Aldi Stores Ltd

Regional Office & Distribution Centre, Goldthorpe

Geotechnical and Geo-Environmental Desk Study Report

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Executive Summary

Ove Arup and Partners Ltd have been commissioned by Aldi Stores Ltd (Aldi) to provide a geotechnical and geo-environmental desk study report to assist in the design and construction stages of a supermarket regional office and distribution centre. The proposed development is situated west of Goldthorpe village, Barnsley.

The site is currently used for arable crops and slopes from the southwest towards Carr Dike, which crosses the site roughly east to west. The ground rises again to the north of Carr Dike. A public footpath crosses the site to the south of the dike. A combined sewer crosses the site to the north of the dike, and a surface water sewer crosses the northern part of the site before entering Carr Dike. There is also thought to be a drain flowing in a north east direction to the south of the dike.

A review of maps published since 1854 indicates that the site has remained agricultural land throughout at least the last 150 years. An opencast coal site formerly operated immediately to the northwest of the site. Shallow coal mining has occurred immediately to the north of the site, but is not anticipated within the site boundary. The site is underlain by deep mineworkings at around 240m below ground level. No mineshafts are recorded within the site boundary. The site has been affected by mining subsidence in the past, presumably due to deep mineworkings. Brick clay and sandstone have been quarried in the vicinity of the site.

It is understood that the site contains the subsurface remains of Romano-British field systems and settlements. An archaeological evaluation will be required to assess the nature, extent and condition of any surviving remains on the site.

The published geological map indicates that superficial deposits are restricted to alluvial deposits associated with Carr Dike. The site is underlain by Middle Coal Measures strata, with undifferentiated mudstone and siltstone to the north of Carr Dike and Mexborough Rock Sandstone to the south of Carr Dike. The solid geology dips to the north or north east at around 3^{o} to 4^{o}. Although no geological faults are shown on the published geological map, a drawing provided by the South Yorkshire Mining Advisory Service (SYMAS) indicates two geological faults that are conjectured to affect the site. One fault may be located near to the north east corner of the site and the other may traverse the site in the south west. However, anecdotal evidence by the tenant farmer currently occupying the land suggests that this second fault exists beyond the southern boundary of the site

If the proposed building(s) is found to straddle a geological fault, it may be affected by differential settlement. Additional movement joints, reinforcement, and/or oversized foundations may be required in the part of the building which crosses the fault.

The site is shown to in flood risk zone 1, defined by the Environmental Agency as having a probability of flooding less than once in 1000 years. The closest area affected by flood risk is located around 100m to the west of the site, associated with the main Carr Dike.

There are thought to be no current or historical on-site sources of contamination on the site. The Goldthorpe Industrial Estate to the east of the site has been identified as the most likely potential source of ground or groundwater contamination. There is also the potential for contamination of Carr Dike originating from the Industrial Estate.

Topsoil will need to be removed from the majority of the site. The topsoil will not be suitable for re-use as general or structural fill, but may have commercial value as a topsoil resource. Cut and fill is required to create a development plateau. Cut materials are likely to be generally weathered sandstone and suitable for re-use as general, or possibly structural, fill. Excavations may be affected by groundwater seepages. Within the building footprint, the seepages are likely to be controlled by creating a cut-off trench and sump pumping along the southern edge of the site.

Based on the existing information, it is likely that the most suitable foundation solution will comprise pad foundations bearing on the sandstone rock at around 1.5 to 2.0m below existing ground level. In cut areas, the pads can be founded at a minimum depth. In fill areas, it is likely to be most

economical to construct pier foundations, building the concrete bases up in stages as the ground is filled.

A ground bearing floor slab is likely to be suitable within cut areas. Within filled areas, a ground bearing floor slab should be suitable, provided that granular structural fill is used beneath the building footprint. Alternatively, all filling could be in accordance with a general fill specification, and then vibro stone columns used to improve the general fill, making it suitable for a ground bearing slab.

For road pavements and service yards a minimal sub-base thickness will be required in areas of cut where rock is exposed. A CBR value of at least 3% should be assumed on natural granular soils (weathered sandstone) or compacted granular structural fill. In areas of cohesive general fill, a CBR of at least 2% can be assumed.

At this stage, allowance should be made for a gas protection membrane to be installed beneath office/storage rooms within the building. The main warehouse section should have sufficient ventilation to be at negligible risk of build-up of ground gases.

In the absence of laboratory testing results, it is recommended that allowance is made for sulphate-resistant concrete, e.g. DC-2.

The sandstone rock in the southern part of the site may be sufficiently permeable to allow the implementation of infiltration drainage, but this will need to be confirmed by in-situ infiltration tests.

A ground investigation is required to investigate the issues mentioned above. The ground investigation should include, as a minimum, rotary cored boreholes, trial pits and trial trenches, groundwater and ground gas monitoring in standpipes, in-situ infiltration tests, geotechnical and chemical laboratory testing, and testing of groundwater and surface water quality.

1 Introduction

Ove Arup and Partners Ltd (Arup) have been commissioned by Aldi Stores Ltd (Aldi) to produce a geotechnical and environmental desk study report to assist in the design and construction of a proposed supermarket regional office and distribution centre to the west of Goldthorpe Village, Barnsley.

The proposed development (approximately 18 hectares) lies to the south of Carr Dike, as shown in the drawing in Appendix A.

To assist with the desk study report Arup has obtained information relevant to the site from the following sources;

- A Geotechnical and Geo-Environmental Desk Study produced by Mott Macdonald, January 2003, which relates to a portion of the site considered by this desk study.
- The South Yorkshire Mining Advisory Service Mineral Report (SYMAS) and associated drawings contained as an appendix within the Mott MacDonald desk study report. A relevant drawing, M108/2A, from the SYMAS report is reproduced within Appendix B.
- The Coal Authority Mining Report, dated 2002. This was issued to Mott Macdonald, and reproduced in the Mott Macdonald desk study. This is reproduced within Appendix C.
- The Coal Authority Mining Report, dated 2006. This is reproduced in Appendix C.
- Historical Ordnance Survey Maps and environmental data provided as part of Envirocheck, produced by the Landmark Information Group. This Envirocheck Report was obtained for the purposes of the Mott Macdonald desk study. Selected maps are reproduced as Figures 3, 4 and 5.
- A site walkover. Associated photographs have been reproduced within the Photographs section of this report.
- Information on the nearby utilities provided by BT, The National Grid, CE Electric UK and Yorkshire Water. This is presented within Appendix D

This report also includes a preliminary assessment of the ground conditions, the potential for contamination and ground gas at the site, and provides recommendations for various geotechnical issues including earthworks and foundation design.

2 The Site

The site is located at the western extent of Goldthorpe village and comprises of agricultural fields. It is on the boundary between rural and urban environments. The site is centred on National Grid Reference 444800 403600, Landranger Grid Reference SE 448 036.

The east of the site is bounded by Goldthorpe Industrial Estate. To the north east, Commercial Road forms a partial boundary, and a school is present to the south. The east and south east of the site is bounded by agricultural land. The site measures approximately 420m across its southern boundary and 680m along the eastern boundary and is 24.6 hectares in size.

The site currently supports arable crops.

2.1 Topography

A topographical survey has been carried out on the site and is included in Appendix A. The highest part of the site, at around 33m AOD, is in the southwest part of the site. From here the ground slopes towards the north and northwest down to around 24m AOD at Carr Dike, which crosses the site roughly from east to west. To the north of Carr Dike the ground rises again, with a high point in the northeast part of the site at around 30m AOD.

Currently no structures exist on the site. Photographs showing the general site are included in the Photographs section of this report

2.2 Protected Environments

The Envirocheck Report indicates that the western section of the site is an area of unadopted green belt.

2.3 Current Site Use

The site currently comprises agricultural fields growing barley (winter and summer) and a crop vegetable.

A public footpath crosses the site to the south of the dike.

2.4 Utilities

A utility search has been undertaken to provide information on water, sewerage, gas, electricity and telecommunications, with consultations with National Grid, Yorkshire Water and CE Electric UK and Yorkshire Electric. The information provided by these Utility companies has been reproduced within Appendix D. A combined sewer is shown to cross the site to the north of the dike and to access Goldthorpe Industrial Estate, with a further surface water sewer can be seen to access Carr Dike from the north, believed to carry surface water from a nearby access road. Aldi's current farming tenant also indicated that a drain flows in a north east direction to the south of the dike accessing Goldthorpe Industrial Estate.

2.5 Proposed Development

The proposed development is for a supermarket regional office and distribution centre, and associated access and parking. Based on the current development proposals shown on the drawing in Appendix A, cut and fill will be required to level the proposed development area. Cut and fill slopes will be left at stable batters around the perimeter of the developed area.

3 Site History

The history of the site has been reviewed based on Ordnance Survey (OS) historical maps of scales 1:10,560 and 1:2,500 contained with the Envirocheck Report. These maps date from 1854 to 2000. Relevant maps have been reproduced within this report as Figures 3, 4 and 5.

3.1 Summary

With the exception of minor changes to field boundaries, the site under review has not changed since 1854, having remained agricultural land.

3.2 Detailed Site History

3.2.1 1854 – 1855

The site is undeveloped and located within agricultural fields. Carr Dike is shown to cross the northern part of the site, flowing west to east, and a footpath runs northwest to southeast across the site. Carr Field Lane runs in an easterly direction from the south eastern corner of the site. A quarry (Bindstone) is located approximately 220m to the north of the site, adjacent to an unnamed road (the current A635). The village of Goldthorpe is located approximately 1km to the east and Bolton upon Dearne is located approximately 800m to the south east. See Figure 3.

3.2.2 1893 – 1894

The site and immediate surrounding area remain unchanged. The Bindstone quarry is no longer shown to be present. A railway line (Midland & North-eastern – Swinton & Nottingley Joint Line) is now shown to be present approximately 700m to the east of the site.

3.2.3 1905 – 1906

The site remains unchanged. A second railway line (H.B.&W.R.J.R – Wath Branch) is now shown to be located approximately 170m to the east of the south east corner of the site. Goldthorpe Brick Works is now shown to be located approximately 80m to the north of the site. Carr Dike is shown to flow in an easterly direction. A well is shown to be located within Goldthorpe Brick Works.

3.2.4 1930

On this larger scale map sheet, only the north eastern part of the site is shown. Goldthorpe Brick Works is now labelled as disused. The well is no longer shown to be present within the brickworks.

3.2.5 1938

The site remains unchanged. Developments have occurred in Bolton upon Dearne and Goldthorpe to the east and south east of the site.

3.2.6 1955 – 1956

The site remains unchanged. Development has continued in Bolton upon Dearne.

3.2.7 1966 – 1967

The site remains unchanged. The direction of flow in the Carr Dike has now reversed from the 1906 map sheet, now indicated as flowing to the west. Development has continued in Bolton upon Dearne, whilst the railway closest to the site (Wath Branch Line) is now labelled as 'dismantled'. See Figure 4.

3.2.8 1976 – 1983

The site remains unchanged. Residential development has now taken place adjacent to the south eastern corner of the site.

3.2.9 1988 – 1991

The site remains unchanged. Large industrial properties, including an electrical sub station, are shown to exist adjacent to the north eastern corner of the site.

3.2.10 2000

The site remains unchanged, although industrial development has continued adjacent to the eastern site boundary. A new roundabout and road (Commercial Road) from the A635 provides access to the industrial estate, whilst Commercial Road runs partly along the northern site boundary and northwards across the former eastern extent of Goldthorpe Brick Works. A quarry is located approximately 100m to the north west of the site. See Figure 5.

4 Ground Conditions

4.1 Published geology

The geology of the site has been studied using the following sources of information:

a) British Geological Survey (BGS) 1:10,000 scale geological map SE40SW. An extract of this map is presented within this report as Figure 6.

b) The South Yorkshire Mining Advisory Service (SYMAS) Mineral Report, originally provided within the Mott MacDonald desk study. A relevant drawing showing key geological and mining features is reproduced as Appendix B of this report.

c) Historical site investigation borehole records from 1990 for the area to the north of the site, which are contained in the SYMAS report within the Mott Macdonald desk study report.

4.2 Solid Geology

The site is underlain by Middle Coal Measures strata of the Upper Carboniferous. From just south of Carr Dike and to the north, the site is shown to be underlain by undifferentiated strata, primarily mudstone and siltstone but with inter-bedded sandstone. To the south of the Carr Dike the site is underlain by the Mexborough Rock Sandstone.

The solid geology dips to the north or north east at around 3^{o} to 4^{o}. No geological fault is shown on the geological map to exist within the site boundary. The SYMAS report (see Appendix B) indicates two geological faults that may cross the site, one located near to the north east corner of the site and the other traversing the site in the south west, in a north west to south east direction. However, anecdotal evidence by the tenant farmer currently occupying the land suggests that this second fault exists beyond the southern boundary of the site

The Shafton Coal seam outcrops to the north of the site, dipping to the north and therefore is not expected to underlie the site. Only thin, unnamed coal seams are anticipated at shallow depth beneath the site.

4.3 Superficial Geology

The only superficial deposits indicated on the geological map are alluvial deposits associated with Carr Dike.

4.4 Coal Mining

4.4.1 Coal seams

As indicated above, the Shafton Coal seam outcrops to the north of the site, and dips to the north, away from the site.

The geological section on the geological map indicates some thin, unnamed coal seams both above and beneath the Mexborough Rock Sandstone. These are unlikely to have been worked, although coal may have been won locally at outcrop.

The shallowest named coal seam beneath the site is likely to be the Sharlston Top Coal, which is indicated to be 0.5m thick and is likely to lie at least 40m below ground level. Mineworkings within this coal seam are considered unlikely, but if present would be at sufficient depth so as not to affect the proposed development.

