - Slice A

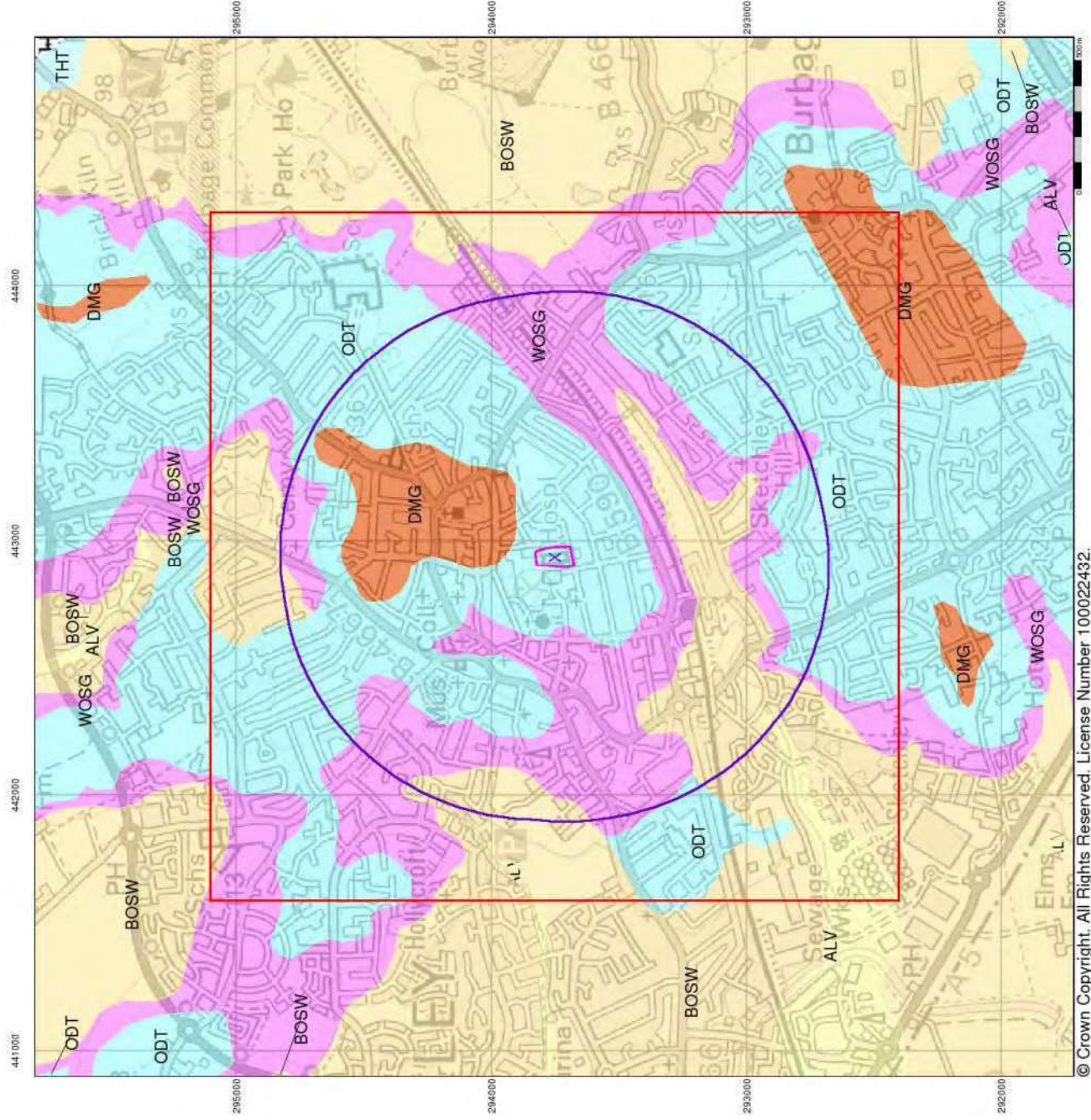


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Bedrock and Faults

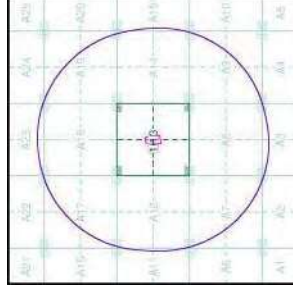
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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

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

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

Bedrock and Faults Map - Slice A



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Combined Surface Geology

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

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

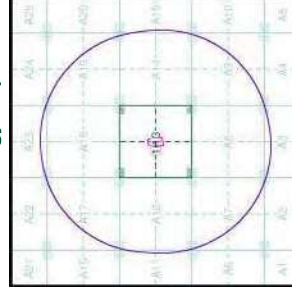
Additional Information

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

Contact

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

Combined Geology Map - Slice A



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Historical Mapping Legends

Ordnance Survey County Series 1:10,560

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

Ordnance Survey Plan 1:10,000

Chalk Pit, Clay Pit or Quarry	Gravel Pit	
Sand Pit	Disused Pit or Quarry	
Refuse or Slag Heap	Lake, Loch or Pond	
Dunes	Boulders	
Coniferous Trees	Non-Coniferous Trees	
Orchard	Scrub	Coppice
Bracken	Heath	Rough Grassland
Marsh	Reeds	Saltings
Building	Direction of Flow of Water	
Glasshouse		
Sloping Masonry	Pylon	Electricity Transmission Line
	Pole	
Cutting	Embankment	
Road Under	Road Over	
Level Crossing	Foot Bridge	
Standard Gauge Multiple Track	Standard Gauge Single Track	
Siding, Tramway or Mineral Line	Narrow Gauge	
Geographical County		
Administrative County, County Borough or County of City		
Municipal Borough, Urban or Rural District, Borough or District Council		
Borough, Burgh or County Constituency		
Civil Parish		
Shown alternately when coincidence of boundaries occurs		
BP, BS	Boundary Post or Stone	Police Station
Ch	Church	PO
CH	Club House	PC
F E Sta	Fire Engine Station	Public Convenience
FB	Foot Bridge	PH
Fn	Fountain	SB
GP	Guide Post	Spr
MP	Mile Post	TCB
MS	Mile Stone	TCP
		Well

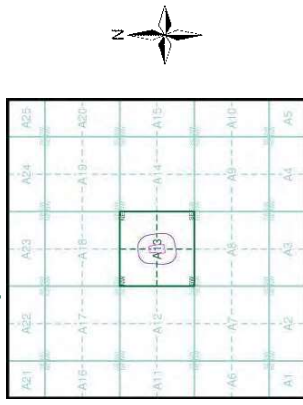
1:10,000 Raster Mapping

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

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Warwickshire	1:10,560	1887	2
Leicestershire	1:10,560	1904	3
Leicestershire	1:10,560	1925	4
Leicestershire	1:10,560	1938 - 1950	5
Historical Aerial Photography	1:10,560	1950	6
Ordnance Survey Plan	1:10,000	1955	7
Ordnance Survey Plan	1:10,000	1967 - 1968	8
Ordnance Survey Plan	1:10,000	1977	9
Ordnance Survey Plan	1:10,000	1980 - 1984	10
10K Raster Mapping	1:10,000	1999 - 2000	11
10K Raster Mapping	1:10,000	2006	12
VectorMap Local	1:10,000	2022	13

Historical Map - Slice A



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