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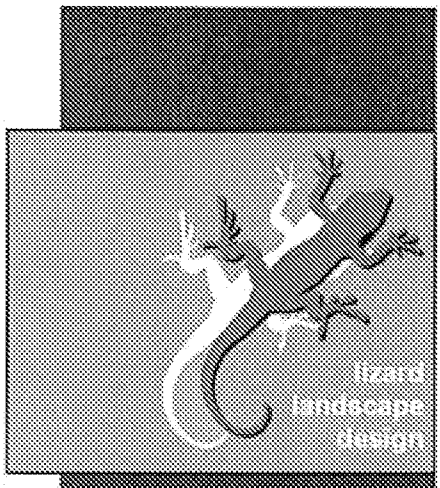

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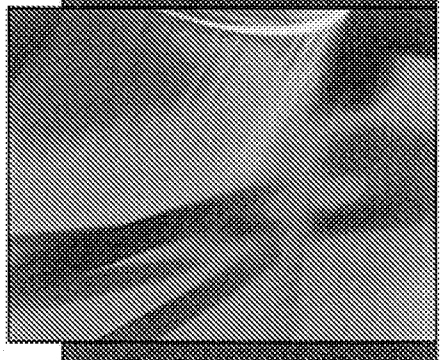

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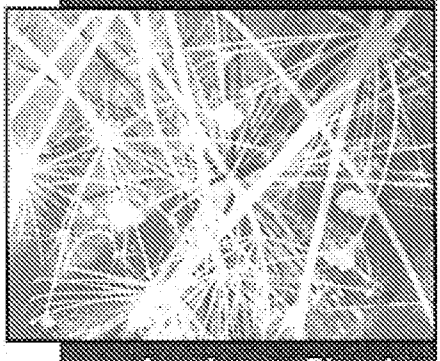

Landscape Planning

KIER CONSTRUCTION (SOUTHERN)

Cornfield School, Cornfield Close, Littlehampton

– *Preliminary Ecological Appraisal*

– *Day-Time Bat Roost Assessment*

Approved By: Joe Jackson
Signed: .....
Position: Principal
Date: 11th April 2014

April 2014 – Planning Issue

LLD656.Cornfield School PreliminaryEcologicalAppraisalReport.Rev01.04.14

Lizard Landscape Design

ARUN DISTRICT COUNCIL LU/133/14/WS

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SUMMARY

Kier Construction *(Southern)* has commissioned Lizard Landscape Design and Ecology to undertake an ecological appraisal of the land found at Cornfield School, Littlehampton, BN17 6HY *(Grid Reference:* TQ 032033 – *hereafter referred to as 'the site').*

A preliminary ecological appraisal *(PEA)* was undertaken of the site area on the 23rd January 2014 to appraise the existing ecological resource within the site area and the surrounding area. The field survey data and analysis contained within this report was undertaken and prepared by Catherine O'Reilly *(BSc; Assistant Ecologist; Lizard Landscape Design and Ecology)* and reviewed by Mark Vivian *(BSc MSc MCIEEM; Senior Ecologist; Lizard Landscape Design and Ecology; Natural England Bat Licence Holder for Bats; GCN; and Dormice).*

The preliminary ecological appraisal has identified habitats within the site area which will be affected by the proposed development of hard standing, existing buildings, amenity grassland and introduced shrub. The area is managed as parking and amenity space for the school which is located on site. The site is considered to be of *'low'* ecological value.

The day-time bat roost assessment undertaken on site has highlighted no potential roosting sites within either the existing building or the existing trees which border the site. It is therefore concluded that overall the site has *'negligible'* potential to support a population of bats.

No suitable habitat was found on site for reptiles or amphibians. A search of the site for badger setts or field signs was carried out and no presence was found.

The results of this preliminary ecological appraisal highlight that there is no need for any further detailed Phase 2 protected species surveys to be carried out on site.

ARUN DISTRICT COUNCIL LU/133/14/WS

1.0 INTRODUCTION

1.1 Kier Construction *(Southern)* has commissioned Lizard Landscape Design and Ecology to undertake an ecological appraisal of the land found at Cornfield School, Littlehampton, BN17 6HY *(Grid Reference:* TQ032033 – *hereafter referred to as 'the site').*

1.2 A preliminary ecological appraisal *(PEA)* was undertaken of the site area on the 23rd January 2014 to appraise the existing ecological resource within the site area and the surrounding area. The PEA was comprised of a baseline survey conforming broadly to the JNCC Ecology Phase 1 Habitat Survey protocol to identify the existing habitats. In addition a protected species assessment was undertaken to identify the potential for European and nationally protected species within and adjacent to the site.

1.3 The field survey data and analysis contained within this report was undertaken and prepared by Catherine O'Reilly *(BSc; Assistant Ecologist; Lizard Landscape Design and Ecology)* and reviewed by Mark Vivian *(BSc MSc MCIEEM; Senior Ecologist; Lizard Landscape Design and Ecology; Natural England Bat Licence Holder for Bats; GCN; and Dormice).*

Site Information

1.4 The development site is located due south of the A259, to the north of the residential area of Littlehampton. The site is currently utilised as a school with a high percentage of existing buildings and hardstanding present as would be expected on a site of this nature. Boundaries of the site are comprised of fencing and broadleaved trees. The site is bordered by a campsite to the east and south and residential properties to the west. There are no public footpaths across the site and permission has been sought to access the area.

1.5 The site is approximately 5.00 metres above sea-level and measures approximately 1.20 hectares. Soil on site is described as freely draining slightly acid loamy soil. The land on site is predominantly comprised of amenity grassland with scattered trees and broadleaf tree lines.

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Wider Landscape

1.6 The landscape surrounding the site is comprised of a matrix of residential properties and green spaces such as playing fields, recreation grounds and parks. The local landscape for at least 500.00 metres of the site is dominated by suburban residential properties, with open farmland beyond this to the north and west. The nearest patch of woodland can be found 2.50 kilometres north; this is also listed on the *National Inventory of Trees and Woodland*. There is a small area of Ancient Woodland located 3.00 kilometres north-east of the proposed development. There is a large amount of BAP Priority Habitat – coastal and floodplain grazing marsh, sand dune, intertidal mudflats, vegetated shingle, maritime cliff and slope and deciduous woodland within 2.0 kilometres of the site. The nearest water-body (a 4500.00 metre squared lake) is located 800.00 metres to the north-west.

Development Proposals

1.7 Proposals on site include a new-built extension to the current school building which would provide 200.00 sq. metres of new internal classroom space to the south-eastern elevation of the existing school building. A small access road and an additional 6 no. car park spaces are being proposed to be northern edge of the existing site access road and car park area within an area of amenity grassland. Under current development proposals the remainder of the school site would remain unaltered; with building works only affecting a small proportion of the total site area. The area within the development construction zone is considered to be of *'low'* ecological value.

2.0 SCOPE OF THE SURVEY

2.1 The aim of the preliminary ecological appraisal has been;

- To identify and display the main habitat types and plant communities;
- To provide a species list for the major habitats;
- To identify habitats with potential for protected species; and
- To provide recommendations for surveys of protected species (if required) and / or ecological enhancement / compensation

2.2 This report establishes the potential ecological resource within the site and outlines where any ecological constraints may occur.

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3.0 METHODOLOGY

3.1 A preliminary ecological appraisal was undertaken on the 23rd January 2014 and the site subjected to an ecology phase 1 habitat survey using guidelines set out in the *'Handbook for Phase 1 Habitat Survey – a Technique for Environmental Audit' (JNCC, 2003)*. This has resulted in Target Notes in Table No. 1.0; and Species Lists for Habitat Parcels in Table No. 2.

3.2 Habitats within the site were classified and the presence, or potential presence, of certain protected and / or notable species of flora and fauna were identified. A summary description of the habitat within the site following the ecology phase 1 habitat survey methodology is presented in Section 4.0.

3.3 Due to the field survey consisting of only one site visit certain species, particularly some of the flowering plants, may not have been visible or may have been otherwise inconspicuous at the time of survey and hence overlooked. These are accepted constraints associated with the standard ecology phase 1 habitat survey methodology.

3.4 Habitats within and immediately adjacent to the site were assessed for their potential for uncommon and protected fauna including mammals, birds, reptiles, and amphibians. This involved identifying features, which may be used by protected species, potential foraging areas and other signs of use. Stones, dead wood, and rubble were turned over and any dug holes studied for recent activity by mammals. Water bodies were recorded wherever possible within 500.00 metres of the proposed development.

3.5 The results are summarised and accompanied in large part by photographic evidence contained in *Appendix No.1 – Site Photographs*. Recommendations for further investigation and survey are made in the following report.

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4.0 RESULTS

4.1 Desk Study – Background Information

Designated Sites and Habitats

4.1.1 The following section outlines the ecological context of the development site, describing any designated nature conservation sites in the vicinity of the development site. The following designated sites and habitats are not necessarily representative of the existing site's ecology, but are indicative of the ecological context of the surrounding area; a factor that may be important when assessing the presence / absence potential of certain species groups.

Statutory Protected Sites

4.1.2 There are no statutory protected sites within the immediate vicinity of the proposed development site. The nearest designated area is *West Beach Local Nature Reserve (LNR)*. This LNR was designated in 1993 and forms part of *Climping Beach Site of Special Scientific Interest (SSSI)*. West beach measures 15.66 hectares and is comprised of important habitats such as vegetated shingle and mud flats. The small scale of the proposed development; the intervening distance; and the discrepancy between the habitats strongly suggest the development proposals would not impact on this statutory protected area.

4.1.3 *Climping beach SSSI* covers an area of 65.8 hectares and was designated in 1980. This area is comprised in large part by vegetated shingle and intertidal mudflats, both UK Priority Habitat. The area also supports over 1% of Western Europe's overwintering Sanderling population and is an important area for many other species of wading birds. The small scale of the proposed development; the intervening distance; and the discrepancy between the habitats strongly suggest the development proposals would not impact on this statutory protected area.

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4.1.4 The South Downs National Park is located 2.5km north of the proposed development site. The South Downs are the newest National Park having been officially designated in April 2010. The area designated measures approximately 1600km^2 and has been classified because of the uniquely biodiverse and historical landscape that it represents. The purpose of National Parks is to conserve and enhance natural beauty, wildlife and cultural heritage in addition to promoting understanding and enjoyment of the special qualities of National Parks by the public. Conservation takes precedence wherever conflict arises however there are no predicted conflicts that would arise from this development.

Biodiversity Action Plan – Habitats

4.1.5 There is a large amount of BAP Priority Habitat – coastal and floodplain grazing marsh, sand dune, intertidal mudflats, vegetated shingle, maritime cliff and slope and deciduous woodland within 2.00 kilometres of the site. The nearest patch of woodland can be found 2.50 kilometres north; this is also listed on the *National Inventory of Trees and Woodland*. There is a small unnamed area of Ancient Woodland located 3.00 kilometres north-east of the proposed development. The development does not propose to remove any significant areas of these habitats however the context of the local landscape is suggested to have a direct bearing on the site character.