The shallowest significant coal seam is the Newhill Coal, which is indicated to be between 1.0 and 3.0m in thickness and is likely to lie at around 250m below ground level.

4.4.2 Coal Authority Mining Report

Two Coal Mining Reports have been obtained for the site (2002 and 2006) from the Coal Authority (CA), both are included in Appendix C. Reference has been made to the most recent report, which more closely represents the current site boundary. Key points are listed below:

- The report states that the site is situated within the likely zone of influence from workings in 5 coal seams at 240m [*likely to be the Newhill Coal*] to 770m depth [*likely to be the Silkstone Coal*], the last date of workings being 1990.
- Ground movements from the above mentioned coal workings should by now have ceased.
- The site is situated in an area where coal is believed to exist at or close to the surface that may have been worked at some time in the past [*this is thought to refer to the Shafton Coal outcropping to the immediate north of the site*].
- The CA has no knowledge of any mine entries within, or within 20m of, the boundary of the property. However, coal mine entries may exist of which the CA has no knowledge.
- Records in the possession of the CA do not disclose any fault or other line of weakness at the surface as having affected the stability of the property.
- The 2006 Report indicates that no damage notice or claim has been made or pursued since 1984. However the 2002 report indicates that a claim was made in 1991 which resulted in the payment of compensation. See Section 4.4.6 below.

4.4.3 SYMAS Mineral Report

The existence of shallow uncharted mine workings in the Shafton Coal Seam to the north of the site was proved in February 1990, during an investigation conducted by SYMAS. The originally proposed opencast operations did not take place.

Two suspected mineshaft locations located to the north of the site (see locations on drawing in Appendix B) and related to the uncharted workings were investigated:

- The first to the north east of the site, adjacent to Barnsley Road, which became apparent as a collapse prior to 1990. Subsequent investigations proved it to be 22m deep and filled with loose backfill material.
- The second was by way of verbal communication from local residents, in that a shaft once existed to the Shafton Seam at the base of the former Goldthorpe Brick Works Quarry. The investigations of 1990, and subsequent 'spine road' (Commercial Road) development works in 1996 both failed to prove the location of this shaft.

4.4.4 SYMAS Investigation 1990

The SYMAS investigation occurred on land to the north and north east of the site. The investigation comprised 37 rotary open hole boreholes across the proposed opencast area and one borehole (Shaft 2) to investigate the shaft located to the north east of the site, adjacent to Barnsley Road. Boreholes were advanced to between 4.0 and 24.1m below ground level. Coal or broken ground or voids were encountered at shallow depth (less than 2.0m) close to the northern boundary of the site. The coal seam and workings were found to dip to the north. Close to Barnsley Road, coal was encountered at 22.0m. These boreholes confirmed that mudstone (weathered to clay near ground level) was present above the coal seam horizon.

4.4.5 Opencast Workings

The 2006 Coal Authority Mining Report, which covers all but the south western part of the current development site, states that no past opencast sites have been present on-site. However, past opencast workings have existed immediately adjacent to the site. The report further states that no current mine workings exist within 200 metres of site where coal is currently being extracted by opencast methods.

4.4.6 Subsidence Records

A subsidence claim was paid to a statutory body (believed to be Yorkshire Water) in relation to damage to a sewer system (Highgate Trunk Sewer) which runs across the site to the north of Carr Dike.

A decision was taken in 2006 not to disclose subsidence claims made by Statutory Bodies. This explains why the Mining Report dated 2002 referred to a subsidence claim made or pursued in September 1991, but was not mentioned in the 2006 Mining Report. The claim was discharged by payment of compensation. Inspection of a plan relating to the claim (see Figure 7) suggests that the subsidence may have occurred some distance to the north of the site, but that the whole sewer may have been re-laid to correct the problem.

Anecdotal information provided by the Aldi's tenant currently occupying the site indicated that during the course of his lifetime the land on both sides of the dike had fallen due to subsidence. He also stated that subsidence has occurred to the north of the site on Commercial Road, to the east of the former brick works.

4.5 Non-Coal Mining

Goldthorpe Brick Works was formerly located around 80m to the north of the site and contained a quarry, presumably for brick clay. A bindstone quarry was formerly located around 220m to the north west of the site.

Local quarrying of the Mexborough Rock Sandstone may have also taken place.

4.6 Ground Gas Sources

Potential sources of ground gas include the following:

- Coal seams and mine workings beneath the site, which have the potential to generate mine gas;
- The assessment in the Envirocheck Report indicates that the underlying geology presents a risk of radon gas and that basic radon protection would be required in dwellings in this area;
- Backfilled quarries or opencast sites, such as those to the north and south of the site, have the potential to generate carbon dioxide and methane. Gases have the potential to migrate long distances along open joints or faults in the underlying sandstone.

4.7 Hydrology

The Carr Dike flows in a westerly direction across the northern part of the site. The dike is culverted as is flows through Goldthorpe Industrial Estate. It is understood from historical maps that the direction of flow of Carr Dike has reversed to its current direction of flow at some time since the early 1900's to the 1960's.

The Envirocheck Report details six separate discharge consents within 1km of the site. These are all issued to Yorkshire Water Services Ltd and relate to sewage discharges or combined sewage overflows. The closest of these consents is approximately 100m to the east of the site, specifying crude sewage discharge into a tributary of Carr Dike, resulting

from overflow form a Highgate Lane pumping station operated by Yorkshire Water Services Ltd.

4.8 Hydrogeology

The Envirocheck report indicates that the solid geology beneath the site is classified as a minor aquifer of variable permeability.

The soils on the site are classified as having a low leaching potential. These are soils in which pollutants are unlikely to penetrate the soil layer because water movement is largely horizontal or they have the ability to attenuate diffuse pollutants. Lateral flow from these soils contributes to groundwater recharge elsewhere in the catchment.

There exist no groundwater abstraction licences within 1 km of the site.

4.9 Flooding

The flood risk for the site has been considered using the latest indicative flood risk maps provided by the Environmental Agency (Figure 8). Those areas affected by flooding are located to the west of the site, with the extremity of the flood risk zone located approximately 100m from the site's western boundary. The flooding within the region is associated with the main Carr Dike to the north west of the site.

4.10 Archaeology

It is understood that the Planning Brief states that the site contains the subsurface remains of Romano-British field systems and settlements. An archaeological evaluation will be required to assess the nature, extent and condition of any surviving remains on the site.

5 Initial Contamination Assessment

5.1 Introduction

The potential sources of contamination across the site and in the surrounding area have been reviewed, based on historical Ordnance Survey maps and environmental information contained within the Envirocheck Report obtained as part of the Mott MacDonald desk study. The Envirocheck Report contains information held by statutory bodies and other parties such as the British Geological Survey, the Environment Agency and English Nature.

5.2 Framework for the Assessment of Contamination

Current UK legislation on contaminated land is principally contained in Part II A of the Environmental Protection Act (EPA) 1990, which was retrospectively inserted by Section 57 of the Environment Act 1995.

The legislation endorses the principle of a "suitable for use" approach to contaminated land, where remedial action is only required if there are unacceptable risks to health of the environment, taking into account the use of the land and its environmental setting.

This legislation embodies the concept of risk assessment for determining whether land is contaminated. This risk assessment is described in terms of "significant pollutants" and "significant pollutant linkages" within a source-pathway-receptor model of the site.

The model comprises:

- The principal pollutant hazards associated with the site (i.e. the sources)
- The principal targets at risk from the identified hazards (i.e. the targets)
- The existence or absence of plausible pathways, which may exist between the identified hazards and receptors (i.e. the pathways).

The potential risks from contamination must be assessed on a Source – Pathway – Receptor basis, which is presented in the following sections. As no information is currently available regarding the chemical quality of the ground on the site, the following sections present an initial qualitative risk assessment, based on the current development proposals (shown in Appendix A).

5.3 Potential Sources of Contamination

5.3.1 On-site Current and Historical Contamination

No on-site sources of contamination have been identified as part of this desk study.

5.3.2 Off-site Current and Historical Contamination

- Several inactive landfill sites are listed within the Envirocheck Report as being within 1 km radius of the site.
- Goldthorpe Industrial Estate exists to the east of the site, whose industrial activities may potentially pollute the ground water under the site.
- There is the potential of the pollution of groundwater due to numerous pollution events affecting Carr Dike. One pollution incident, the release of sewage into a tributary of Carr Dike, is defined within the Envirocheck Report as a category 2 Significant Incident.
- A surface water sewer connects to the Carr Dike from the north of the site. It is believed that the sewer discharges the surface water originating from a nearby access road.

5.3.3 Pollution incidents and Controls

The Envirocheck Report details the incidence of six pollution incidents within a distance of 500m form the site boundaries. Those pollution incidents listed as being located in tributaries of Carr Dike consist of;

- Alkali pollutant, 200m east of the site, categorised as a minor incident with no fish killed as a result
- Three Crude sewage emissions as a result of an incorrect sewerage connection, and categorised as a minor incident. All incidents occur within 350m to 500m of the site.
- Two significant pollution incidents involving combined sewage overflow and crude sewage, respectively defined as Category 2, Significant Incidents. The incidents polluted tributaries of Carr Dike approximately 150m and 400m, respectively, from the site.

Several integrated pollution controls are listed, located east of the site, with only one shown to exist within 300m of the site and registered to the Goldthorpe Industrial Estate. The additional pollution controls exist approximately 1km from the site.

5.3.4 Recorded and current landfill sites

No current or historical landfill sites are listed within the Envirocheck Report as being within a distance of 500m of the site.

5.3.5 Ground Gases

Potential sources of ground gases are listed in Section 4.6. Such gases could present a hazard to development.

6 Potential Geotechnical Issues

As a result of the review of the existing information, the following potential geotechnical issues have been identified for the proposed development. A geotechnical constraints plan is presented as Figure 9.

6.1 Proposed Development

The current development proposal comprises the construction of a regional office and distribution centre and associated access, loading and parking facilities. Refer to Appendix A for a drawing showing the proposed development.

6.2 Geological Faults

Based on the SYMAS drawing in Appendix B, a conjectured geological fault is believed to cross the south western corner of the site and a possible small geological fault may cross onto the north eastern corner of the site.

The current development proposal shows the regional office and distribution centre to straddle the potential fault within the sandstone bedrock (south western corner). The fault in the north east corner crosses an area of the site where no Phase 1 development buildings are proposed.

The conjectured location of the fault is within an area that requires significant cut and therefore the bedrock will be exposed and any fault zone should be visible during the enabling works.

The presence of geological faulting may have significant implications on the proposed development:

- Faults have a fracture zone, in which the ground is more disturbed and weaker than the surrounding material;
- Foundations constructed over the fault zone are liable to settle more than the foundations constructed on the undisturbed bedrock. Foundations on the fault zone may need to be oversized due to lower bearing capacity. Construction of a building straddling the fault zone could therefore result in differential settlement. Additional movement joints may be required in the part of the building which crosses the fault;
- The fault may also be subject to future movement from tectonic action or from ongoing movements within deep mineworkings;
- Ground gases may follow a preferential pathway along the fault zone to reach the surface;

Further investigation is required to establish the location and the extent of the faults, the depth of fracturing and establish the variability of strength of the ground across the site. Trial trenching will be carried out as part of the ground investigation to gain more information on the possible fault zones.

6.3 Mining Risk

The available information indicates that the Shafton Coal Seam outcrops to the north of the proposed Aldi development area. However, it remains a possibility that this coal seam may outcrop along the northern edge of the site and, whilst it should not affect the proposed Phase 1 building, it may impact on the access road and the proposed Phase 2 development site in the area to the north of Carr Dike.

The presence of coal at shallow depth could result in a combustion risk. If the Shafton Coal seam does intrude onto the development site it should be blinded off using suitably inert material (such as concrete) to prevent combustion occurring.

Deep mineworkings beneath the Phase 1 area are not expected to affect future development, except possibly if movement occurs in the future along the geological fault(s) due to stresses built up as a result of past mining operations.

6.4 Excavation and Earthworks

Topsoil will need to be removed from the majority of the site. The topsoil will not be suitable for re-use as general or structural fill, but may have commercial value as a topsoil resource.

The majority of the cut material to be excavated from the southern half of the site will comprise weathered sandstone.

The weathered sandstone is likely to be a variable material, ranging from sand and gravel of sandstone in a clay matrix to gravel- and cobble-sized fragments of sandstone with some sandy infill. The material is likely to be suitable for re-use as a general fill.

The less weathered sandstone rock may require hard digging, ripping or even blasting to excavate. Anecdotal evidence from Aldi's current farming tenant indicates that blasting was required to install the sewer across the site.

After excavation, the sandstone will require crushing to produce a granular fill material. It is likely that the granular fill will be suitable as a structural fill.

If excavations are required to the north of Carr Dike, mudstone rock may be encountered. The mudstone is likely to be susceptible to softening if it is exposed to rain. The mudstone formation should be left exposed for as short a time as possible.

Excavations may be affected by groundwater seepages. Within the building footprint, the seepages are likely to be controlled by creating a cut-off trench and sump pumping along the southern edge of the site.

6.5 Building Foundations

Based on the existing information, it is likely that the most suitable foundation solution will comprise pad foundations bearing on the sandstone rock at around 1.5 to 2.0m below existing ground level. In cut areas, the pads can be founded at a minimum depth. In fill areas, it is likely to be most economical to construct pier foundations, building the concrete bases up in stages as the ground is filled.

The bearing capacity of the sandstone is likely to be at least 250kN/m^2, but increasing in strength with depth of cut.

It may be necessary to include movement joints across any identified geological fault.

6.6 Ground Slab

A ground bearing floor slab is likely to be suitable within cut areas. Within filled areas, a ground bearing floor slab should be suitable, provided that granular structural fill is used beneath the building footprint. As indicated above, it is likely that the majority of the cut material will be suitable for re-use as structural fill, but this may require careful separation and processing to remove clayey materials.

Alternatively, all filling could be in accordance with a general fill specification, and then vibro stone columns used to improve the general fill, making it suitable for a ground bearing slab.

6.7 Road Pavements and Service Yards

A minimal sub-base thickness will be required in areas of cut where rock is exposed. A CBR value of at least 3% should be assumed on natural granular soils (weathered sandstone) or compacted granular structural fill. In areas of cohesive general fill, a CBR of at least 2% can be assumed.

6.8 Ground Gas Protection

Coal seams and mineworkings beneath the site have the potential to generate mine gas. The site is also located in an area where dwellings require basic radon gas protection. This does not necessarily apply to commercial/industrial buildings. The ground gas regime will be investigated by gas monitoring of standpipes installed during the proposed ground investigation.

At this stage, allowance should be made for a gas membrane to be installed beneath office/storage rooms within the building. The main warehouse section should have sufficient ventilation to be at negligible risk of build-up of ground gases.

6.9 Concrete Specification

The presence of Coal Measures strata beneath the site may indicate the presence of potentially high sulphate concentrations and possibly pyrite containing ground which may require the use of appropriately resistant concrete types.

At this stage it is recommended that allowance is made for sulphate-resistant concrete, e.g. DC-2.

6.10 Surface Water drainage

The sandstone rock in the southern part of the site may be sufficiently permeable to allow the implementation of infiltration drainage.

Soakaways should be positioned away from areas of filled ground, due to the potential for settlement to occur due to inundation.

In-situ infiltration tests will be required to confirm the in-situ permeability.

7 Ground Investigation Recommendations

Limited data is available in order to assess the ground conditions, potential contamination, ground water level etc. throughout the site. A ground investigation is required in order to assess those important engineering aspects of the site, allowing the detailed assessment into the design of foundations and embankments and the establishment of any remediation procedures required. The following ground investigation is recommended as a minimum:

- The drilling of rotary cored boreholes in order to allow the assessment of the underlying geology, and additionally for installation of standpipes.
- Monitoring standpipes installed in boreholes will enable the measurement of ground gas and groundwater. To enable long term groundwater monitoring, several boreholes will need to be positioned so that they are not damaged by the farmer's activities, or during construction of the Phase 1 development. The location of these boreholes should be near the eastern boundary of the site, adjacent to the Goldthorpe Industrial Estate; the most likely local polluter of the groundwater.
- Trial pits and a trial trench in order to attempt to locate the presence of the conjectured geological faults described previously. Additional trial pits will enable the assessment of superficial ground conditions across the site.
- Infiltration tests within trial pits to assess the suitability of infiltration drainage such as soakaways.
- The collection of soil and rock samples for geotechnical and chemical laboratory testing.
- The collection of groundwater samples from the prescribed boreholes to enable the testing of groundwater.
- The collection of surface water samples from Carr Dike. Special consideration may need to be given to the region of Carr Dike that the surface water drain connects to the dike.

FIGURES

Figure 1 Site Location Plan
Not to scale.

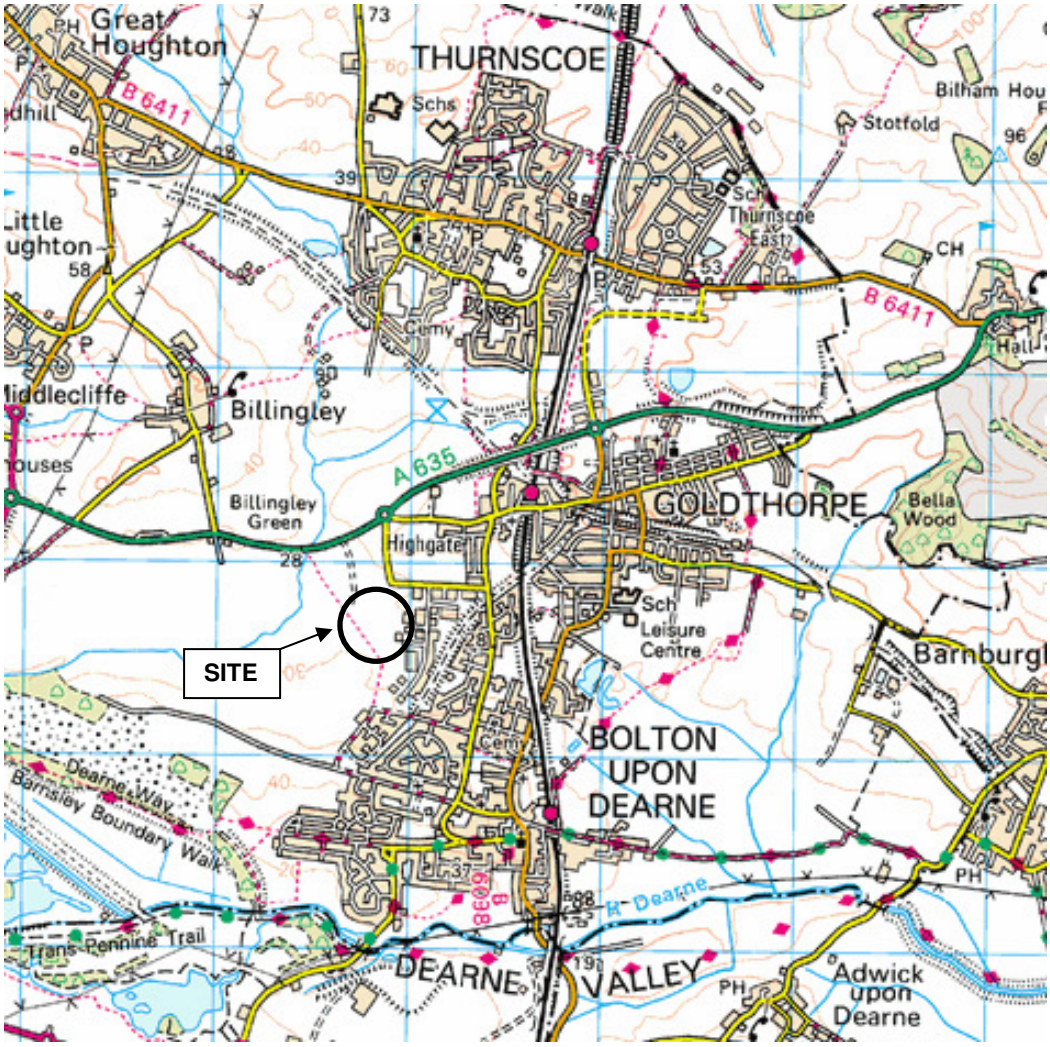


Figure 2 Site Layout Plan
Not to scale

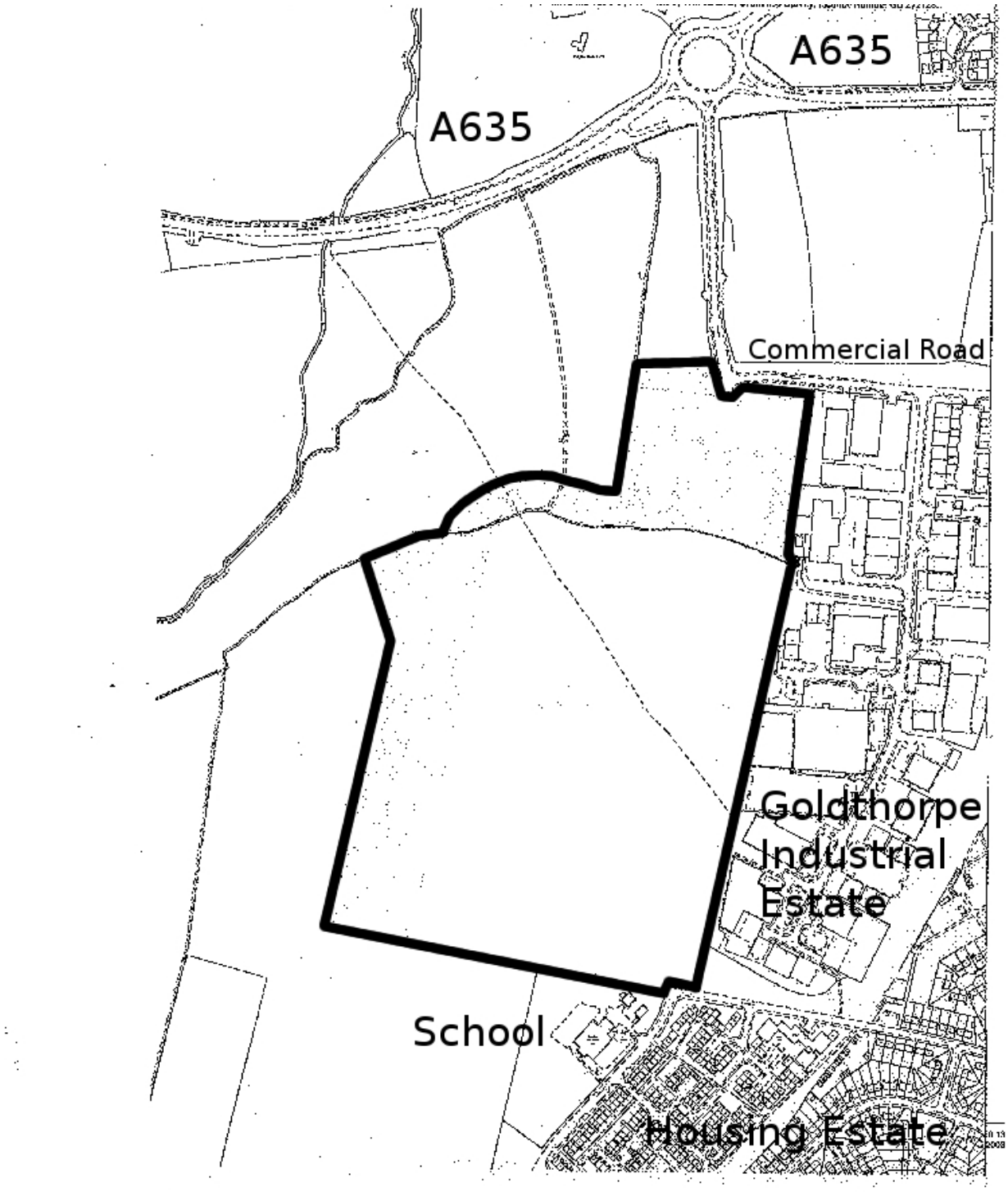


Figure 3 Historical OS Map, 1854-1855, 1:10,560
Not to scale.



Figure 4 Historical OS Map, 1967, 1:10,560
Not to scale.