Local Biodiversity Action Plan (LBAP) – Species

4.1.6 Species Action Plans *(SAPs)* that are relevant within Sussex include those for slow worm (*Anguis fragilis*), common lizard (*Zootoca vivipara*) and common pipistrelle *(Pipistrellus pipistrellus)*. Common lizard and slow worm have both been recorded within 2 kilometres west of the site, while common pipistrelles have been recorded 1.5km east.

4.1.7 In the UK slow worm is most common in the south and east of England where it is found in a range of open habitats. Common lizard is widespread throughout the UK and often associate with areas of dense, herbaceous vegetation. Common pipistrelles are amongst the most common in the UK and will roost in crevices in buildings. The land surrounding the site area is suitable for generalist species such as common pipistrelle bats. This factor must be placed in context of the site specifics when evaluating potential ecological constraints.

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4.2 Field Survey

4.2.1 The following standard ecology phase 1 habitats and features were recorded within the development site and the extended survey area. The general site character has been described; along with dominant plant species; plants of high nature conservation value and a brief description of the habitat's physical characteristics. These are shown on the detailed ecology phase 1 site habitat plan in Figure No. 1. Target Notes are listed in Table No. 1. Species lists for site habitats are listed in Table No. 2.

4.2.2 Habitats within the development site area include;

- Amenity Grassland;
- Buildings;
- Hard standing;
- Introduced shrub

Site Description (Refer to Appendix No. 01 – Site Photographs)

4.2.3 The area is utilised as a school which is reflected in the type of habitats found on site. The land is comprised of buildings, hardstanding and amenity grassland which is intensively managed and mown on a regular basis.

4.2.4 Land to the east of the site is given over to a large tarmac car park which is divided by 2 no. large shrub beds. There is a small amount of short ephemeral vegetation in the corners of the car park, dominated by mosses. The car park is bordered by amenity grassland to three sides while the school building borders this area to the west (*Refer to Photographs No.s 01, 02, 03, & 08 – Appendix No. 1*). The grassland is managed for its amenity value and as such is species poor, being dominated by perennial rye-grass (*Lolium perenne*) interspersed with forbs such as common yarrow (*Achillea millefolium*), common daisy (*Bellis perennis*), ribwort (*Plantago lanceolata*) and dove's foot crane's bill (*Geranium molle*). This area is considered to be of 'low' ecological value.

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4.2.5 The school building dominates the centre of the site. The building is of traditional brick structure with a concrete tile roof. Solar panels have been installed to the southern aspect of the roof. On inspection the fabric of the building was found to be in good repair with all fascia boards and soffits tightly fitting. There were no slipped roof tiles and ridge tiles were tightly sealed *(Refer to Photographs No.s 05 & 06 – Appendix No. 1)*. The building is suggested to have '*negligible*' bat roost potential.

4.2.6 Beyond the boundary of the development site, the area to the south of the proposed construction zone is comprised of rough grassland (*Refer to Photograph No. 07 – Appendix No. 1*). This area is separated from the site by post and rail reinforced with chain-link fencing. Habitat within the site which borders this area is closely mown amenity grassland. The potential for protected species of reptile to be present within the development zone is considered to be '*negligible*'.

4.2.7 The western boundary of the site is comprised of a broadleaf tree line and post and rail fencing (*Refer to Photograph No. 04 – Appendix No. 1*). The there is a scrubby understory of bramble (*Rubus fruticosus agg.*), hedge bindweed (*Calystegia sepium*) and ivy (*Hedera helix*). The trees present are all semi-mature specimens with no cracks or splits which would provide bat roost potential. This area is to remain unaltered according to current proposals.

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5.0 EVALUATION

5.1 The preliminary ecological appraisal has identified habitats within the site area which would be affected by the proposed development of hard standing, existing buildings, amenity grassland and introduced shrub. The area is managed as parking and amenity space for the school which is located on site.

5.2 Species present within the sward indicate the high level of management this area receives. The dominance of rye-grass indicates that the area has historically received a level of nutrient input, while forbs such as clover and common daisy are typical of amenity grassland composition.

5.3 Buildings and trees were examined on site for bat roost potential. There were no points of ingress / egress located within the existing school building. The fabric of the building is in good repair and therefore offers '*negligible*' bat roost potential. There are no trees on site which will be affected by the current development proposals. Trees which border the western edge of site are in closest proximity to the construction zone. These trees were extensively examined; due to their size and lack of cracks and splits these too are considered to have '*negligible*' bat roost potential.

5.4 Although suitable habitat for reptiles exists immediately adjacent to the site to the south; the discrepancy between this habitat and the sub-optimal habitat on site negates the potential for reptiles to be present within the development area. The lack of structural diversity; vegetative cover; and habitat connectivity within the site habitats reduces the potential of the site to support protected species of reptile to '*negligible*' status. The presence of protected species of reptiles is not therefore a material consideration.

5.5 No water bodies were located on or within 500.00 metres of the development area. Therefore the potential for protected species of amphibian to be present on site is '*nil*'. The site was extensively searched for any badger sett or signs of badger foraging. No evidence of badger was found on site.

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5.6 Proposals on site include a new-built extension to the current school building which would provide 200.00 sq. metres of new internal classroom space to the south-eastern elevation of the existing school building. A small access road and an additional 6 no. car park spaces are being proposed to be northern edge of the existing site access road and car park area within an area of amenity grassland. Under current development proposals the remainder of the school site would remain unaltered; with building works only affecting a small proportion of the total site area.

5.7 The area within the construction zone is considered to be of '*low*' ecological value. The effect upon protected species is suggested to be '*negligible*' therefore no further detailed protected species surveys are suggested for this site.

6.0 PROTECTED SPECIES RECOMMENDATIONS

6.1 The day-time bat roost assessment undertaken on site has highlighted no potential roosting sites within either the existing building or the existing trees which border the site. It is therefore concluded that overall the site has '*negligible*' potential to support a population of bats.

6.2 No suitable habitat was found on site for reptiles or amphibians. A search of the site for badger setts or field signs was carried out and no presence was found.

6.3 The results of this preliminary ecological appraisal highlight that there is no need for any further detailed Phase 2 protected species surveys to be carried out on site.

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7.0 ECOLOGICAL ENHANCEMENTS

7.1 The development should consider enhancements for the benefit biodiversity in line with NPPF and Local Planning Policy. Recommendations for ecological enhancements that could be considered as part of development proposals include:

- *The use of native tree and shrub species within the soft landscape scheme to provide structural diversity within any designated areas; suitable species may include Guelder-Rose - Viburnum opulus; Hawthorn - Crataegus monogyna; Blackthorn - Prunus spinosa; Pedunculate Oak - Quercus robur; Hornbeam - Carpinus betulus; and Silver Birch - Betula pendula;*
- *The creation of a mosaic of habitats such as scattered trees, dense scrub, and wildflower grasslands within any designated areas to increase bird nesting capacity within the post-development landscape;*
- *Seeding with native wildflower and grassland species of remaining grassland areas to create wildflower meadows within the areas of open space;*
- *Provision of bat boxes for a variety of species which could be used year-round to provide additional habitat*
- Provision of nesting boxes for a variety of bird species which can be attached to existing buildings / trees after completion of the works.

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8.0 REFERENCES

JNCC (2003) Handbook for Phase 1 Habitat Survey – a Technique for Environmental Audit'. JNCC;

Mitchell-Jones and McLeish (2004) Bat Workers Manual – 3rd Edition. JNCC;

Streeter D (2010) The Most Complete Guide to the Flowers of Britain and Ireland. Harper Collins, London

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Cornfield School, Littlehampton

Table No. 1 - Target Notes (TN) for Ecology Phase 1 Habitat Survey and Protected Species Assessment.

TN	Description	Protected Species	Potential	Photo No.
TN 01	Section of building to be impacted by development, found to have no access points for bat roost.	***Bats***	***'Negligible'***	No. 05
TN 02	Linear tree line forming eastern site boundary. No bat roosting features identified.	***Bats***	***'Negligible'***	No. 04
TN 03	Rough grassland outside site boundary which borders the amenity grassland found within the site area. No suitable optimal habitat for reptiles located within the site boundary.	***Reptiles***	***'Negligible'***	No. 07

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Table No. 2 – Species List for Site Habitats

Preliminary Ecological Appraisal – Cornfield School, Littlehampton

Amenity Grassland

Common Name	*Scientific Name*	*DAFOR*
Cleavers	*Galium aparine*	*O*
Clover	*Trifolium spp.*	*F*
Common Chickweed	*Stellaria media*	*O*
Common Daisy	*Bellis perennis*	*A*
Common Dandelion	*Taraxacum officinale*	*F*
Common Mallow	*Malva sylvestris*	*O*
Common Nettle	*Urtica dioica*	*O*
Common Yarrow	*Achillea millefolium*	*O*
Creeping Buttercup	*Ranunculus repens*	*F*
Creeping Thistle	*Cirsium arvence*	*R*
Doves Foot Cranesbill	*Geranium molle*	*O*
Perennial Rye-Grass	*Lolium perenne*	*D*
White Dead-Nettle	*Lamium alba*	*R*
Ragwort	*Jacobaea vulgaris*	*O*
Ribwort Plantain	*Plantago lanceolata*	*O*
Yorkshire Fog	*Holcus lanatus*	*LD*

Scattered / Linear Trees

Common Name	*Scientific Name*	*DAFOR*
Blackthorn	*Prunus spinosa*	*F*
Common Ash	*Fraxinus excelsior*	*R*
Common Hawthorn	*Crataegus monogyna*	*F*
Dogwood	*Cornus sanguinea*	*O*
Wild Cherry	*Prunus avium*	*A*

DAFOR SCALE

D – Dominant, A – Abundant, F – Frequent, O – Occasional, R – Rare, L – Locally

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Appendix No. 1 – Preliminary Ecological Appraisal – Site Photographs

APPENDIX NO. 1 - SITE PHOTOGRAPHS

Photograph No. 01 - View of the site looking eastward. Comprised of hard standing and amenity grassland; the area has *'low'* ecological value.

Photograph No. 02 - View of development site looking westward. Comprised of hard standing and amenity grassland; the area has *'low'* ecological value.

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APPENDIX NO. 1 - SITE PHOTOGRAPHS

Photograph No. 03 - Amenity grassland bordering the car park area to the south. The site area has '*low*' ecological value.

Photograph No. 04 - Scrubby tree line forming the eastern boundary of the site area. Existing trees were found to have '*negligible*' bat roost potential.

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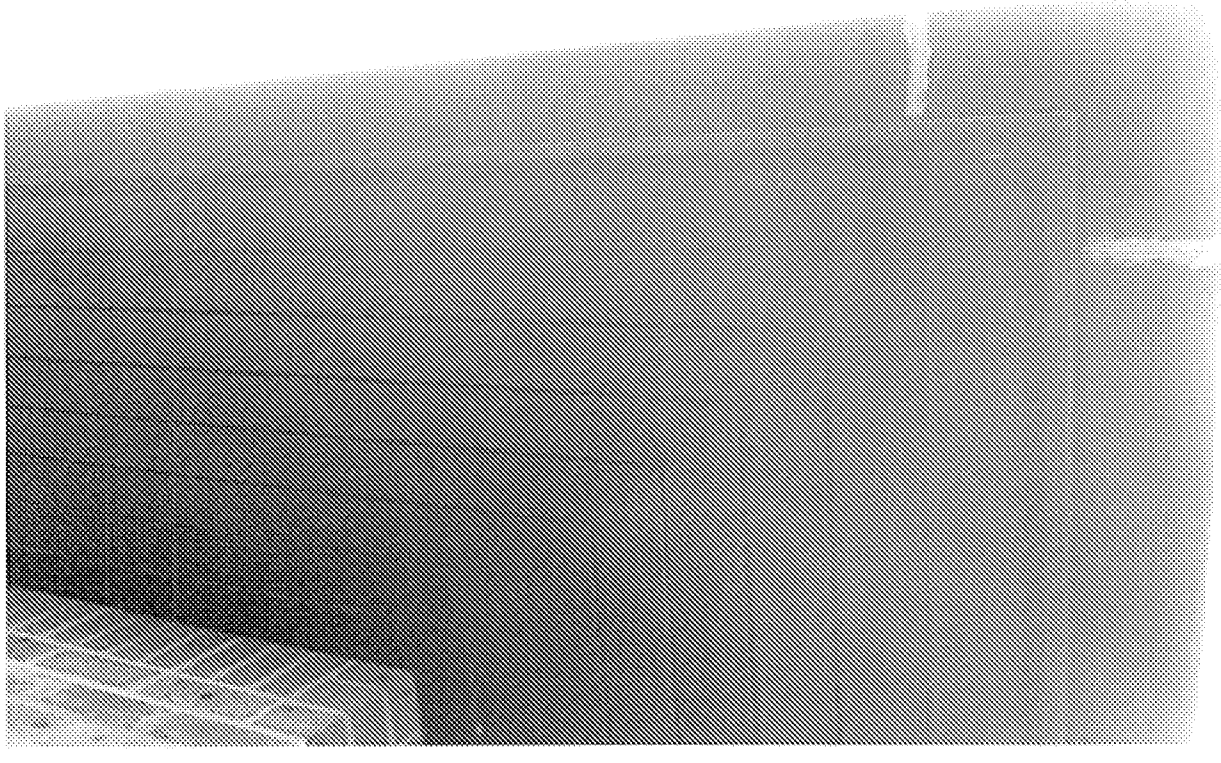
APPENDIX NO. 1 - SITE PHOTOGRAPHS

Photograph No. 05 - Section of the building which would adjoin the new extention. No bat access points identified on the existing building. The existing building has '*negligible*' bat roost potential.



Photograph No. 06 - All soffits are in good repair; no bat access points were identified within the existing structure. The existing building has '*negligible*' bat roost potential.

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APPENDIX NO. 1 - SITE PHOTOGRAPHS

Photograph No. 07 - Rough grassland bordering the site area to the south. Although this area is suitable for reptiles; no suitable optimal habitat patches exist within the site area.

Photograph No. 08 - Overview of the whole site from north to south. The site area is considered to be of *'low'* ecological value with no potential for protected species on site.

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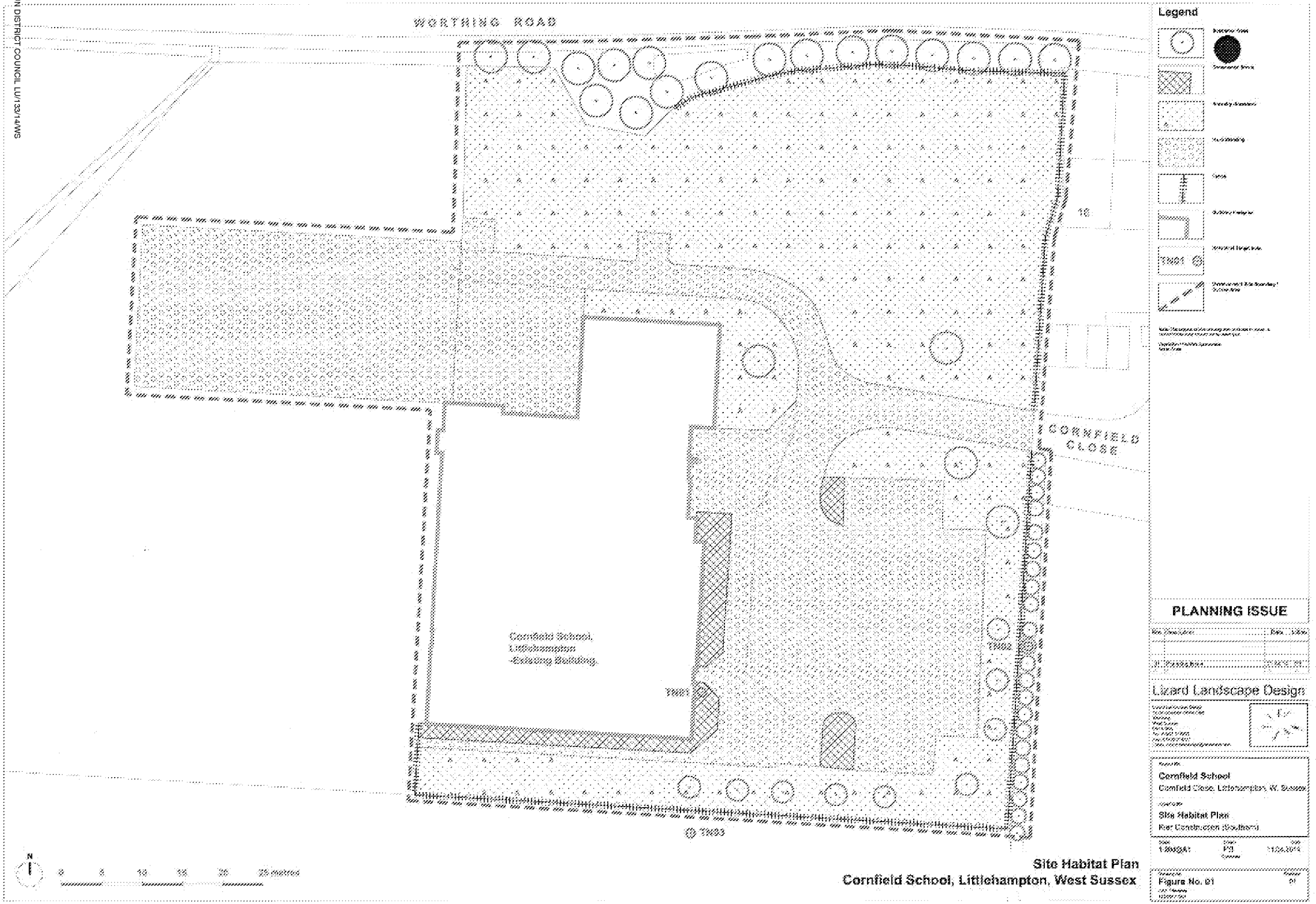

Site Habitat Plan
Cornfield School, Littlehampton, West Sussex

GROUND INVESTIGATION REPORT
for the site at
CORNFIELD SCHOOL,
CORNFIELD CLOSE, LITTLEHAMPTON,
WEST SUSSEX, BN17 6HY
on behalf of
KIER CONSTRUCTION

GE9757/AP/APR14/GIR STATUS: FINAL	
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File reference : X:\GES\PROJECTS\GE9757	

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FIGURES

Figure 1 Site Location Plan
Figure 2 Site Investigation Layout Plan

APPENDICES

Appendix A Desk Study Information
Appendix B Engineering Logs & Foundation Sketch
Appendix C Ground gas Monitoring Results
Appendix D Laboratory Testing Results

ARUN DISTRICT COUNCIL LU/133/14/WS

1. Introduction

Geo-Environmental Services Limited ('GESL') was instructed by Kier Construction to undertake a geotechnical and environmental ground investigation for the proposed extensions to Cornfield School, Cornfield Close, Wick, Littlehampton, West Sussex, BN17 6HY (see figure 1).

2. Development Proposals

It was understood that the development would comprise the construction of extensions to existing school buildings with associated infrastructure.

3. Site Conditions

The site comprised a rectangular shaped plot which was generally flat and level, at the time of the investigation the majority of the site was occupied by a car park with an access road and soft landscaping. The existing school building was located to the west.

The surrounding area comprised the A259 to the north with residential properties beyond, residential properties to the east and west, and a playing field to the south with a school beyond. The site was bound by chain link fencing and the existing school building. Site access was via Cornfield Close to the east.

4. Scope of Works

The intrusive investigation was carried out by window sampling techniques during February 2014. The scope of works broadly comprised:

- The drilling of three window sampler boreholes to a depth of 4.00mbgl or the maximum achievable depth.
- One hand excavated trial pit to expose existing foundations to a depth of 1.20mbgl or maximum achievable depth.
- The installation of a ground gas and groundwater monitoring well to a depth of 4.0m within a window sampler borehole.
- One machine excavated trial pit to a depth of 3.00mbgl or maximum achievable depth.
- A full scale soakage test to BRE Digest 365 within the machine excavated trial pit.
- One return visit for the purpose of ground gas and groundwater monitoring. This was agreed with the client prior to undertaking the desk study.
- Geotechnical testing in order to classify the soils for foundation and pavement design purposes.
- Chemical testing in order to form an assessment of the geo-environmental conditions present and any necessary remedial measures required in order to facilitate the proposed residential development.

Where applicable the work was carried out in accordance with British Standard 5930: 1999, "Code of Practice for Site Investigations".

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5. Site History

Extracts from historical maps dating from 1876 to 2013 have been obtained and are presented in Appendix A. The historical maps have been reviewed and the table below summarises the apparent site history for the area under investigation and any significant changes to the surrounding area.