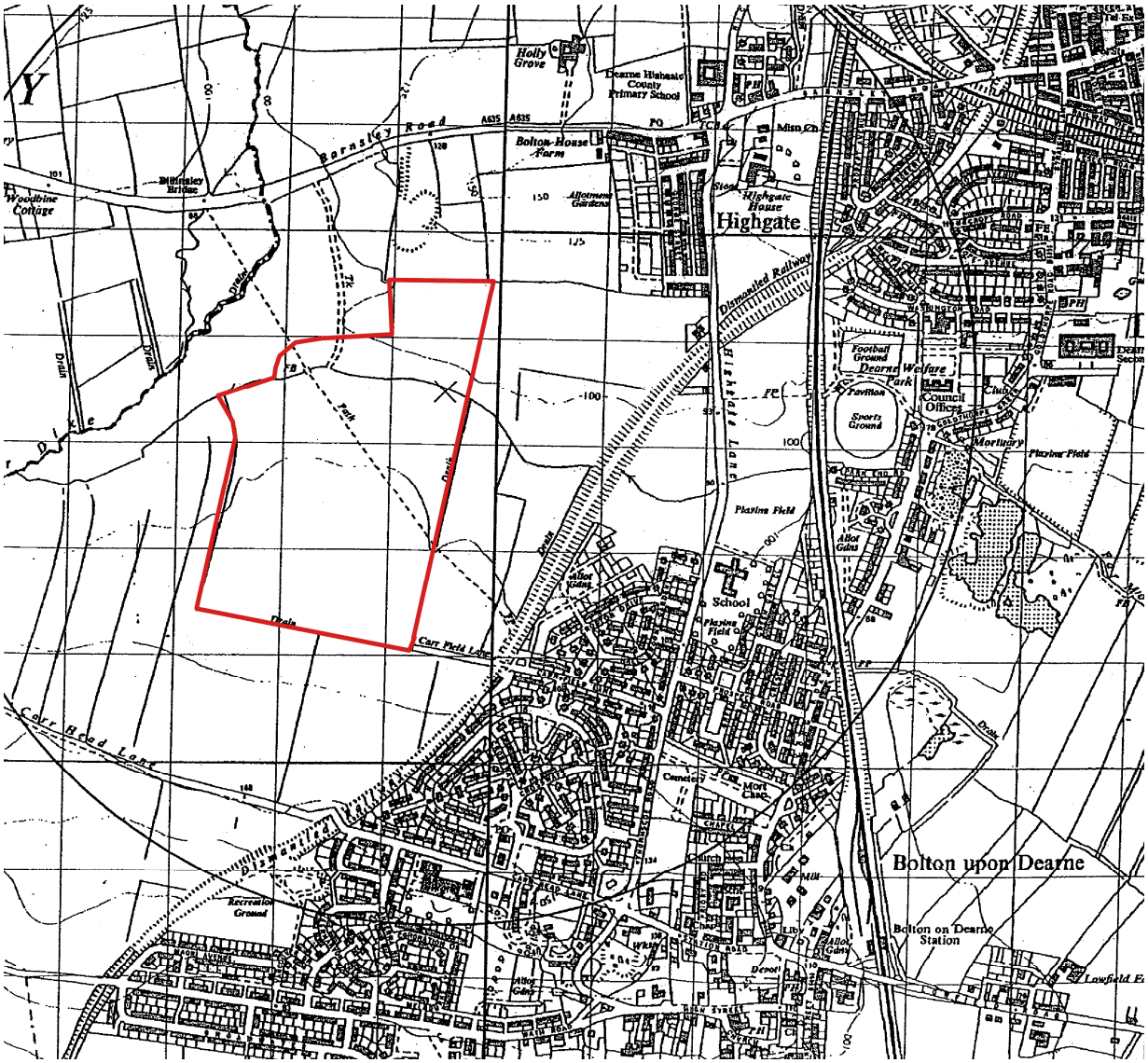


Figure 5 Historical OS Map, 2000, 1:10,000
Not to scale

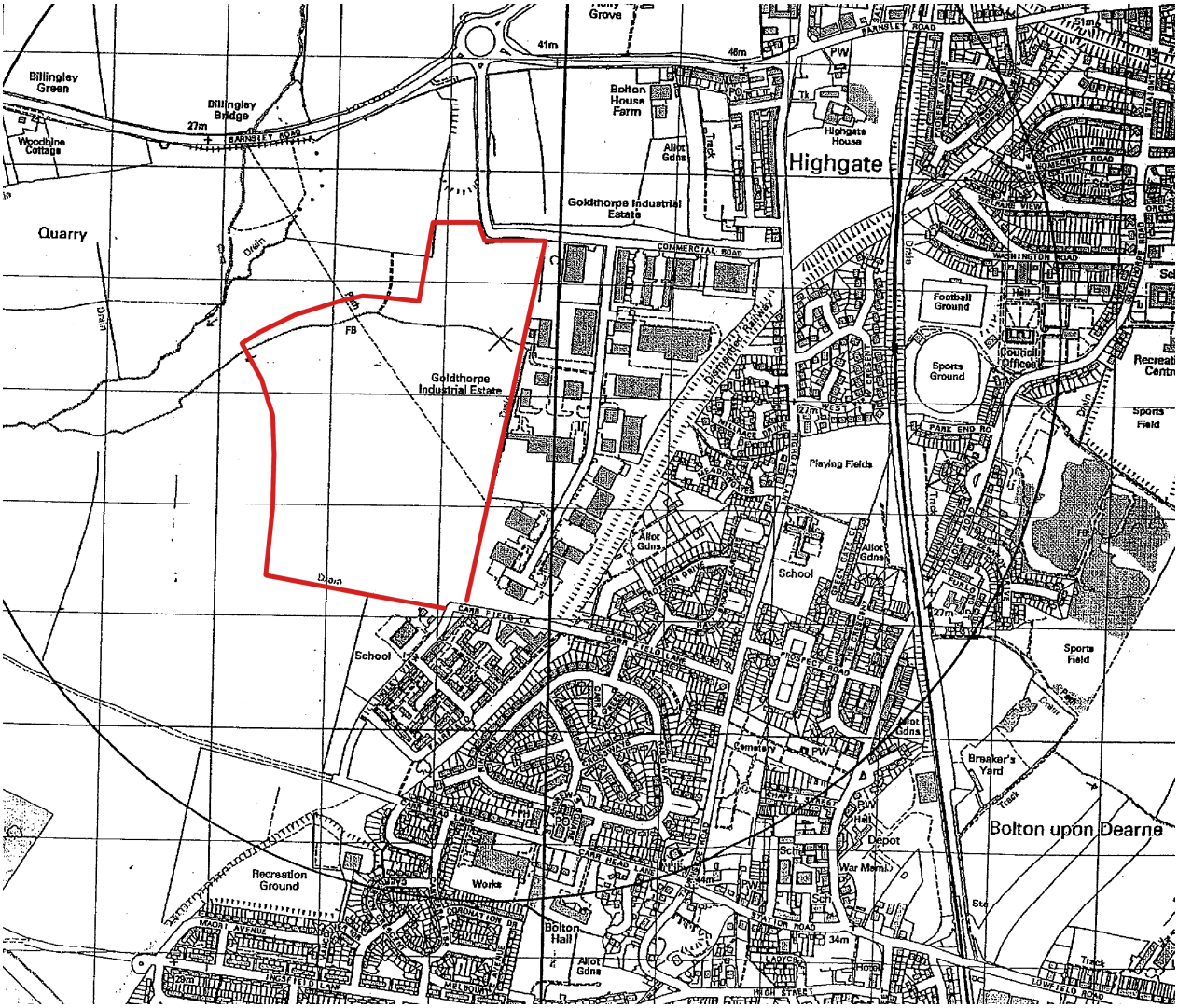


Figure 6 BGS Geological Map (1:10,000 scale)



Figure 7 SYMAS plan indicating subsidence damage to Highgate Sewers
Not to scale

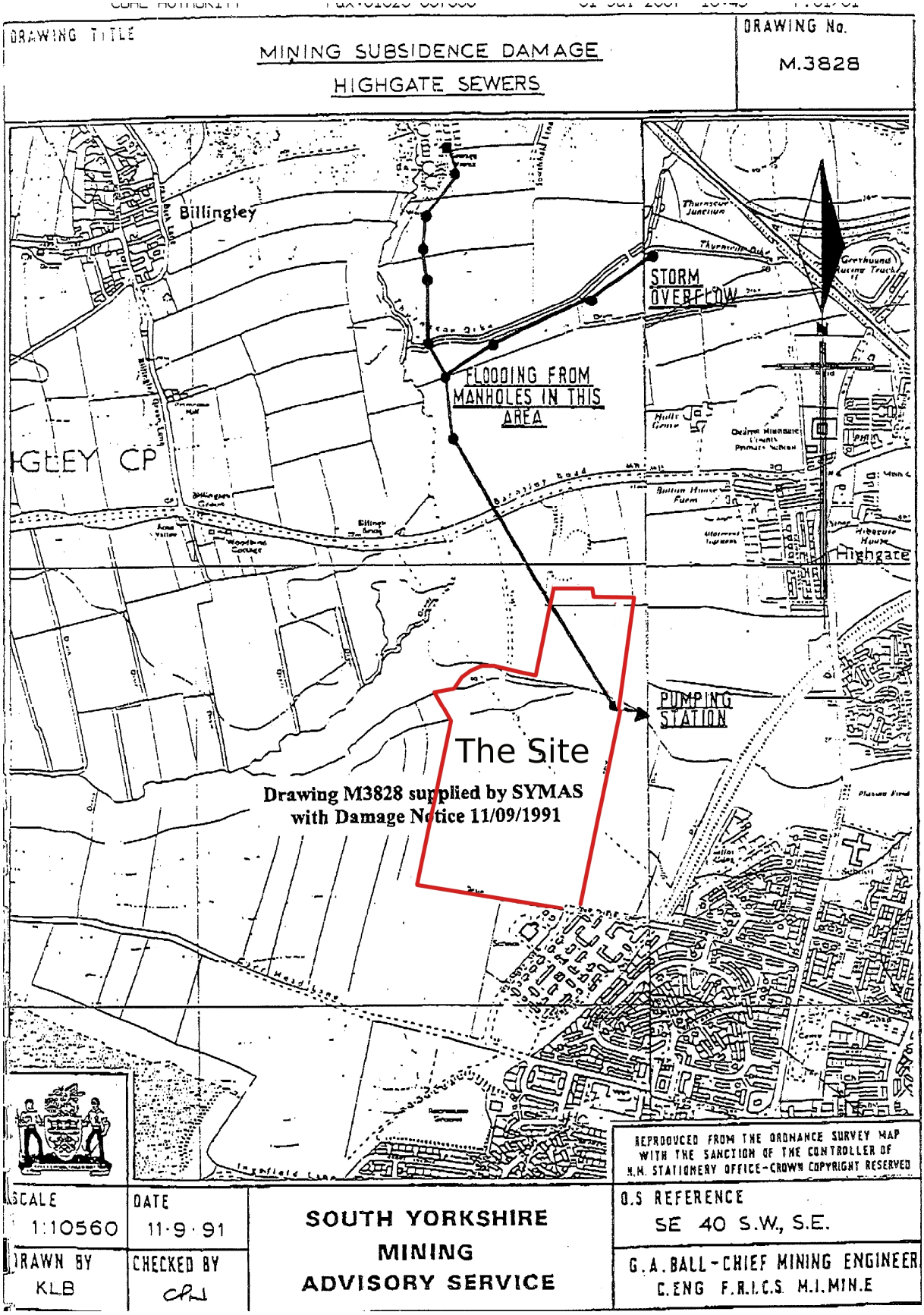
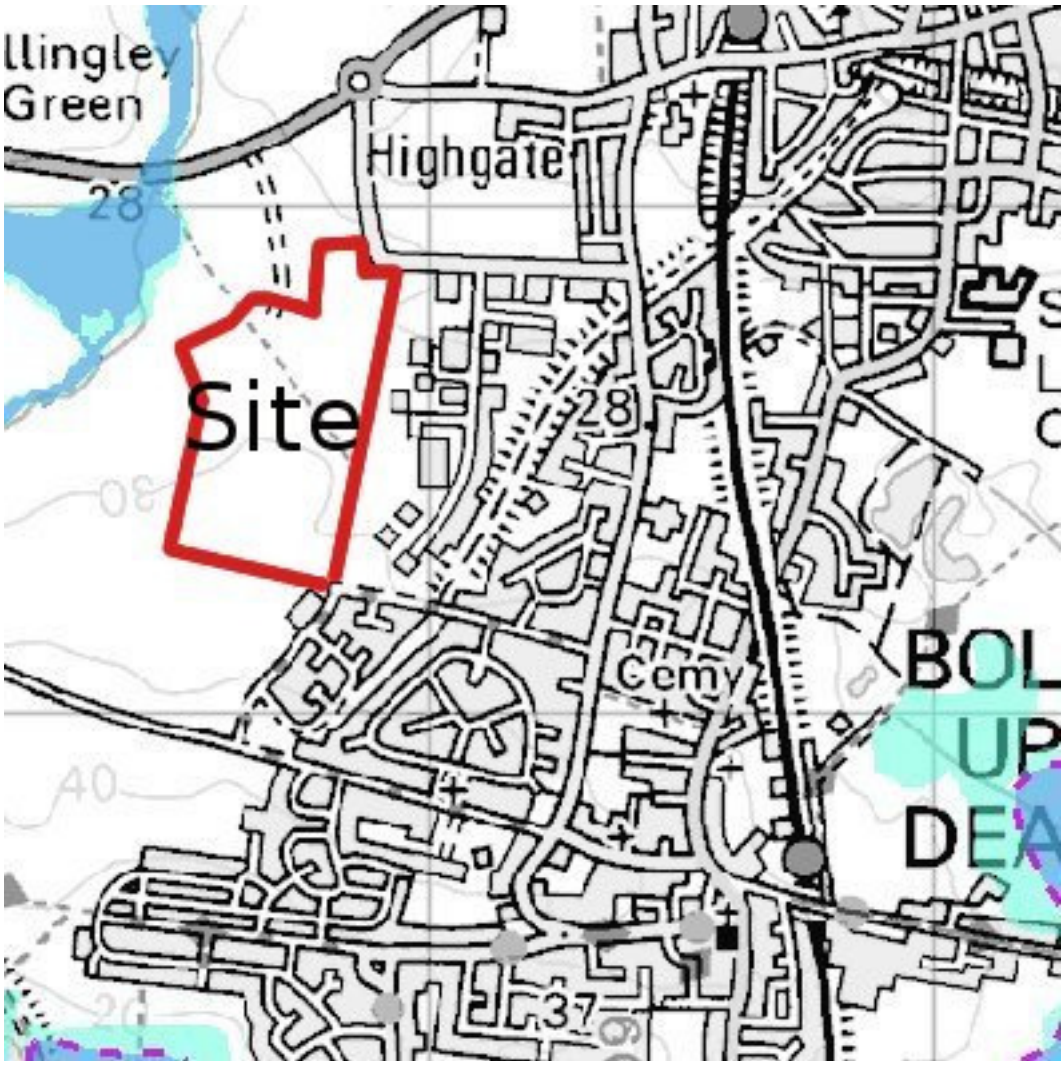