Table 1

Historical Review

Date	Site	Surrounding Area
1876	The site formed part of a field network. A track ran from north to south across the centre of the site.	The surrounding area comprised mostly open fields. Several residential properties were noted approximately 150m north of the site and labelled as 'Toddington'.
1879	No significant changes shown.	No significant changes shown.
1897-98	No significant changes shown.	Allotment gardens were shown approximately 100m north-west of the site boundary.
1899	No significant changes shown.	Limited residential development of the area west of the site, labelled as 'Wick'. Two brick works were shown 300m north-west and south-west of the site. A railway line passed approximately 450m to the north. A large cemetery was shown c.500m to the east of the site boundary.
1911-12	No significant changes shown.	A brick field and kiln was noted immediately to the east of the site boundary. A large pit was noted c.200m west.
1913	No significant changes shown.	The pit to the west was indicated to form a brick field.
1932	No significant changes shown.	Limited residential development of the surrounding area was indicated whilst the brick field to the west was now c.80m west.
1938	No significant changes shown.	No significant changes shown.
1947	(Historical Aerial Photograph). No significant changes shown.	(Historical Aerial Photograph). No significant changes shown.
1958-69	No significant changes shown.	Poultry farm was noted c.270m to the north, the brickfield to the west was indicated to have been redeveloped for residential use.
1959-72	No significant changes shown.	No significant changes shown.
1962	No significant changes shown.	Few changes since the previous map edition.
1968-80	No significant changes shown.	Further residential development of the surrounding area. The brickfield to the east was indicated to form a caravan park. Playing fields were located to the south of the site boundary.
1986-87	No significant changes shown.	No significant changes shown.
1973-74	No significant changes shown.	No significant changes shown.
1977	No significant changes shown.	No significant changes shown.
1982	No significant changes shown.	No significant changes shown.
1993	No significant changes shown.	No significant changes shown.
1994	The site area had been developed forming a car park and access road.	The school had been developed. The location and footprint of the building was commensurate with those observed during the site walkover.
1995	Insufficient map coverage.	Insufficient map coverage.

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2006	No significant changes shown.	No significant changes shown.
2013	No significant changes shown.	No significant changes shown.

The site was indicated to comprise open space between 1876 and 1993. The 1994 map extract indicated the site to have been developed as part of Cornfield School, with associated driveway and car park area. No subsequent further changes were noted.

The surrounding area formed part of a field network with occasional residential properties. Between 1899 and 1962 several brick fields were present within 250m of the site, one of which was located immediately to the east of the site boundary. From approximately 1966 the immediate surrounding area was indicated to form caravan site and playing fields. Significant residential development of the surrounding area occurred from approximately 1958 onwards until the site area formed part of Littlehampton. No further changes were noted.

6. Geology

According to information published by the BGS, the geology of the site was anticipated to be River Terrace Deposits underlain by Lewes Nodular Chalk Formation.

The rivers of the south-east of England, including the River Thames and its tributaries, have been subject to at least three changes of level since Pleistocene times. One result has been the formation of a complex series of **River Terrace Deposits**. The deposits are generally found at an elevation close to or higher than that of the existing rivers, and generally comprise sands and gravels of roughly bedded flint or chert gravels varying degrees of coarseness.

The Lewes Nodular Chalk Formation is a soft white friable microporous limestone composed of coccolith biomicrites with a varying proportion of larger shell fragments. Flint characterises the Chalk, occurring as nodular courses, tabular beds and linings to fractures.

At various levels clay sized material occurs as marl seams and partings. Close to the surface the upper few metres are invariably discoloured brown, due to leaching from the overlying strata. The interface with any overlying stratum is invariably extremely irregular as a result of localised weathering and general solution. Weathering by frost action may extend to a depth of several metres.

Occasional erosional features, such as pipes, swallow holes and solution cavities, usually in-filled with drift deposits, are found in the chalk, sometimes manifesting themselves at the surface as shallow circular depressions. Solution features may be reactivated by the concentrated ingress of water from leaking drains or soakaways. Reactivation may lead to surface collapse.

7. Hydrogeology

The NRA Groundwater Vulnerability Maps have been superseded with new aquifer designations replacing the older system of classifying aquifers as Major, Minor and Non-Aquifer.

The superficial geology beneath the site comprising River Terrace Deposits is classified as a Secondary 'A' Aquifer. This is underlain by the Lewes Nodular Chalk Formation which is classified as a Principal Aquifer.

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Secondary 'A' Aquifers consist of permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.

Principal Aquifer are defined where layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale.

According to information provided by the Environment Agency the site is outside of any Source Protection Zone (SPZ). An SPZ is a protection zone placed around a well or borehole that supplies groundwater of potable quality. An SPZ is divided into four zones defined as follows:

- Zone I – Travel time (of water) of 50 days or less to the groundwater source.
- Zone II – Either 25% of the source area or a travel time of 400 days whichever is the greater.
- Zone III – The total area needed to support the discharge and abstraction from the protected groundwater source.
- Zone IV – A zone of specialist interest.

8. Land Gases/Vapours

Information obtained from the Environment Agency website indicated that there was one historical landfill located within 250m of the site details of which are provided below:

- 0m east - Cornfield Close Caravan Site; Address: Worthing Road, Littlehampton, West Sussex; First waste received: 31 Dec 1960; Last waste received: 31 Dec 1970; Type of waste accepted: Inert, Commercial, Household.

No currently registered landfills were found to operate within 250m of the site boundary.

9. Hydrology

No surface water features were observed on site. The nearest surface water feature was a small pond located c.375m north-east of the site.

The site is outside of any areas at risk of flooding from rivers or seas.

10. Pollution Incidents

Information obtained from the Environment Agency website indicates that there were no pollution incidents within 250m of the site boundary.

11. Previous Investigations

Geo-Environmental were unaware of any previous investigations that may have taken place on-site.

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12. Geotechnical Factors

The following factors that might impact the geotechnical condition of the site were identified as part of the desk study:

- Possible shrinkable soils.
- Possible shallow groundwater.

13. Environmental Conceptual Site Model

A Preliminary Risk Assessment (PRA) and Conceptual Site Model (CSM) has been prepared in accordance with CLR11 based on information obtained as part of the desk study. Possible risks associated with potential sources of contamination and sensitive receptors identified have been assessed following a source-pathway-receptor (SPR) approach in accordance with current UK protocols.

A risk may only exist where a plausible SPR linkage is present, and where the quantity or concentration of a contaminant is sufficient so as to pose harm. Under the statutory definition, "Contamination" may only strictly exist where contaminants pose a risk of harm to a receptor. Risk may be defined as a function of the likelihood and severity of any adverse effects arising from contamination. The risk classification has been assessed in accordance with CIRIA C552 (Rudland et al., 2001). A summary of how the risks are derived and their definitions are presented in Table 2 & 3 below and overleaf:

Table 2

Risk Ratings Matrix

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

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Table 3

Risk Ratings Definition

Risk Rating	Definitions
Very high risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not already undertaken) and remediation are likely to be required.
High risk	Harm is likely to arise to a designated receptor from an identified hazard Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not already undertaken) is required and remediation works may be necessary in the short term and are likely over the longer term.
Moderate risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild.
Moderate to low risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is unlikely that any such harm would be severe, or if any harm were to occur it is probable that the harm would be relatively mild.
Low risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Very low risk	There is low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

Possible sources of contamination identified or discounted as part of the desk study are summarised on Table 4:

Table 4

Possible Sources of Contamination

Source	Description	Comments
Made Ground and near surface soils	General background chemical quality of the near surface soils may have been impacted by aerial deposition of contaminants	Possible elevated metals, organic and inorganic contaminants.
Ground Gases	The anaerobic and aerobic degradation putrescible material by biological processes may result in the generation of Carbon Dioxide and Methane together with other ground gases.	Ground gases could potentially migrate into buildings. A historical landfill was identified adjacent to the site boundary. Historical brick fields were identified within 250m of the site which appeared to have been infilled.

The plausible pathways are summarised below:

- direct contact (soil, dust and vegetable ingestion, dermal contact and dust inhalation);

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- soil gas inhalation;
- vertical and lateral migration including leaching;
- root uptake; and
- chemical attack of infrastructure (including water supply pipes) and building foundations.

Potential receptors associated with the site and its development, identified or otherwise discounted, are summarised on Table 5:

Table 5

Possible Receptors of Contamination

Receptor	Description	Comments	Plausible
End Users	End users of the proposed school extensions	A new school building and areas of soft landscaping are proposed.	*Yes*
Soft Landscaping	Areas of planting including lawns, shrubs, trees, etc.	Soft Landscaping will form part of the development	*Yes*
Water Supply Pipes	Plastics for potable water supply pipes may be laid in contact with contaminated soils.	Chemical quality of near surface soils may impact pipe material selection.	*Yes*
Buildings & Infrastructure	Buried concrete for foundations etc. may be laid in contact with contaminated/aggressive soils.	The development will require new services and foundations within the near surface soils.	*Yes*
Adjacent Land Users	Sensitive land uses identified within the immediate vicinity.	Adjacent land uses include residential and school grounds.	*Yes*
Groundwater	Controlled Waters contained within the aquifer(s) beneath the site.	The site lies upon a Secondary A Aquifer and Principal Aquifer but is outside of any source protection zone.	*Yes*
Surface Water	Controlled Waters within lakes, rivers, ponds, etc., or coastal waters.	No significant surface water bodies were noted on site. The nearest surface water feature was a pond c.375m north-east.	*No*

Site workers involved in the preparation and construction of the development have not been considered in this assessment as the principal contractor is duty bound under the current CDM Regulations to undertaken their own risk assessments with respect to their employees.

Whilst the above sources and receptors have been identified, Table 6 summarises the identified plausible pollution linkages:

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Table 6

Plausible Pollution Linkages

Potential Source/Media	Potential Receptors	Possible Pathways	Likelihood	Severity	Risk & Justification
Contaminants of concern/Soil	End Users	Direct contact	Likely	Mild	Moderate to Low Future users are likely to come into contact with soils within the soft landscaped areas proposed.
	Adjacent Land Users	Direct contact	Low	Mild	Low There is a low likelihood that adjacent site users will come into contact with soils from the site.
	Soft Landscaping	Root uptake	Likely	Mild	Moderate to Low Root uptake is likely for plants but any consequence is likely to be mild.
	Water Supply Pipes	Direct contact	Likely	Medium	Moderate Water supply pipes are likely to come into contact with imposed soils depending upon depth of installation and extent of soil impact.
	Buildings and Infrastructure	Direct contact	Likely	Mild	Moderate to Low Foundations and utilities will be placed within near surface soils. However, the consequence is anticipated to be mild.
	Groundwater	Vertical migration	Likely	Minor	Low Leaching and downward migration of contaminants in the soil is likely, but chemical quality of the soil is not anticipated to be significantly impacted.
Ground Gases/Soil	End users	Direct contact & soil gas inhalation	Likely	Medium	Moderate A landfill and former brick field were identified adjacent to the site.
	Adjacent Land Users	Direct contact & soil gas inhalation	Unlikely	Medium	Low No on-site sources of ground gas generation were identified.

The PRA and CSM developed from the information gathered as part of the desk study process have identified several plausible pollutant linkages that exist in relation to the proposed redevelopment of the site. However, the preliminary risk rating for each linkage has been classified as moderate, moderate to low, and low and as such the site is considered overall as low to moderate risk.

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14. Rationale

The desk study did not identify any particular on-site contaminative risks. However, a historical landfill was identified adjacent to the eastern boundary. The Client's engineer selected the locations of the window sampler boreholes and trial pits whilst a ground gas and groundwater monitoring standpipe was installed within WS3 to enable ground gas and groundwater monitoring.

15. Ground Conditions

The anticipated geology of the River Terrace Deposits was confirmed beneath a mantle of Made Ground. The Lewes Nodular Chalk Formation was not encountered during the intrusive investigation.

Made Ground was encountered within all intrusive locations to depths of between 0.30m and 0.90m bgl and was described as being of a mixed composition including dark brown sandy silty clay with roots, and occasional flint gravel with brick and concrete fragments overlying brown sandy clay with roots. WS2 was overlain by tarmacadam with a sub-base of dark grey sandy fine to coarse angular flint gravel.

Underlying the Made Ground, the River Terrace Deposits were encountered within all positions to a maximum depth of 5.00mbgl (maximum achievable depth) and generally comprised low to high strength brown sandy clay with thick gravelly sand bands. At depths of between 1.40m and 4.10m bgl the River Terrace deposits became orange brown mottled gravelly sand.

In addition to the window sampling and trial pitting, a single hand excavated trial pit was undertaken against an existing building, the foundation was revealed to comprise a traditional strip footing founded at a depth of 1.05mbgl with a step-out of 0.13m and was founded upon the silty sandy clays of the River Terrace Deposits.

For full details of the ground conditions encountered, reference should be made to the borehole and trail pit logs in Appendix B.

16. Ground Gas & Groundwater

During the intrusive investigation, groundwater was struck at depths of between 4.00m and 4.10m bgl within WS1 and WS2 respectively, with standing water depths of 3.40m and 3.70m bgl after twenty minutes. A dual purpose land gas and groundwater monitoring standpipe was installed within WS3 to a depth of 5.00m bgl and a return monitoring visit was made on 28th February 2014. Water was recorded at a depth of 3.94m bgl.

During the return monitoring, no Methane was recorded, whilst a maximum Carbon Dioxide concentration of 0.4% was recorded. A minimum Oxygen concentration of 20.1% and a maximum flow rate of 1.2l/hr was recorded. Atmospheric pressure was 993mBar.

Changes in ground water levels do occur for a number of reasons including seasonal effects and variations in drainage. Such fluctuations may only be recorded by the measurement of the groundwater level within a standpipe or piezometer.

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17. Foundations

Based on the ground and groundwater conditions encountered in the boreholes and trial pits, conventional foundations are likely to be suitable for the proposed low rise-development.

Although not strictly applicable to the form of development, it is recommended that foundation depths be calculated in accordance with the NHBC Standards, Chapter 4.2.

The laboratory testing has classified the low to high strength sandy silty clays of the River Terrace Deposits to range between non shrinkable to medium volume change potential. It is recommended that en masse the River Terrace Deposits be classified by medium volume change potential in accordance with the NHBC Standards, Chapter 4.2. Therefore, a minimum foundation depth of 0.90mbgl would be applicable within the natural soils. Deeper foundation depths, calculated in accordance with the NHBC Standards, would be required within the zone of moisture demand of any nearby existing trees, those that have been recently felled or proposed. Foundations shall also require deepening where any low strength silty clays are encountered. Due to the potential for areas of low strength clay, it is recommended that foundation excavations be inspected by a geotechnical engineer before casting. Heave protection measures are likely to be required where foundation depths within the zone of influence of trees are calculated to exceed 1.50m in depth.

Based on the ground conditions encountered, a net allowable bearing pressure of 90kPa is recommended for conventional strip or trench-fill foundations up to 1.00m in width taken down through any Made Ground, disturbed soils or low strength silty clay to bear wholly onto or into the medium to high strength sandy silty clays and silts of the River Terrace Deposits. Under this bearing pressure, settlements should remain within tolerable limits for the proposed construction.

Suspended ground floor slabs are recommended on account of the shrinkable near surface soils.

18. Excavations

Shallow excavations within any Made Ground are likely to remain relatively stable in the short to medium term. However, excavations within any deeper areas of Made Ground may be prone to instability and some form of temporary support may be required.

Both shallow and deeper excavations within the River Terrace Deposits should remain stable in the medium term. However, the River Terrace Deposits will soften rapidly when exposed to water and all excavations should be concreted or blinded immediately.

Appropriate Health and Safety precautions should be adopted where man entry into excavations is required.

19. Pavements

The Made Ground encountered across the site was noted to be of mixed composition. The engineering characteristics of such soils are variable and unpredictable and the CBR value of Made Ground does not predict the overall settlements that may occur in such materials. Due to the variability of the Made Ground it would be prudent to assume the material to be deemed frost susceptible throughout, thus a minimum pavement thickness of 450mm would be appropriate.

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Transport Road Research Laboratory Report LR 1132 "The Structural Design of Bituminous Roads" cites an estimated equilibrium suction index of 4% for the sandy silty clays of the River Terrace Deposits, under average conditions and a deep groundwater table. The River Terrace Deposits are likely to deemed non frost susceptible.

It is recommended that the sub-grade be proof rolled and any soft spots removed and replaced with a suitably compacted granular fill.

20. Sulphates

The result of the Sulphate and pH analyses showed the soil samples tested to have Water Soluble Sulphates falling into Class DS-1 of BRE special digest 1. An ACEC class of AC-1 is deemed appropriate for the site. The advice of this publication should be taken for the design and specification of all sub surface concrete.

21. Soakaways

Soakage testing to BRE Digest 365 was undertaken within TP2; with an infiltration rate of $9.4x10^{-6}$ m/s calculated for the River Terrace Deposits. Therefore, based on these rates, ring or trench soakaways should perform satisfactorily when installed within the gravelly sands of the River Terrace Deposits found at depths of between 1.40m to 4.10m bgl.

22. Radon

With reference to BRE report 211 (2007), the NRPB maps indicated the site lies within an area where a 0-1% risk from radon exists. Annex A indicates that no protection measures are required.

23. Ground Gases

Based on the findings of the desk study, a risk of ground gases from an adjacent historical landfill was identified. A ground gas and groundwater monitoring well was installed and a monitoring visit undertaken in order to confirm that the preliminary risk assessment with respect to ground gases. No Methane was recorded and only low concentrations of Carbon Dioxide were present. No significant flows were recorded. However, based on current guidance it is recommended that a further five ground gas monitoring visits should be undertaken at fortnightly intervals to confirm the initial assessment.

24. Ground Contamination

The presence of a possible contaminant does not necessarily imply that a site or area is contaminated or that there is any unacceptable risk to human health. A Preliminary Quantitative Risk Assessment has been undertaken in accordance with CLR11, in order to evaluate any unacceptable risks posed to human health with respect to the proposed school use. It should be noted that this assessment is protective of the chronic long-term effects of contaminants, which is also likely to be protective of any possible immediate acute effects.

A quantitative risk assessment has been undertaken by comparing the results of the laboratory

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chemical testing of shallow soils against Site Specific Assessment Criteria (SSAC) generated using the Contaminated Land Exposure Assessment (CLEA) model published by the Environment Agency.

Statistical analysis of the data set has been undertaken in accordance with guidance contained in the CIEH/CL:AIRE report 'Comparing Soil Contamination Data with a Critical Concentration' (May 2008). If the contamination status of the soils is considered in a planning context, the null hypothesis tested by the analysis is whether the true mean concentration is equal to or greater than the critical concentration for a given determinant, with the critical concentration being the relevant SSAC or GAC (the soil screening value) for that determinant in the context of the intended end use of the site. If the analysis shows that the true mean concentration is less than the critical concentration the null hypothesis can be rejected. The guidance recommends that for the null hypothesis to be rejected the analysis should show that there is a 95% (or higher) likelihood that the true mean concentration is below the critical concentration. Where this is the case the site is considered to be acceptable for the planned end use without any remediation.

Table 8

Assumptions for SSAC Calculation (CLEA v1.06 Software)

	Assumptions			Comments
Land Use	Educational with soft landscaping			Site to form school buildings with the most similar land use being residential without home-grown produce.
Receptor	Female			A conservative assumption using the most sensitive possible receptor.
Receptor Age	11-16			Critical receptor age.
Building	Detached House			A conservative assumption of the proposed end use which is closest to the school end use.
Soil Type	Silt loam	pH 7.2	SOM 0.6%	Based on an average of the chemical laboratory results.
Exposure Pathways	Oral	Direct soil and dust ingestion.		Site to include soft landscaping.
	Dermal	Indoor & Outdoor		Site to include soft landscaping.
	Inhalation	Indoor & Outdoor		Site to include soft landscaping.
Occupancy	days/year	hours/day (indoors)	hour/day (outdoors)	Estimated durations for the critical receptor.
	280	5	1.5	

The statistical analysis summary sheets are included in Appendix E. The results of the statistical analysis are summarised in the tables overleaf.

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Table 9

Summary of Results of Statistical Analysis (metals & PAHs)

Determinand	Soil Screening Value (mg/kg)	Sample Mean (mg/kg)	Upper Confidence Limit (mg/kg)	Evidence Level (%)	Reject null hypothesis?
Arsenic	162	8.68	16.14	100	Yes
Cadmium	104	0.25	0.25	100	Yes
Chromium	43600	18.56	34.60	100	Yes
Lead	210	20.86	33.76	100	Yes
Mercury	1160	0.25	0.25	100	Yes
Nickel	4320	14.66	26.62	100	Yes
Copper	44100	12.33	24.17	100	Yes
Zinc	664000	57	86.63	100	Yes
Selenium	3550	0.39	0.89	100	Yes
Chromium VI	542	1	1	100	Yes
Barium	8130	71.86	110.85	100	Yes
Beryllium	529	0.5	0.5	100	Yes
Vanadium	1460	17.34	56.24	100	Yes
Naphthalene	1.5	0.08	0.13	100	Yes
Acenaphthylene	14400	0.05	0.05	100	Yes
Acenaphthene	14800	0.1	0.31	100	Yes
Fluorene	10900	0.08	0.13	100	Yes
Phenanthrene	3560	0.63	1.82	100	Yes
Anthracene	82100	0.18	0.87	100	Yes
Fluoranthene	4010	0.77	2.46	100	Yes
Pyrene	8620	0.48	2.25	100	Yes
Benz(a)anthracene	32.4	0.3	1.35	100	Yes
Chrysene	55.1	0.4	1.82	100	Yes
Benzo(b)fluoranthene	40.3	0.38	1.74	100	Yes
Benzo(k)fluoranthene	57.1	0.4	1.82	100	Yes
Benzo(a)pyrene	5.7	0.36	1.74	100	Yes
Indeno(123-cd)pyrene	24.3	0.3	1.38	100	Yes
Dibenz(ah)anthracene	5.11	0.1	0.31	100	Yes
Benzo(ghi)perylene	262	0.5	2.46	100	Yes
Phenol	2510	0.5	0.5	100	Yes

The statistical analysis has found that for all of the determinands tested the null hypothesis can be rejected with >95% confidence. Therefore, no further action is deemed necessary.