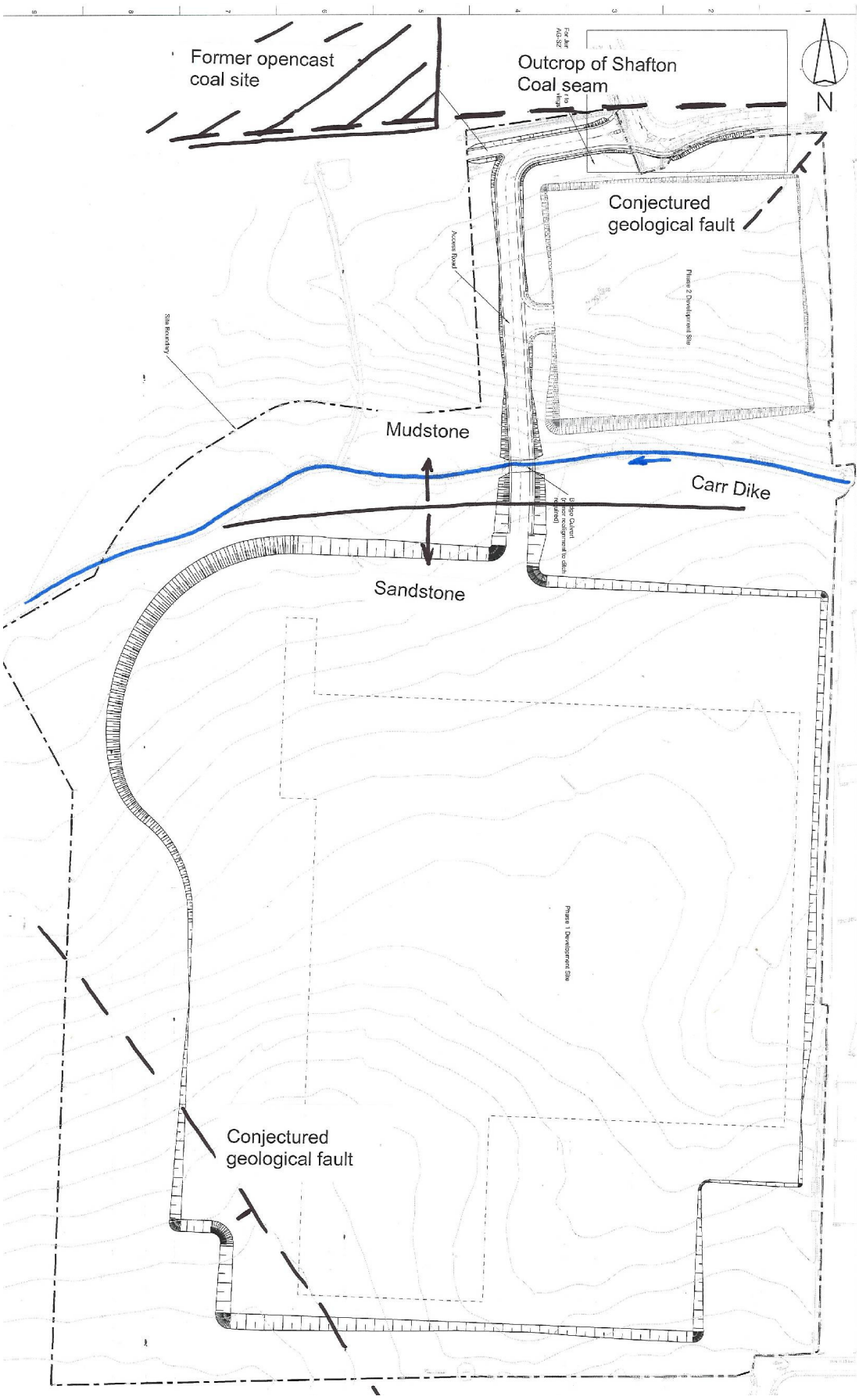
Figure 8 Environmental Agency Indicative Flood Map
Not to scale



Key

- Flooding from rivers or sea without defences
- Extent of extreme flood
- Flood defences
- Areas benefiting from flood defences

Figure 9 Geotechnical Constraints Plan
Not to scale.



PHOTOGRAPHS

Photograph 1 Carr Dike



Photograph 2 Eastward view of the Phase 2 development area



Photograph 3 Southward view of the site



Photograph 4 South Easterly view of the site



Photograph 5 Northward view overlooking the Phase 2 development



Photograph 6 Eastward view overlooking the Phase 2 development



Appendix A

Proposed Development Drawing (Gillespies M4343/01)



PLANNING ☒ DRAFT FOR COMMENT TENDER CONSTRUCTION

Client:
ALDI STORES LTD

Project:
ALDI GOLDTHORPE

Title:
LANDFORM, VEGETATION & ACCESS
DRAFT

NOTES
Do not scale from this drawing.
All dimensions should be checked on site.
Refer to Architects for further information.

KEY

- Amenity grass
- Wildflower grass
- Woodland Mix Structure Planting
- Existing Trees
- Specimen Trees
- Planning Boundary
- Hawthorn Ornamental Hedge
- Native Hedge Field Boundary
- Post and Rail Fence Field Boundary
- Base of slope
- Crest of slope
- Extent of Waterbody
- Standing Water at 2.5 m Depth
- Standing Water > 1 m Depth
- Reed Bed Planting (Water < 1 m Depth)
- Moisture Tolerant Marginal Planting
- Spot Heights
- Indication of Slope

NORTH

Rev	Date	Detail	Auth	Chk'd	App'd
-	15/08/07	-	FM / LD	SH / TW	TW

Sheet Size - A1 (594mm x 841mm)
Drawn by: FM / LD
Design: LD / FM
Date: 15 / 08 / 07
Checked by: SH / TW
Scale: 1/1000 @ A1
Approved by: TW

GILLESPIES

Minton Chambers
12 Heatons Court
Leeds
LS1 4LJ
T 0113 2470550
F 0113 2470660
E admin.leeds@gillespies.co.uk

AutoCAD Location: K:\M4343\DRAWINGS\
DRAWINGS (CURRENT)

No. M4343/01 DRAFT Rev: -

Appendix B

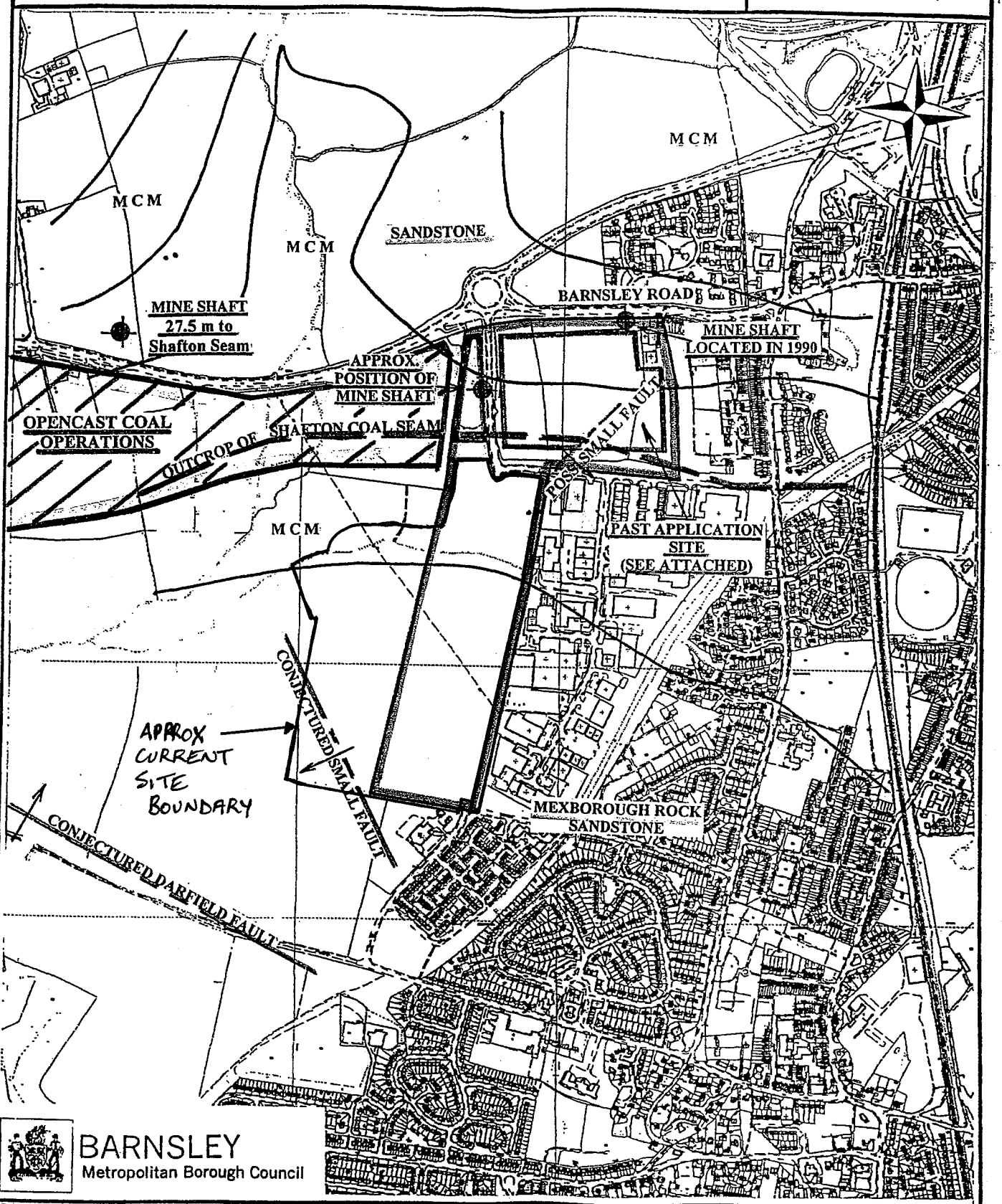
South Yorkshire Mining Advisory Service Drawing

DRAWING TITLE

SITE AT GOLDTHORPE INDUSTRIAL ESTATE COMMERCIAL ROAD, GOLDTHORPE, ROTHERHAM MINING & GEOLOGICAL INFORMATION

DRAWING NO.

M108 / 2A



BARNSLEY
Metropolitan Borough Council

SCALE	DATE		O.S REFERENCE
1/10560	31/10/02	SOUTH YORKSHIRE MINING ADVISORY SERVICE	SE 40 SE / SW
DRAWN BY: SML	CHECKED BY: MAL		C. P. NAYLOR C.ENG M.I.M.M MINING ADVISORY MANAGER

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Appendix C

Coal Authority Mining Reports (2002 and 2006)

Authority,
Reports Office,
ichfield Lane,
ry Hill,
Mansfield,
Nottinghamshire,
NG18 4RG
Telephone: 0845 762 6848
DX 716176 MANSFIELD 5
On-Line Service: www.coalminingreports.co.uk

The Coal Authority

ANNETTE PLAYLE,
HAMMONDS - LONDON,
7 DEVONSHIRE SQUARE,
LONDON,
EC2M 4YH

This matter is being dealt with by Darren Moody

Our Ref: **00055231-06**
Your Ref: JEM.ALD.047-1238
Electronic Ref: 00000032484650001CH_ESRI
RRUID: 006.00003489220001
Date: 04 October 2006

Dear Sir,

Coal Mining Report

GOLDTHORPE, LAND AT, BOLTON-UPON-DEARNE, ROTHERHAM, S63 8ES

I refer to the enquiry dated 03rd October 2006, received 03rd October 2006, in connection with the above.

This report is based on and limited to the records in the possession of The Coal Authority at the time the search is answered.

Ordnance Survey (O.S.) is undertaking a Positional Accuracy Improvement Programme of its mapping data. The Coal Authority (CA) has no control over the timing of issue of Positionally Improved mapping data by O.S. or over users of that data. In some instances the relative position between surface features and coal mining features may alter as a consequence of this programme. The CA will ensure that the integrity of its database is maintained by replotting some mining information to sustain the relationship between that mining information and the improved O.S. surface positions, some of which are now being released. However, mining reports are currently being produced against pre improved O.S. mapping whilst the Authority updates its database in line with the O.S. changes.

Past Underground Mining

The property is within the likely zone of influence on the surface from workings in 5 seams of coal at 240m to 770m depth, the last date of working being 1990.

Ground movement from the above mentioned past coal workings should by now have ceased.

In addition you may wish to know that the property is in an area where coal is believed to exist at or close to the surface that may have been worked at some time in the past.

Present Underground Mining

The property is not within the zone of likely physical influence on the surface from any present underground coal workings.

Future Underground Mining

The property is not within a geographical area for which a licence to extract coal by underground methods is awaiting determination by the Coal Authority.

The property is not within a geographical area for which a licence to extract coal by underground methods has been granted.

The property is not within the zone of likely physical influence at the surface from plans of future workings in our possession.

However reserves of coal exist in the locality which could be worked at some time in the future subject to feasibility, licences, and planning consents.

We have no record of any notice of the risk of the land being affected by subsidence being given under S.46 of the Coal Mining Subsidence Act 1991.

Mine entries

We have no knowledge of any mine entries within, or within 20 metres of, the boundary of the property.

The records held by the Coal Authority may be incomplete. Consequently, there may exist in this locality mine entries of which we have no knowledge.

Coal-mining geology

Records in our possession do not disclose any fault or other line of weakness at the surface as having affected the stability of the property.

Past Opencast Mining

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

Present Opencast Mining

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

Future Opencast Mining

The property is not within 800 metres of the geographical boundary of an opencast site for which a licence to extract coal by opencast methods is awaiting determination.

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

Coal-mining subsidence

The records in our possession do not disclose any damage notice or claim having been given, made or pursued in respect of the property since 1 January 1984.

The records in our possession do not disclose any current "Stop Notice" affecting the property.

The records in our possession do not show any request having been made to execute preventative works under S.33 of the Coal Mining Subsidence Act 1991.

Withdrawal of Support

The property lies within a geographical area in respect of which notices of entitlement to withdraw support were published in 1983,1942,1982,1980.

The property does not lie within a geographical area in respect of which a notice has been given under S.41 of the Coal Industry Act 1994, revoking the entitlement to withdraw support.

Working Facilities Orders

The property is not within a geographical area that is the subject of an Order made under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

Payments to Owners of Former Copyhold Land

The property is not within an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Additional Remarks

In view of the mining circumstances a prudent developer would seek appropriate technical advice before works are undertaken on site. All proposals should have regard to good engineering practice in mining areas as identified in authoritative publications on mining stability problems. In any event, no activities should be undertaken that intersect, disturb, or interfere with any coal or mines of coal without permission of the Coal Authority.

These replies are prepared in accordance with the 2003 editions of the Coal Authority's Terms and Conditions, User Guide and the Law Society's Guidance Notes.