Laboratory analysis for the presence of asbestos has not recorded asbestos within any of the samples.

A representative sample was taken for waste acceptance criteria testing; the results classified the soils as being inert for disposal purposes. Natural soils free from contamination from foundation excavations may be classified as "inert" and may be re-used on-site. However, it should be noted that several classification systems exist it is recommended that the results be forwarded on to the landfill for final classification.

The current guidance on selection of materials for water supply pipes to be laid in contaminated land is contained in UKWIR Report 10/WM/03/02 (re-issued 2010). However, the guidance is not mandatory and there has been concerns raised by various industry technical associations regarding the document and the methodologies proposed.

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Although there are concerns regarding the document, in lieu of any further guidance in the first instance the results of this investigation have been compared with the proposed thresholds published in UKWIR Table 3.1.

The presumption in the guidance is that barrier pipe will be adopted for any brownfield site. However, the results of the chemical analysis indicate that the results from WS2 at 0.50mbgl were above the relevant thresholds and therefore barrier pipe will be required for the site.

It is recommended that the results of this investigation be presented to the water utility company as soon as reasonably practical in order to confirm the pipe material.

As a matter of good practice, and to maximise the protection to utilities, it is recommended that clean, granular backfill is used in service runs and that marker tapes are used for all buried services.

25. Discovery Strategy

Whilst the investigation undertaken on the site to date is considered to be thorough, it remains possible that previously unexpected soil conditions may be encountered during the process of site demolition and construction.

Examples may include oily pockets within the soil, pockets of cement boarding or fibrous materials within the soil, black ashy materials, soils exhibiting strong odours, brightly coloured materials, and former structures or brickwork.

Should previously undiscovered contamination be encountered during the demolition/construction of the new buildings the following course of action should be adhered to:

- Works in the area of the suspected contamination should seize immediately. The ground workers should report any suspected contamination immediately to the Client's site supervisor. The supervisor should contact the Environmental Consultant, who should visit the site to assess the extent of the 'contamination'.

- The Environmental Consultant shall make records of their inspection, and pass details of these to the Local Authority.

- Where the conditions revealed differ from those previously anticipated, the Environmental Consultant shall take samples as deemed appropriate to be dispatched for appropriate chemical testing.

- Depending on the results of the testing either: 1) no further work will be required; 2) a further detailed risk assessment will be required; and/or 3) localised specific remedial measures will be necessary. Appraisal criteria will vary depending on the nature of the assessment.

- The results of any such testing will be sent to the Regulatory Authority for consultation. If remediation is required, the Regulatory Authority will be informed of the date and time of the proposed works.

- Remediation will be undertaken in accordance with a method statement submitted to the Local Authority for approval. The works shall be supervised by the Environmental Consultant who shall provide a Validation Report for the Local Authorities purposes.

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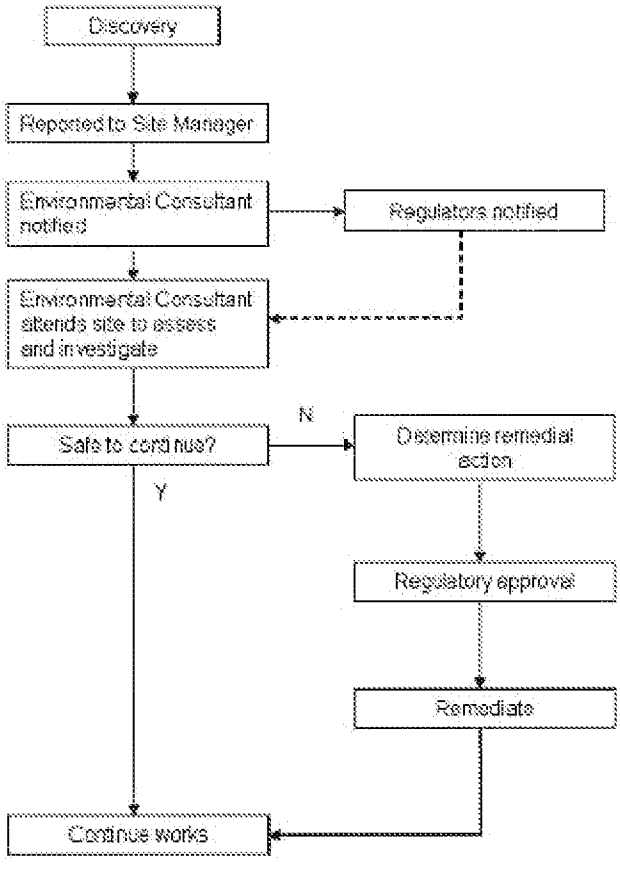
The process is summarised overleaf.



A copy of this strategy should be lodged on site, and provisions made to ensure that all workers are made aware of their responsibility to observe, report, and act on any potentially suspicious or contaminated materials they may encounter.

Caveat

Any engineering analyses, conclusions and recommendations within this Site Appraisal relate to Cornfield School, Littlehampton. Attention is drawn to the fact that these analyses are based on data obtained from the boreholes and any associated laboratory and in-situ testing. The possibility of variation in ground conditions around the trial holes should not be overlooked. Any opinion or diagram of a possible configuration of strata beyond the trial holes or extrapolated to greater depth is conjectural and given for guidance only. No liability can be accepted for such variations.

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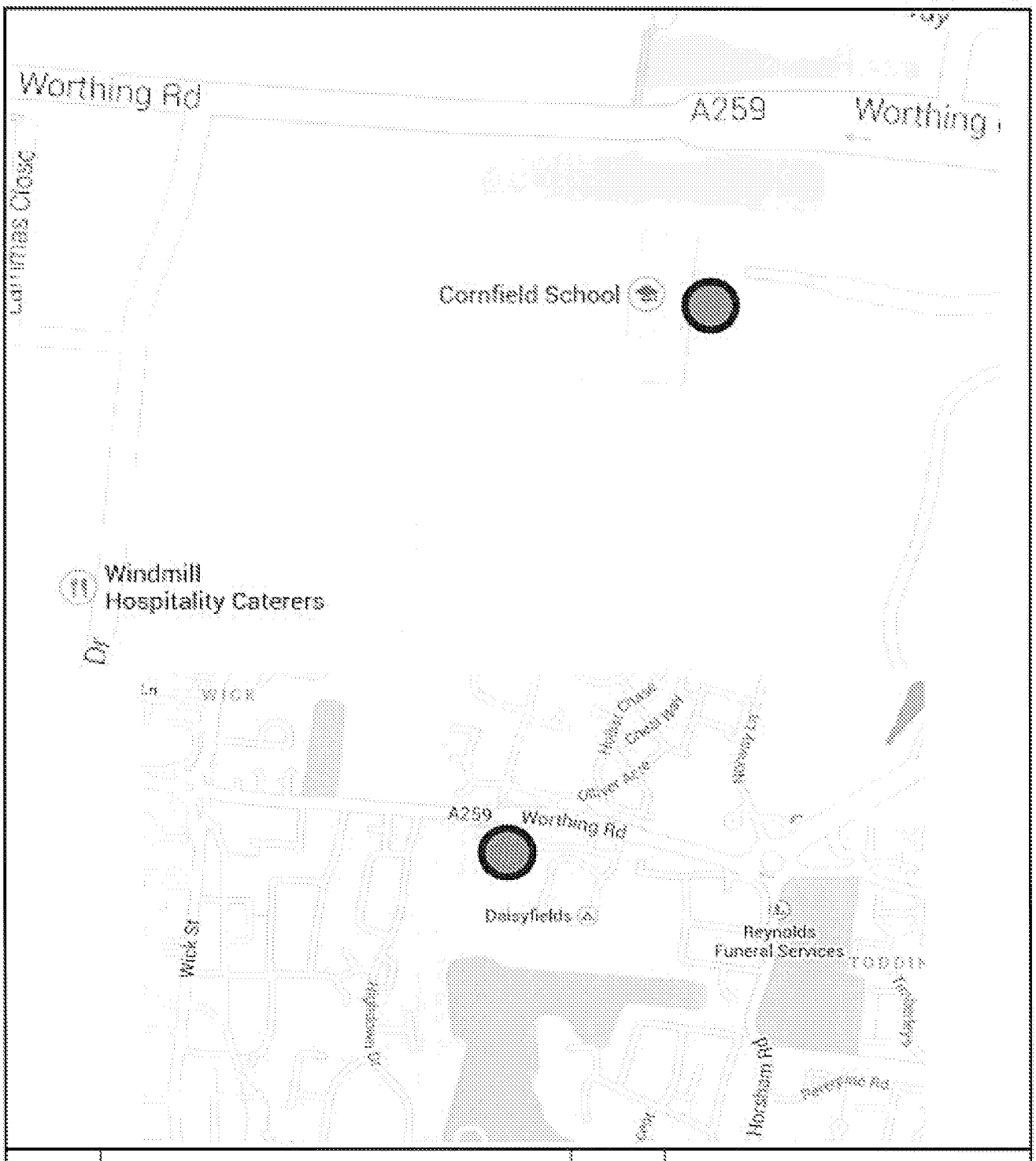
FIGURE 1

Site Location Plan

Geo-Environmental



Project:	Cornfield School, Littlehampton			Title	Site Location Plan
Client:	Kier Construction			Geo-Environmental Services Ltd Unit 7, Danworth Farm, Cuckfield Road, Hurstpierpoint, West Sussex, BN6 9GL E [redacted] T [redacted]	
Re o	GE9757	Re i ion	v1		
a n	AP	ate	12/02/2014		
Fi e	1	Scale	Not To Scale		

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F R

Site nvestigation a out Plan

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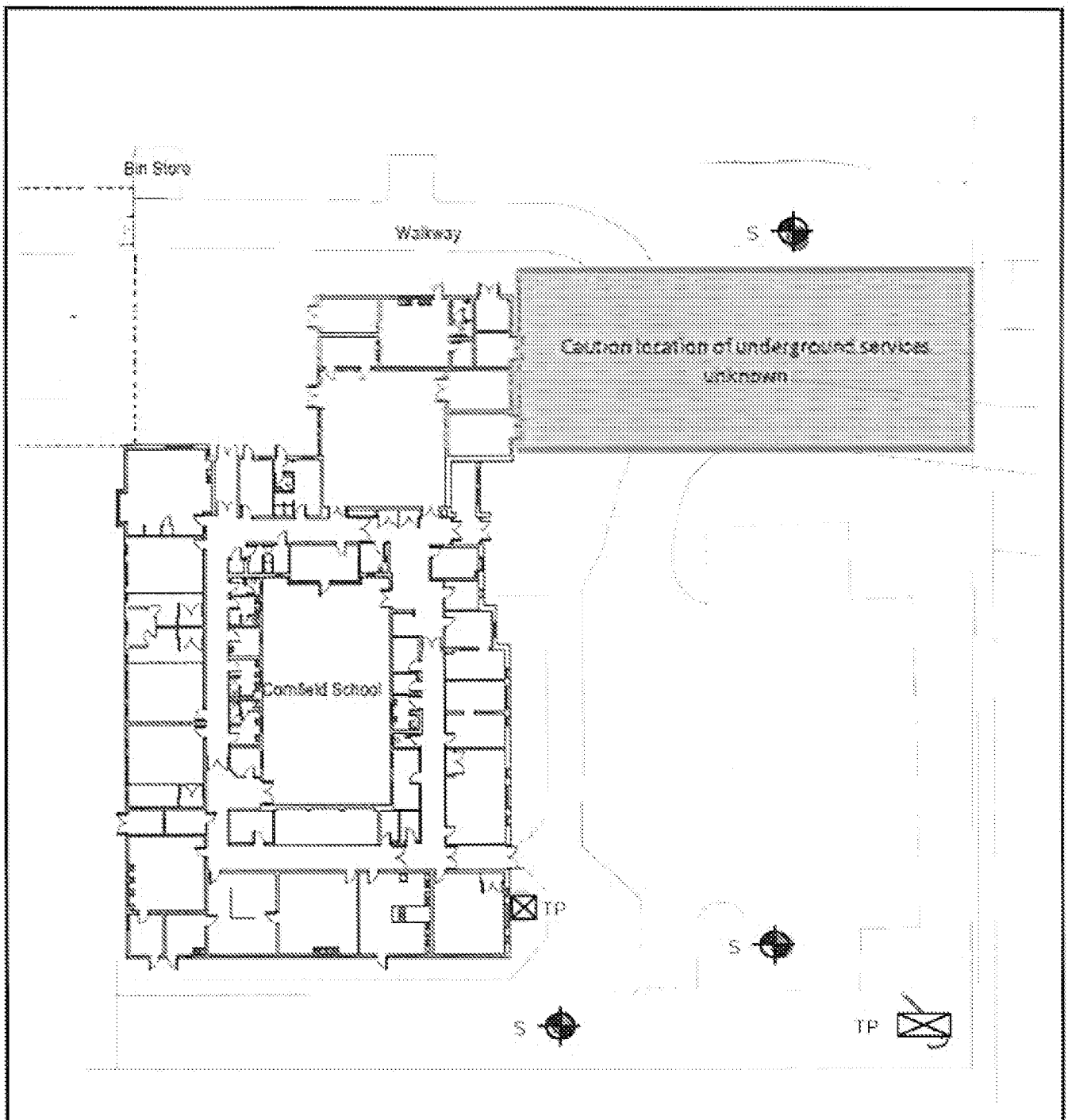
Geo-Environmental



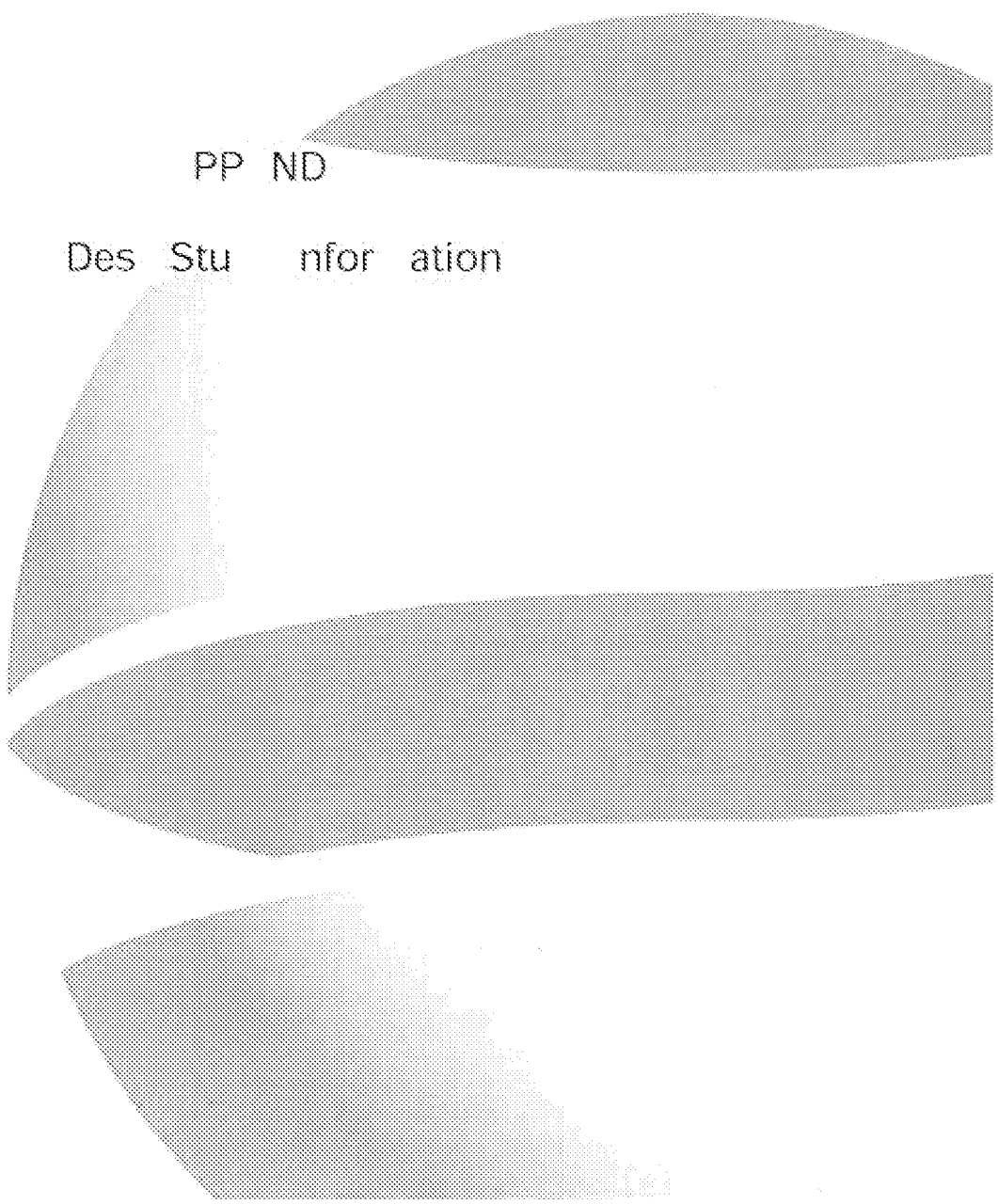
locations are indicative unless dimensions are given

Project:	Cornfield Primary School, Littlehampton			Title	Site Investigation Plan
Client:	Kier Construction			Geo-Environmental Services Ltd Unit 7, Danworth Farm, Cuckfield Road, Hurstpierpoint, West Sussex, BN6 9GL E: [redacted] T [redacted]	
Ref No:	GE9757	Revision:	v1		
Drawn:	AP	Date:	12/02/2014		
Figure:	2	Scale:	Not To Scale		

ARUN DISTRICT COUNCIL LU/133/14/WS

PP ND

Des Stu nfor ation

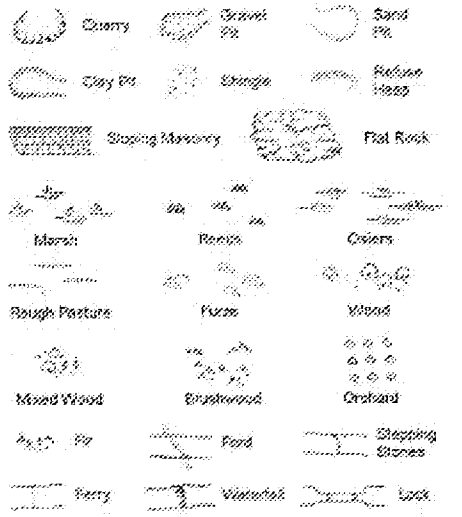


ARUN DISTRICT COUNCIL LU/133/14/WS

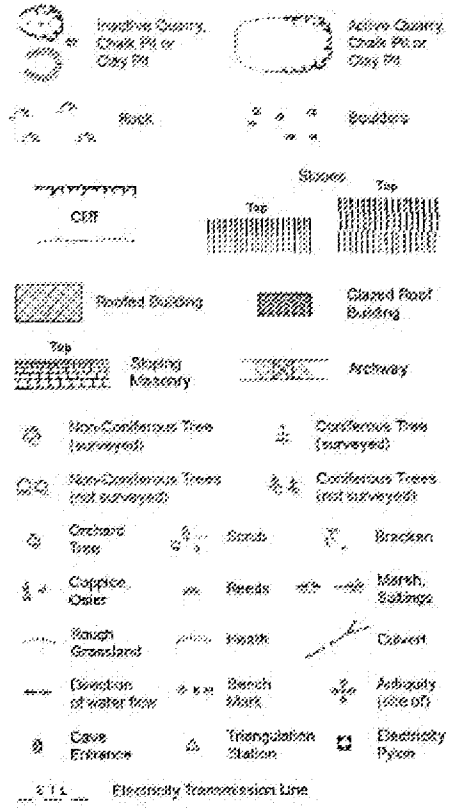
ARUN DISTRICT COUNCIL LU/133/14/WS

Historical Mapping Legends

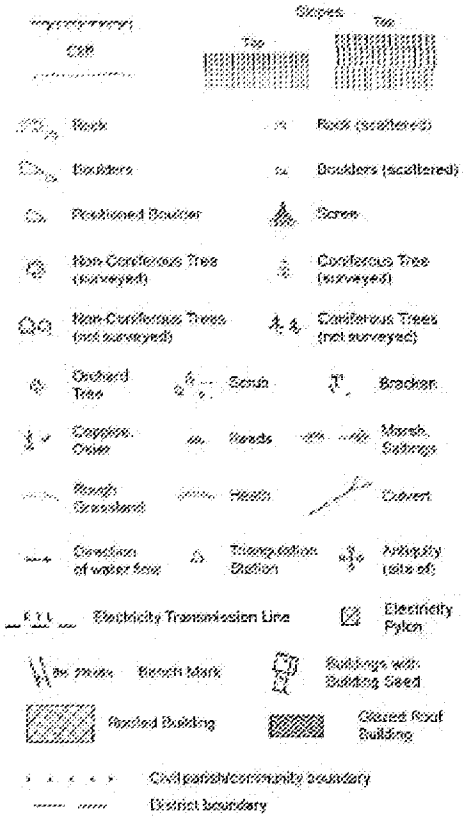
Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