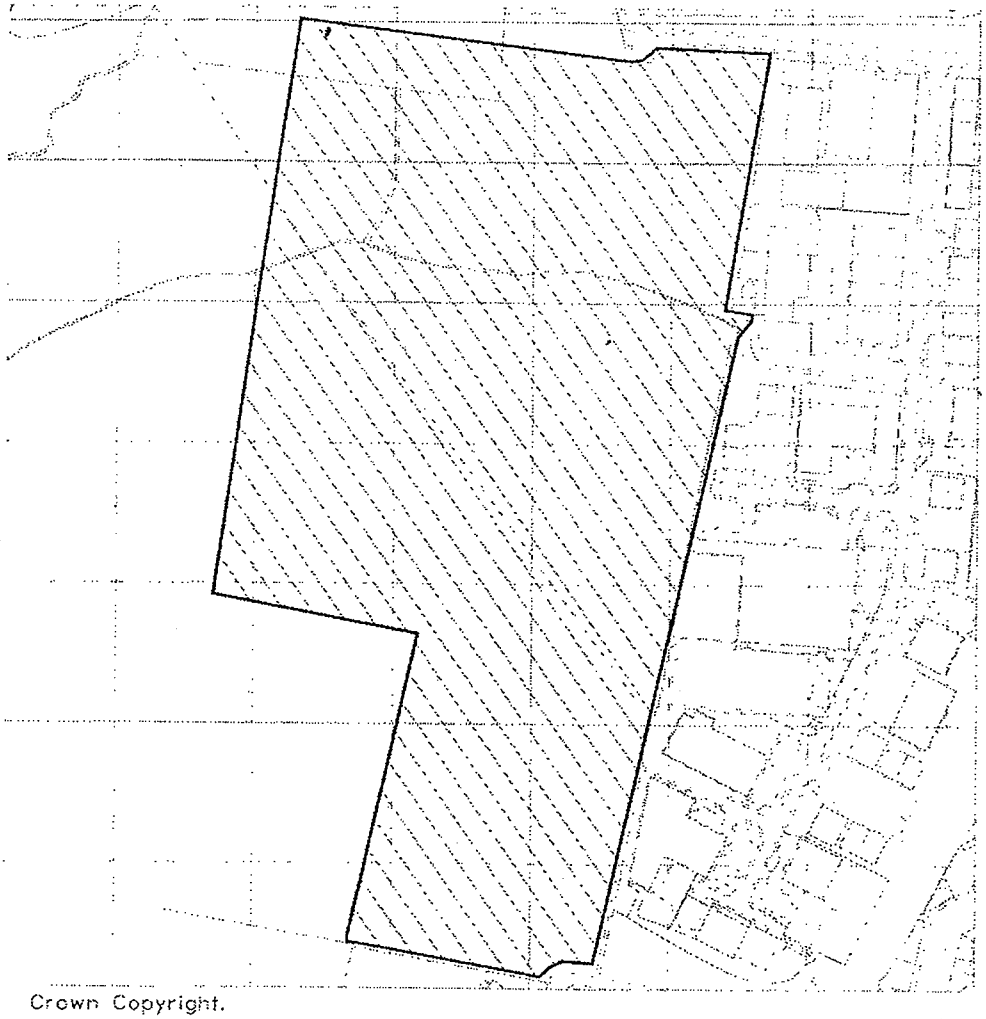
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Yours faithfully



Stephen Pennell

Director of Mining Information and Services



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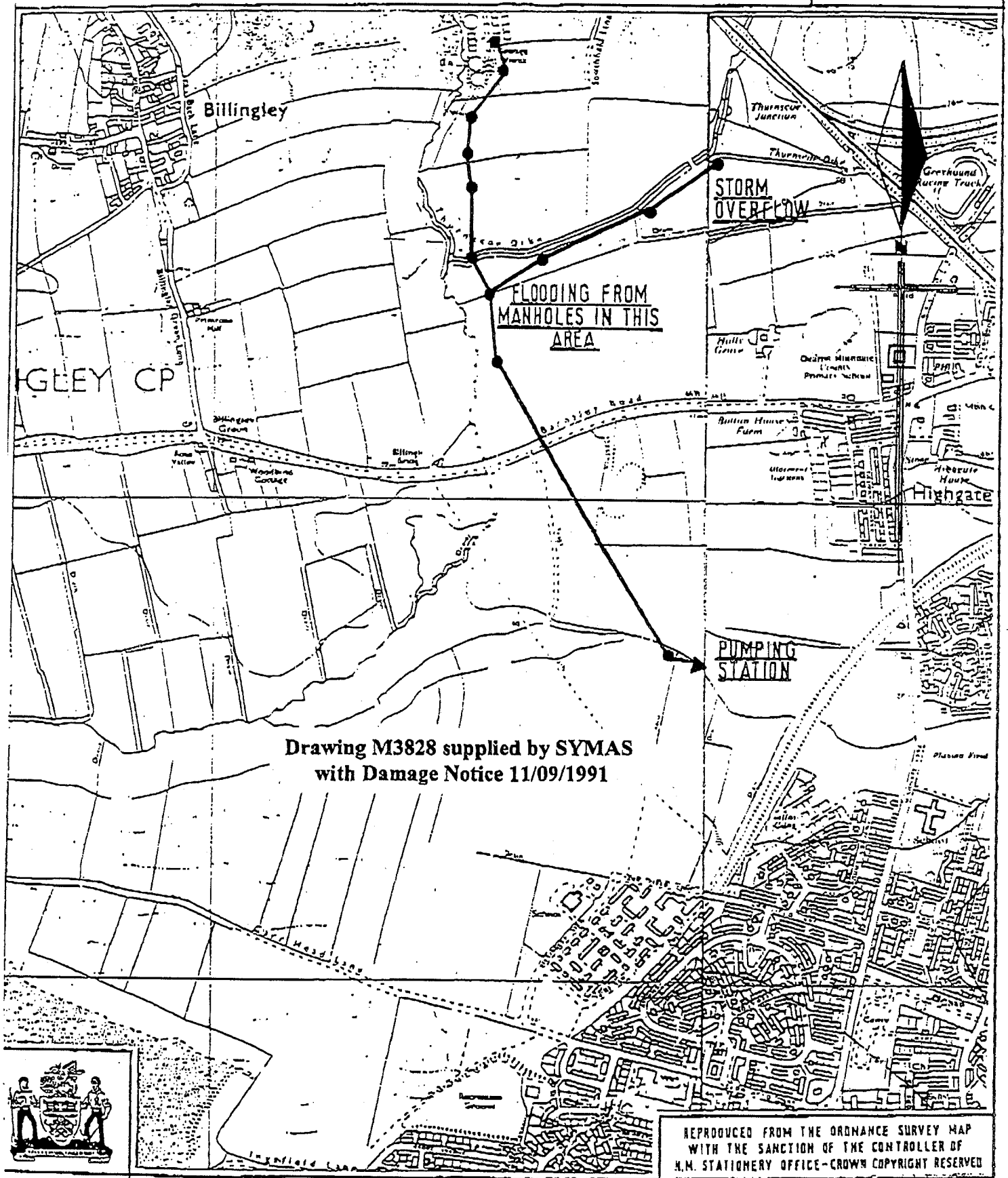
This is a plan of the boundaries of the property in respect of which this report has been prepared. It is the responsibility of the user to ensure that the boundaries shown correspond with those of the property.

APPROXIMATE POSITION OF ENQUIRY BOUNDARY SHOWN

NG TITLE

MINING SUBSIDENCE DAMAGE
HIGHGATE SEWERS

DRAWING No.
M.3828



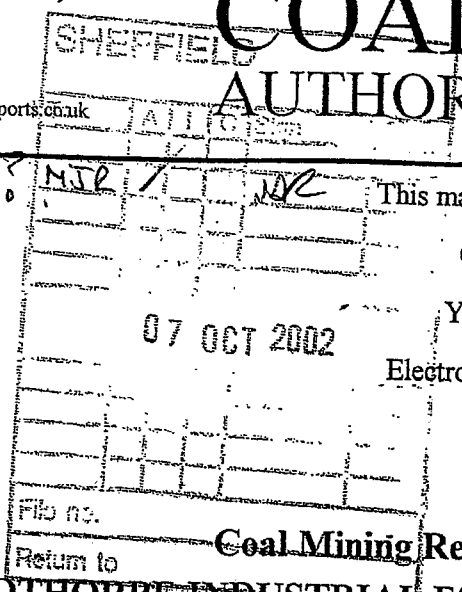
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SCALE	DATE		O.S REFERENCE
1:10560	11·9·91	SOUTH YORKSHIRE MINING ADVISORY SERVICE	SE 40 S.W., S.E.
DRAWN BY KLB	CHECKED BY		G.A.BALL-CHIEF MINING ENGINEER C.ENG F.R.I.C.S. M.I.MIN.E

The Coal Authority,
Mining Reports Office,
200 LICHFIELD LANE,
BERRY HILL,
MANSFIELD,
NOTTINGHAMSHIRE,
NG18 4RG
Telephone: 0845 762 6848
DX 716176 MANSFIELD 5
On-Line Service: www.coalminingreports.co.uk

The COAL AUTHORITY

The Coal Authority
Cost: £35.30
Plus V.A.T. £6.70
Total Received: £45.00
V.A.T. Reg Number: 599 5859 65



MOTT MACDONALD,
111 ST. MARYS ROAD,
SHEFFIELD,
S2 4AP

This matter is being dealt with by Darren Moody

Our Ref: **412732-02**

Your Ref: ASE PS MJR 203875

Electronic Ref:

Date: 03 October 2002

Dear Sir,

Coal Mining Report

SITE AT, GOLDTHORPE INDUSTRIAL ESTATE COMMERCIAL ROAD, GOLDTHORPE, ROTHERHAM, SOUTH YORKSHIRE

I refer to the enquiry dated 30th September 2002, received 02nd October 2002, in connection with the above.

This report is based on and limited to the records in the possession of The Coal Authority at the time the search is answered.

Ordnance Survey (O.S.) is undertaking a Positional Accuracy Improvement Programme of its mapping data. The Coal Authority (CA) has no control over the timing of issue of Positionally Improved mapping data by O.S. or over users of that data. In some instances the relative position between surface features and coal mining features may alter as a consequence of this programme. The CA will ensure that the integrity of its database is maintained by replotting some mining information to sustain the relationship between that mining information and the improved O.S. surface positions, some of which are now being released. However, mining reports are currently being produced against pre improved O.S. mapping whilst the Authority updates its database in line with the O.S. changes.

Past Underground Mining

The property is within the likely zone of influence on the surface from workings in 5 seams of coal at 230m to 810m depth, the last date of working being 1990.

Ground movement from the above mentioned past coal workings should by now have ceased.

In addition you may wish to know that the property is in an area where coal is believed to exist at or close to the surface that may have been worked at some time in the past.

Present Underground Mining

The property is not within the zone of likely physical influence on the surface from any present underground coal workings.

Future Underground Mining

The property is not within a geographical area for which a licence to extract coal by underground methods is awaiting determination by the Coal Authority.

The property is not within a geographical area for which a licence to extract coal by underground methods has been granted.

The property is not within the zone of likely physical influence at the surface from plans of future workings in our possession.

However reserves of coal exist in the locality which could be worked at some time in the future subject to feasibility, licences, and planning consents.

We have no record of any notice of the risk of the land being affected by subsidence being given under S.46 of the Coal Mining Subsidence Act 1991.

Shafts and Adits

Within or within 20 metres of the property there is 1 mine entry, the approximate position of which is shown on the attached plan. Your attention is drawn to the statements made on that plan.

We have no record of what steps, if any, have been taken to treat the mine entry.

The records held by the Coal Authority may be incomplete. Consequently, there may exist in this locality mine entries of which we have no knowledge.

Surface Geology

Records in our possession do not disclose any fault or other line of weakness at the surface as having affected the stability of the property.

Past Opencast Mining

The property is located within the geographical boundary of an opencast site from which coal has been extracted by opencast methods.

Present Opencast Mining

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

Future Opencast Mining

The property is not within 800 metres of the geographical boundary of an opencast site for which a licence to extract coal by opencast methods is awaiting determination.

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

Subsidence

A damage notice or claim for alleged subsidence damage was given, made or pursued in September 1991. The claim was discharged by payment of compensation.

The records in our possession do not disclose any current "Stop Notice" affecting the property.

The records in our possession do not show any request having been made to execute preventative works under S.33 of the Coal Mining Subsidence Act 1991.

Withdrawal of Support

The property lies within a geographical area in respect of which notices of entitlement to withdraw support were published in 1983,1983,1942,1946,1946.

The property does not lie within a geographical area in respect of which a notice has been given under S.41 of the Coal Industry Act 1994, revoking the entitlement to withdraw support.

Working Facilities Orders

The property is not within a geographical area that is the subject of an Order made under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

Payments to Owners of Former Copyhold Land

The property is not within an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Additional Remarks

In view of the mining circumstances a prudent developer would seek appropriate technical advice before works are undertaken on site. All proposals should have regard to good engineering practice in mining areas as identified in authoritative publications on mining stability problems. In any event, no activities should be undertaken that intersect, disturb, or interfere with any coal or mines of coal without permission of the Coal Authority.

According to our records a site investigation was carried out in 1996 by SYMAS Barnsley MBC Central Offices, Kendray Street, Barnsley, S70 2TN .

These replies are prepared in accordance with the Law Society's Guidance Notes 1998.

We acknowledge the receipt of your remittance in payment of our fee.

Yours faithfully

A Schofield

Albert Schofield

Director of Mining Records and Services



Crown Copyright. Quoted scale is approximate.

SCALE: 1:10000

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This is a plan of the boundaries of the property in respect of which this report has been prepared. It is the responsibility of the user to ensure that the boundaries shown correspond with those of the property.

APPROXIMATE POSITION OF ENQUIRY BOUNDARY SHOWN

APPROXIMATE POSITION OF CLAIM BOUNDARIES SHOWN

APPROXIMATE POSITION OF DISUSED MINE SHAFTS SHOWN

This plan shows the approximate location of the disused mine entry/entries referred to in the attached mining report. For reasons of clarity, mine entry symbols may not be drawn to the same scale as the plan.

Property owners have the benefit of statutory protection (under the Coal Mining Subsidence Act 1991). This contains provision for the making good, to the reasonable satisfaction of the owner, of physical damage from disused coal mine workings including disused coal mine entries. A DTI leaflet setting out the rights and the obligations of either the Coal Authority or other responsible persons under the 1991 Act can be obtained by telephoning 0845 762 6848.

If you wish to discuss the relevance of any of the information contained in the attached report you should seek the advice of a qualified mining engineer or surveyor. If you or your adviser wish to examine the source plans from which the information has been taken these are available at our Mansfield office, free of charge, by prior appointment, telephone 01623 638233. Should you or your advisor wish to carry out any physical investigations that may enter, disturb or interfere with any disused mine entry the prior permission of the owner must be sought. For coal mine entries the owner will normally be the Coal Authority.

The Coal Authority, regardless of responsibility and in conjunction with other public bodies, provide an emergency call out facility in coalfield areas to assess the public safety implications of mining features (including disused mine entries). Our emergency telephone number at all times is 01623 646333.

Appendix D

Utility Information

FAO: MATTHEW WEIR

nationalgrid

FAX: 0114 275 9553

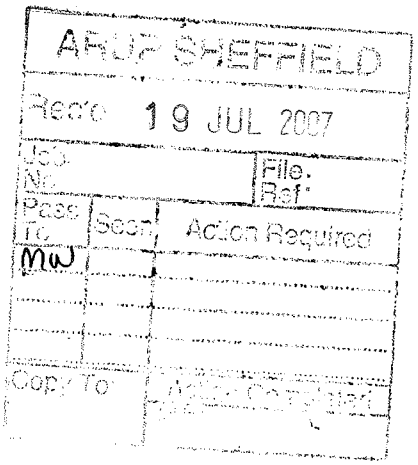
As et Protection Team
PC Box 3484
W: nwick
CV 34 6TG

Dir ect tel +44 (0)800 73 12961
Dir ect fax +44 (0)1926 6 56574

24 hour Electrical Emerge icy No
(800 40 40 90*
*C: lls may be recorded anc monitored
24 hour Gas Escape No
(800 111 999*
*C: lls may be recorded anc monitored

ww w.nationalgrid.com

Attention: Mr NIALL BOURKE
ARUP
ADMIRAL HOUSE
ROSE WHARF
78 EAST STREET
LEEDS
LS9 8EE



Date	21 June 2007
Our Reference	IN05670/0010034
Your Reference	122677/NJB

Dear Sir

Re: ALDI, GOLDTHORPE

Thank you for your enquiry, which we have assessed with respect to our operational elec icity transmission ne work and our operational national gas transmission network.

Based on the information you have provided and the proximity and sensitivity of these ne works to your propos ls we have concluded, using the enclosed tables, that the risk is NEGLIGIBLE.

Further details of organisations responsible for the operation of gas distribution networks including National Gi d's gas distribution organisation, and those responsible for electricity distribution networks can b found at www.nationalgrid.com and www.energynetworks.org and on the enclosed map.

Please ensure that you have a response from both ourselves and the relevant gas distrit ition organisation, in ddition to other utility network operators, before you proceed with your proposals.

Yours faithfully

Glen Haut
Asset Protection Team

Risk Assessment Tables
Map
For our national transmission networks see :
http://www.nationalgrid.com/uk/LandandDevelopment/DDC/gastransmission/gaspipes/
http://www.nationalgrid.com/uk/LandandDevelopment/DDC/electricitytransmission/overheadlines

National Grid is a trading name for:
National Grid Electricity Transmission plc
Registered Office: 1-3 Strand, London WC2N 5EH
Registered in England and Wales, No 2366977

National Grid is a trading na ne for:
National Grid Gas plc
Registered Office: 1-3 Strar , London WC2N 5EH
Registered in England and ' ales, No 2006000

Work Safely in the Vicinity of National Grid's Gas Pipelines

Remember, you need to contact two organisations for gas pipeline enquiries

Gas Pipelines – Who to Contact

GAS TRANSMISSION

National Grid owns and operates the national gas transmission network covering England, Wales and Scotland.

For more details please see:
http://www.nationalgrid.com/uk/LandandDevelopment/DCC/gastransmission/gaspipes



NATIONAL GRID's gas transmission pipelines and above ground sites may be directly affected by work you are considering or intending to undertake. In order to determine if this is the case and to ensure that you work safely close to such pipelines, please contact in writing our Asset Protection Team below. Remember to enclose a clearly identifiable plan and site grid reference with your letter.

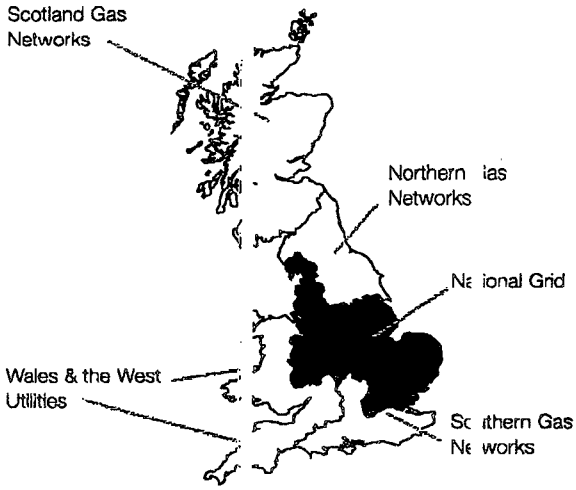
National Grid UK Transmission
Land and Development
Asset Protection Team
P.O. Box 3484
Warwick
CV34 6TG

You may wish to check the progress of your enquiry by calling the Asset Protection Team on the FREEPHONE number:

0800 731 2961

GAS DISTRIBUTION

National Grid owns and operates the gas distribution network in the area shown in blue on the map below. Separate gas distribution network companies own the gas distribution networks within the areas shown in white below.



NATIONAL GRID's gas distribution pipelines and above ground sites may be directly affected by work you are considering or intending to undertake. In order to determine if this is the case and to ensure that you work safely close to such pipelines, please contact in writing our Plant Protection Team below. Remember to enclose a clearly identifiable plan and site grid reference with your letter.

National Grid Gas Distribution
Plant Protection Team
National Grid, Lakeside House
The Lakes
Bedford Road
Northampton
NN4 7HD

0800 688588

For information on gas distribution pipelines in other areas of England, Wales or Scotland (see map above) you should contact the relevant gas distribution network company. To find their contact details go to the Energy Networks Association web site: www.energynetworks.org

To report a gas escape or emergency or if a pipeline is damaged, even slightly (even if no gas leak has occurred) call the National Gas Emergency Service 24 hours a day on 0800 111 999*

*All calls are recorded and may be monitored.

nationalgrid

Work Safely in the Vicinity of National Grid's Electricity Lines and Underground Cables

Remember, you need to contact two organisations for electricity overhead line and underground cable enquiries

Electricity Lines and Underground Cables – Who to Contact

ELECTRICITY TRANSMISSION

National Grid owns and operates the high voltage (275,000 volt and 400,000 volt) electricity transmission network covering England and Wales.

For more details please see:
http://www.nationalgrid.com/uk/LandandDevelopment/DCC/electricitytransmission/overheadlines



NATIONAL GRID's overhead lines, underground cables and substations may be directly affected by work you are considering or intending to undertake. In order to determine if this is the case and to ensure that you work safely close to our overhead lines and underground cables please contact in writing our Asset Protection Team below. Remember to enclose a clearly identifiable plan and site grid reference with your letter.

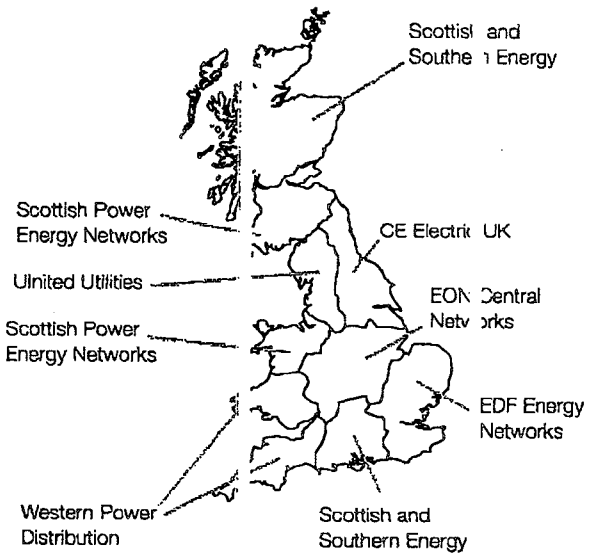
National Grid UK Transmission
Land and Development
Asset Protection Team
P.O. Box 3484
Warwick
CV34 6TG

You may wish to check the progress of your enquiry by calling the Asset Protection Team on the FREEPHONE number:

0800 731 2961

ELECTRICITY DISTRIBUTION

For information on electricity distribution network overhead lines and underground cables and substations in England, Wales or Scotland you should contact the relevant electricity distribution network company.



To find the contact details for distribution network operators go to the Energy Networks Association web site: www.energynetworks.org

For reporting electrical emergencies, including damage to a National Grid pylon, call the FREEPHONE number 0800 40 40 90.

If possible, make a note of the pylon's number, as it helps our teams to locate it.

nationalgrid

Electricity Transmission Underground Cables

	Risk
Proximity	Any Activity
0 - 5m	
5 - 30m	Moderate
> 30m	

	Require further information and/or support to be provided
Moderate	Provide plans, information and offer further details and support
	No further information required or provided

Electricity Transmission Overhead Lines

	Risk
Proximity	Any Activity
0 -100 m	Moderate
> 100m	

	Require further information and/or support to be provided
Moderate	Provide plans, information and offer further details and support
	No further information required or provided

2007 14:49 FAX 01926 656574

004

Gas Transmission Underground Pipelines

Proximity	Risk: Type of Activity						
	Deep Mining	Blasting	Demolition	Landfilling	Surface Mineral Extraction	Piling	Other
0-5 m							
5-15 m							
15-100 m						Moderate	Moderate
100-150 m				Moderate	Moderate	Moderate	Moderate
150-250 m			Moderate				
250 - 1000m		Moderate					
1000 - 1500 m	Moderate						
> 1500 m							

	Require further information and/or support to be provided
Moderate	Provide plans, information and offer further details and support
	No further information required or provided

2007 14:49 FAX 01926 656574 005

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Drain

Drain

Drain

Drain

Goldthorpe Industrial Estate

18a

18b

17b

17a

Heather Garth Junior and Infant School

CARR FIELD LANE

BECKFIELD GROVE

Heather Court

172 to 210

Aldi, Goldthorpe

YORKSHIRE ELECTRICITY GROUP plc.

The position of our equipment is shown on this plan as accurately as possible. However, it may have changed since the plan was produced. Therefore, the position of our equipment and those of service cables which may not be shown should be established on site. Electricity cables not owned by Yorkshire Electricity may be laid in this area and may not be shown on this plan. Where private cables are shown, the information should not be regarded as accurate and should be used for guidance purposes only. In all cases, accurate information should be obtained from the owner of such cables prior to the commencement of work on site.

Yorkshire Electricity	Safe Digging Map	25-05-2007
	444435,403151	1:1000
		LWE



443060 : 402408

Map Name : SE4302SW

Yorkshire Water,
PO Box 500,
Halifax Road,
Bradford BD6 2LZ
Contact Name :
Mrs F Sorsby
Contact Tel : 75 4934

Title

Notes

Partial Key

Water mains up to 4" in diameter

Water mains over 4" in diameter

Raw water mains

Private water mains

The position and depths of apparatus shown on this plan are approximate only. The exact positions and depths should be obtained by excavation trial holes.

Scale : 1:1250

Drg No :

Maris No :

Date Req : 09/06/2007, 11:31:26

Date Gen : 09/06/2007, 11:31:34

Source : Water Network Enquiry

UPN: Undefined

Originator: F Sorsby, Ops Control, 75 4934



443060 : 402408	Map Name : SE4302SW	Title
YorkshireWater Yorkshire Water, PO Box 500, Halifax Road, Bradford BD6 2LZ Contact Name : Mrs F Sorsby Contact Tel : 75 4934		Notes
		Partial Key Foul Sewer = F Combined Sewer = C Surface Water Sewer = SW Trade Sewer = TD Partially Seperate = PS
		This plan is furnished as a general guide only and no warranty as to its correctness is given or implied. This plan must not be relied upon in the event of excavations or other works made in the vicinity of public sewers. No house or property connections are shown.
		Date Req : 09/06/2007, 11:30:47 — Date Gen : 09/06/2007, 11:31:06
		Source : Sewer Network Enquiry

UPN: Undefined Originator: F Sorsby, Ops Control, 75 4934

CE Electric UK

If telephoning or calling please ask for

L. Webster
0191 2294272

Our Ref: 07/189010

Your Ref: 122677/NJB

Date: 25 May 2007

N Bourke
ARUP
Admiral House
Rose Wharf
78 East Street
Leeds
LS9 8EE

NB

Dear Sir/Madam

REQUEST FOR RECORDS SHOWING LOCATION OF APPARATUS at:

Aldi, Goldthorpe

Thank you for your enquiry dated 21/05/2007 concerning the above. The enclosed Mains Records only give the approximate location of known Northern Electric apparatus in the area. Great care is therefore needed and all cables and overhead lines must be assumed to be live.

Please note that while all efforts are made to ensure the accuracy of the data, no guarantee can be given. We would refer you to the Health & Safety Executive's publication HS(G)47 "Avoiding Danger From Underground Services" which emphasises that:

* Plans must only be used as a guide in the location of underground cables. The use of a suitable cable-tracing device is essential and careful hand digging of trial holes must be carried out to positively identify and mark the exact route of the cable. You should also bear in mind that a cable is unmistakably located only when it has been safely exposed.

* Cable depths are not generally indicated on our records and can vary considerably even when shown.

* Great caution must be exercised at all times when using mechanical plant. Careful trial digging should always be carried out on the whole route of the planned excavation to ascertain no cables exist.

The Health & Safety Executive have another publication, GS6 "Avoidance of Danger from Overhead Electric Lines" that you should be aware of if your work is near overhead power lines. Both of these documents provide comprehensive guidance for observance of statutory duties under the Electricity at Work Regulations 1989 and the Health & Safety at Work Act 1974. Our provision of these records is based upon the assumption that people using them will have sufficient competence to interpret the information given. Any damage or injury caused will be the responsibility of the organisation concerned who will be charged for any repairs.

Please note ground cover must not be altered either above our cables or below overhead lines, in addition no trees should be planted within 3 metres of existing underground cables or 10 metres of overhead lines. All our apparatus is legally covered by a wayleaves agreement, lease or deed or alternatively protected under the Electricity Act 1989. Should any alteration / diversion of our Company's apparatus be necessary to allow your work to be carried out, budget costs can be provided by writing to NEDL Call to Quote,98,Aketon Road,Castleford,W.Yorkshire WF10 5DS.Tel 01977605773

Yours faithfully

I. Foster.

Northern Electric Records Information Centre

Northern Electric Mains Records enclosed:

SE448036.TIF

Please establish on site the position of equipment or service cables that may have changed since production of the plan.

Caution: Overhead Lines Present

The Health & Safety Executive Guidance Note GS6, Avoiding Danger from Overhead Electric Lines, states the precautions required when working in proximity to live overhead lines.

Overhead lines are not normally insulated and the danger from accidental contact or near contact can be extreme.

Contractors and employers are required by law to take precautions and employees to co-operate with their implementation.

Particular care should be taken not to reduce clearances from overhead lines by landscaping operations, dumping waste material or creating unplanned storage areas.

ASSUME ALL LINES ARE LIVE

Warning: Underground Cables Present

The Health & Safety Executive Guidance Note HS (G) 47 Avoiding Danger from Underground Services, applies to almost all situations which involve penetrating the ground at or below surface level.

As much information and advice about buried cables should always be obtained from Yorkshire Electricity before any work begins.

Plans provide a "guide" to the existence of most cables. Actual cable depths and routes should never be assumed but should always be precisely located by careful trial digging throughout the area and depth of the proposed work.

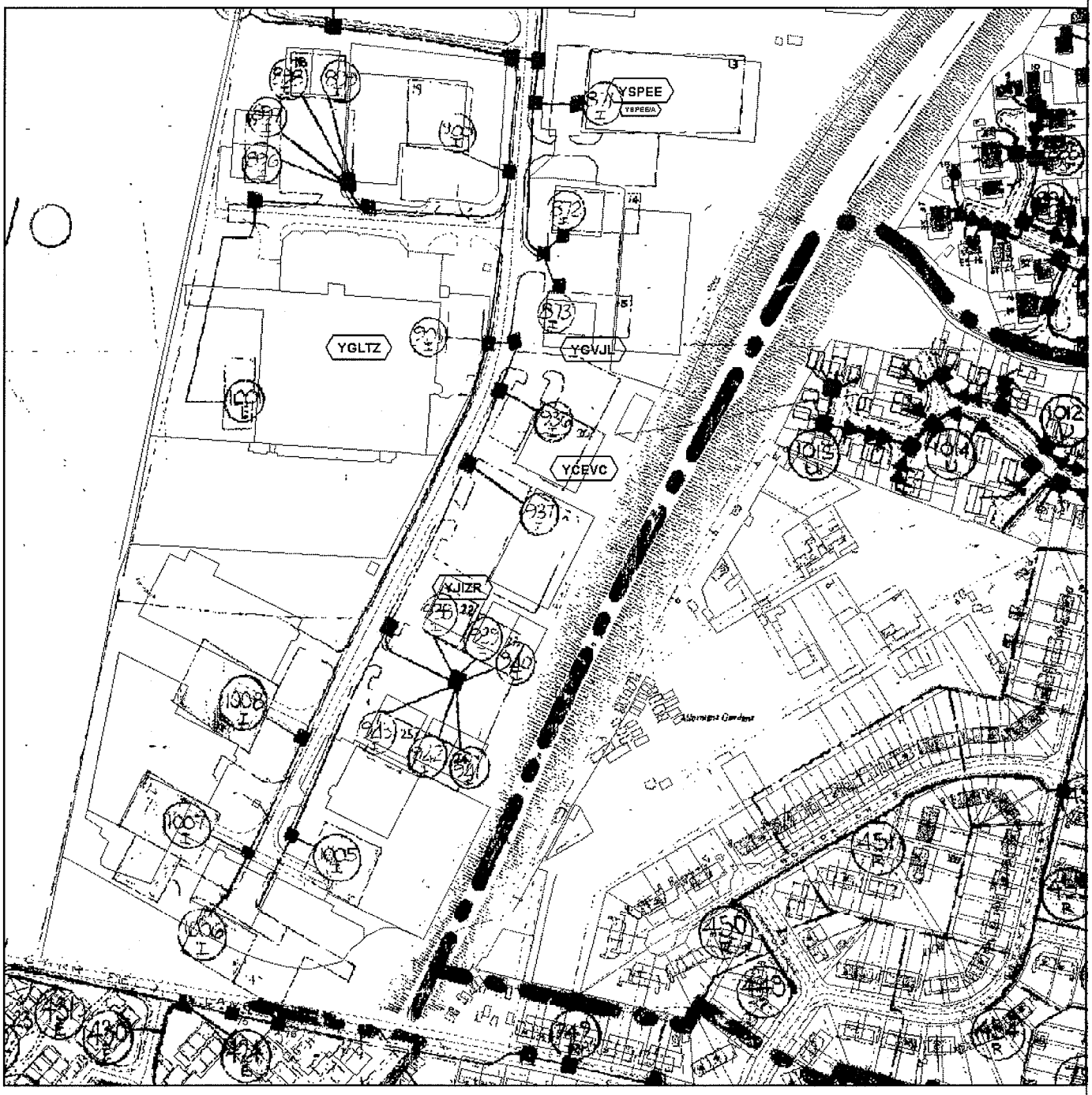
This procedure should be carried out with consideration of a plan and if necessary with the aid of a suitable cable tracing device. These safety measures apply regardless of inconvenience or frequency due to the line of the work, and even when the proposed work only involves disturbing a shallow surface layer.

Each plan is endorsed with an instruction that cables should always be located by hand excavation prior to use of machinery.

The existence of warning tapes, cable tiles, markers and the like should not be replied upon, as their use has varied over the years at the discretion of Yorkshire Electricity Distribution plc.

Copyright of Yorkshire Electricity Distribution plc

Maps by email Plant Information Reply



IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.

Reproduced from the Ordnance Survey map by BT by permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationary Office (C) Crown Copyright British Telecommunications plc 100028040

Dial Before You Dig - 0800 917 3993
Professional on-site assistance
prior to commencement of excavation works

KEY TO BT SYMBOLS

UNDERGROUND PLANT		POLE	
A/C, D/W or W	OVERHEAD PLANT	CABINET	
JOINT BOX		BURIED JOINT	
456 OR 456	DISTRIBUTION POINT	J	JOINTING POST
OR 72	MANHOLE		PROPOSED U/G
DP BOUNDARY		A/C, D/W or W	PROPOSED O/H
OR	OTHER BT BOUNDARY		PROPOSED BOX

Other proposed plant is shown using dashed lines. BT symbols not listed above may be disregarded. Existing BT plant may not be recorded. Information valid at the time of preparation.

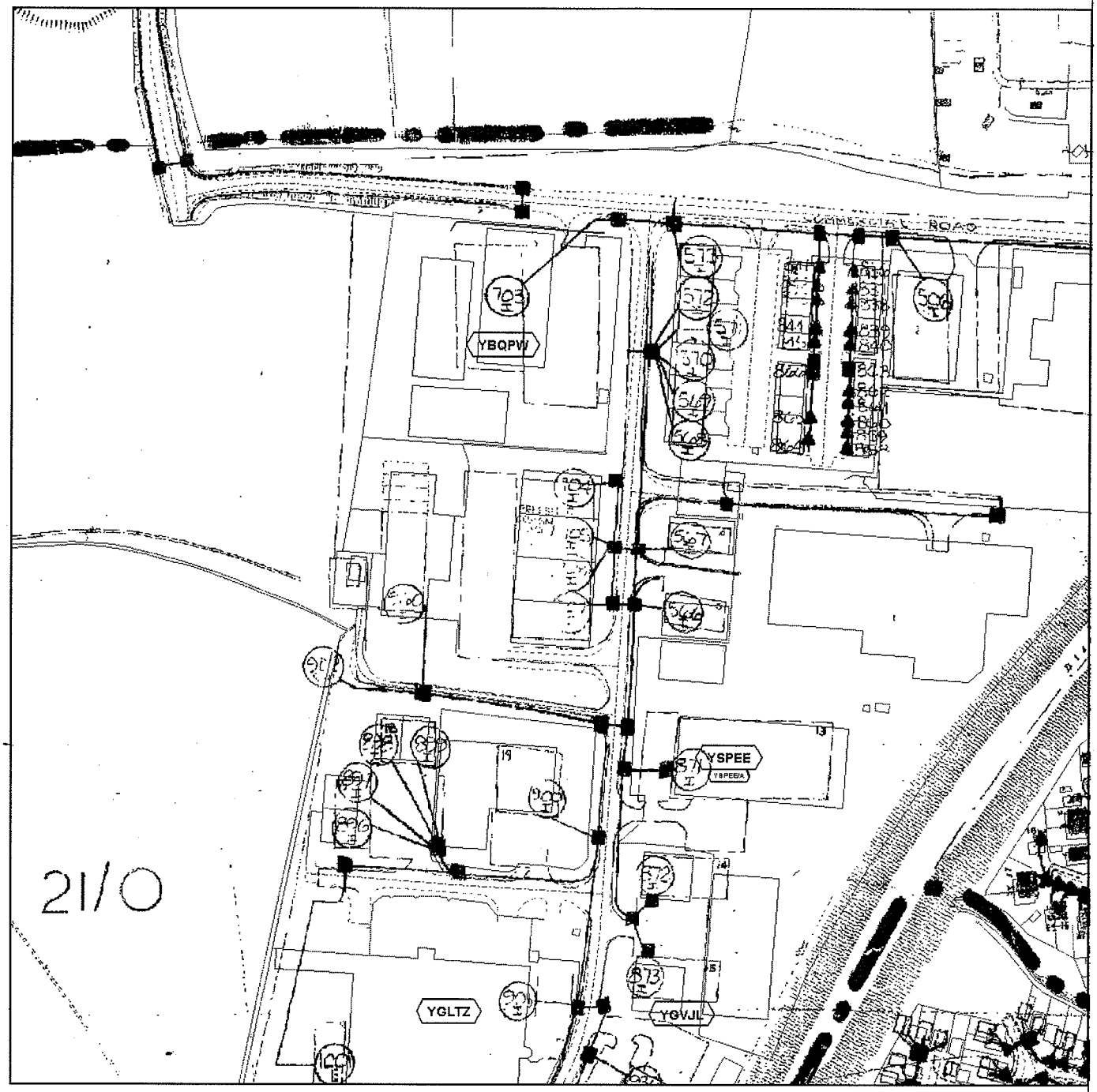
openreach
a BT Group business

BT ref: NFL11051C

Map reference (centre): SE4508403412

Issued: 19/07/07 11:07:41

Maps by email Plant Information Reply



IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.

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Dial Before You Dig - 0800 917 3993
Professional on-site assistance
prior to commencement of excavation works

KEY TO BT SYMBOLS

UNDERGROUND PLANT	POLE
A/C, D/W or W OVERHEAD PLANT	CABINET
JOINT BOX	BURIED JOINT
456 OR 456 DISTRIBUTION POINT	J JOINTING POST
OR 72 MANHOLE	PROPOSED U/G
DP BOUNDARY	A/C, D/W or W PROPOSED O/H
OR OTHER BT BOUNDARY	PROPOSED BOX

Other proposed plant is shown using dashed lines. BT symbols not listed above may be disregarded. Existing BT plant may not be recorded. Information valid at the time of preparation.

openreach
a BT Group business

BT ref: XTP10571I

Map reference (centre): SE4504503721

Issued: 19/07/07 11:01:45

Cables should always be located by hand excavation prior to use of machinery.

GIS Mains Records Symbology at 1:250 Scale

At smaller Scales (e.g. 1:500) the sizes of the symbology are reduced in proportion.

Cables & Overhead Lines

- HV & EHV Cables
- HV & EHV Third Party Cable
- LV Mains & Services
- LV Third Party Cable
- Surface Wiring
- Pilot/Telephone
- Assumed Route of Cable
- Indicates end of Assumed Route
- Duct Route

Overhead Symbology

- Tower
- Steel Mast
- H Pole
- Single Wooden Pole
- Stay
- Strut
- Pole Mounted Transformer
- SLP Street Lamp on a Pole

Underground Symbology

- Joint (11kV & above)
- Joint (LV)
- Meter Cabinet
- Insulated End
  Wall Mounted Termination
  Pole Mounted Termination
- Cable Repair
- Street Lamp
  Traffic Sign
  Telephone Call Box
  Street Furniture
- Cut Out
- Link Box
- Switch Status
- Earthing

Notes:

1. **Cables may be laid with no tile cover or marker tape.**
2. **Cables laid in tiers are shown side by side and the formation indicated in sections on the cross section sheet**

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