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



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

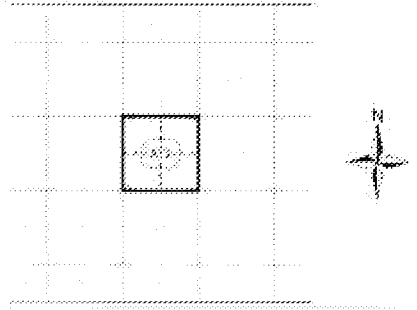


Envirocheck®

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Surveys	1:2,500	1875	3
Surveys	1:2,500	1897 - 1898	3
Surveys	1:2,500	1911 - 1912	4
Surveys	1:2,500	1933	5
Ordnance Survey Plan	1:1,250	1956 - 1960	6
Ordnance Survey Plan	1:2,500	1959 - 1972	7
Ordnance Survey Plan	1:1,250	1966 - 1980	8
Additional SIMs	1:1,250	1966 - 1967	9
Ordnance Survey Plan	1:2,500	1970 - 1972	10
Ordnance Survey Plan	1:1,250	1972 - 1980	11
Supply of Unpublished Survey Information	1:1,250	1973 - 1974	12
Supply of Unpublished Survey Information	1:1,250	1974	13
Additional SIMs	1:1,250	1984 - 1991	14
Additional SIMs	1:1,250	1992	15
Large-Scale National Grid Data	1:1,250	1994	16
Large-Scale National Grid Data	1:1,250	1995	17

Historical Map - Segment A13



Order Details

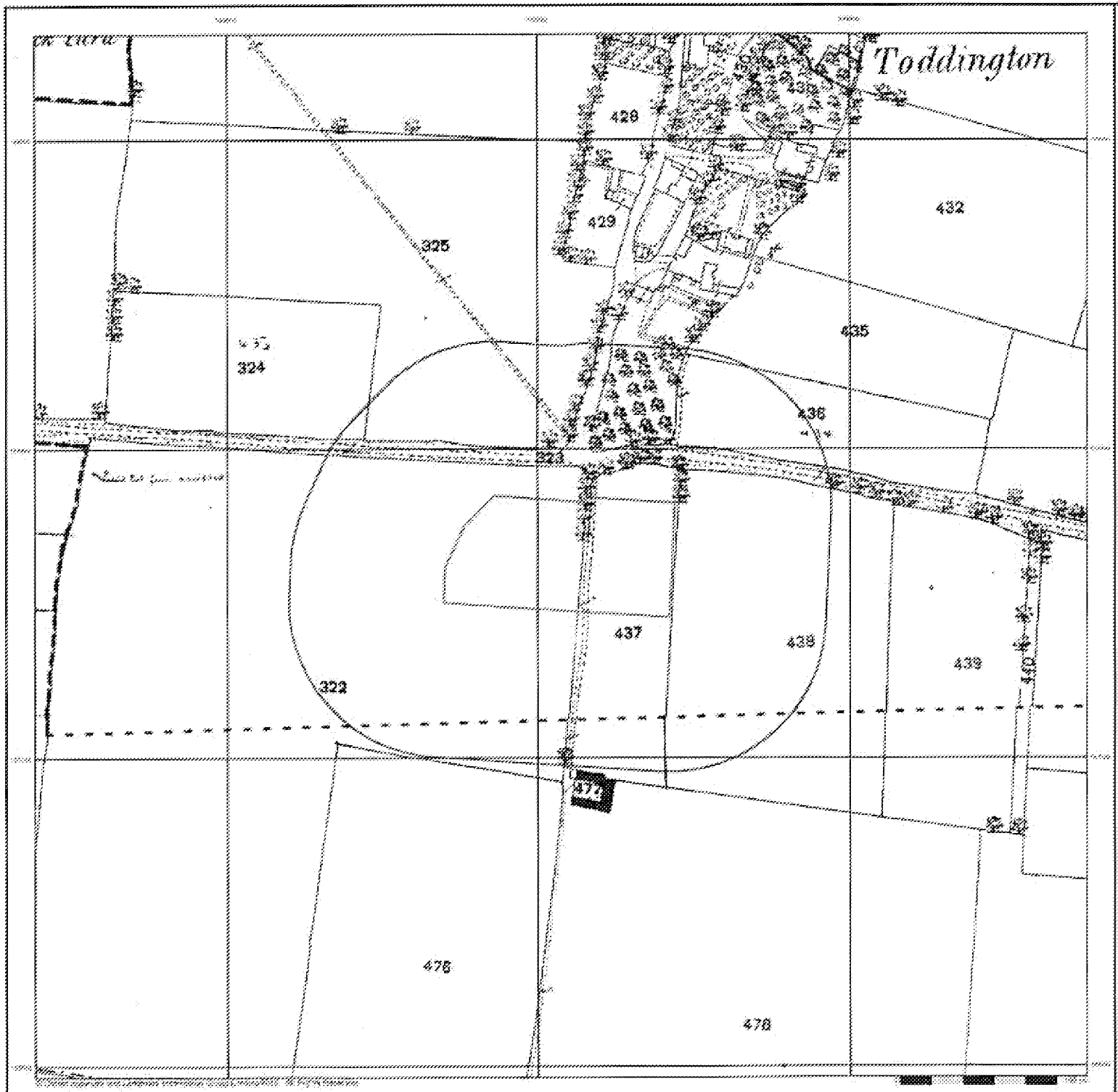
Order Number:	50232181_1_1
Customer Ref:	GE9757
National Grid Reference:	503320, 105330
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	100

Site Details

Corbett School, Cornfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HY

Landmark

ARUN DISTRICT COUNCIL LU/133/14/WS

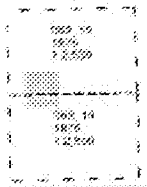


Envirocheck®

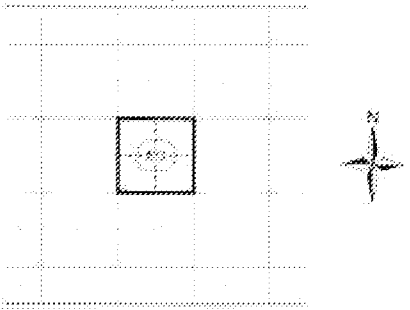
Sussex
Published 1876
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the Ordnance Survey for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1883 it covered the whole of what was considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1855, all OS maps were based on the Cassini Projection, with subsequent surveys on a single county or group of counties, giving rise to significant discontinuities in adjoining areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



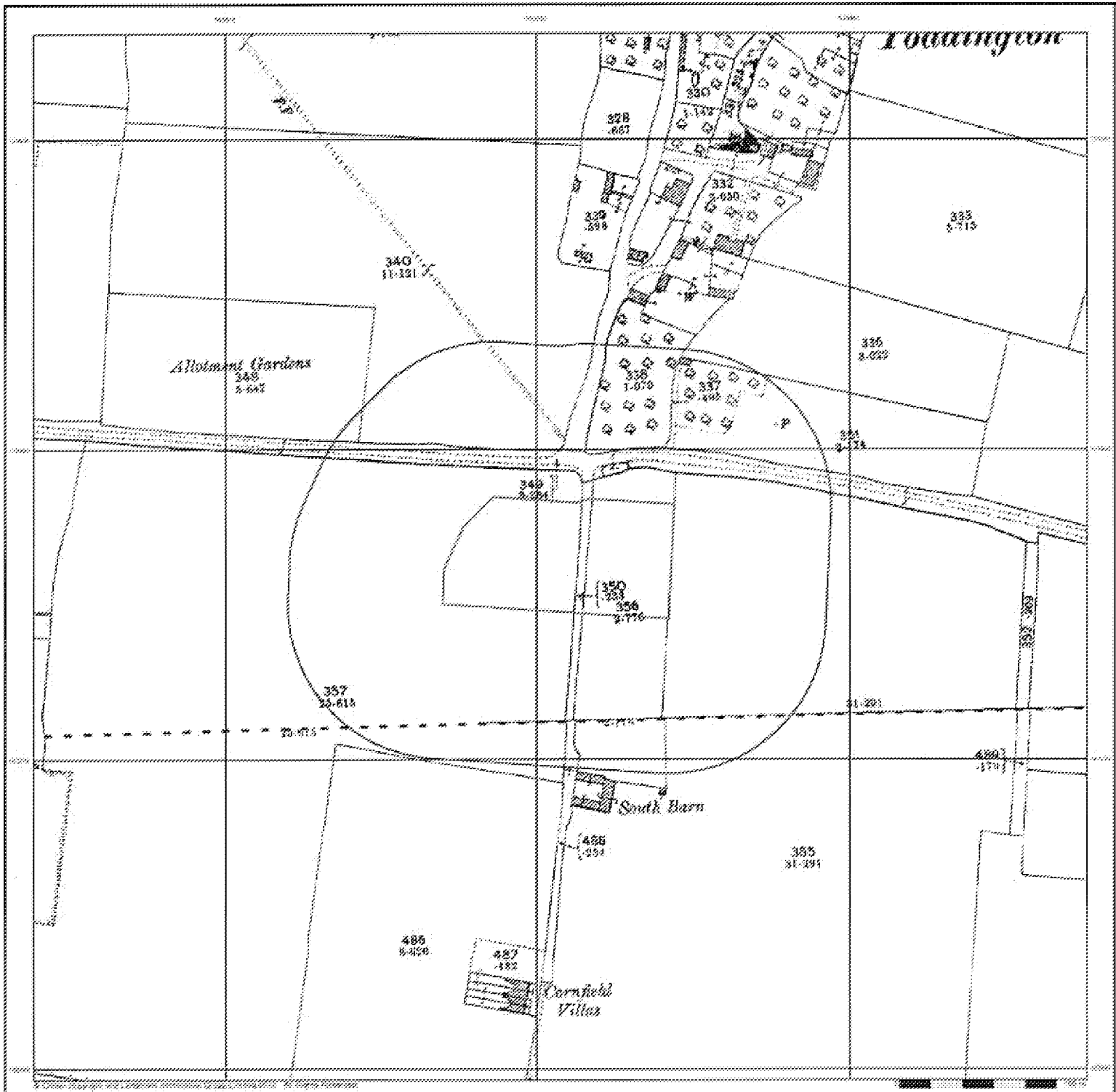
Order Details

Order Number:	53233981_1_1
Customer Ref:	GS/9157
National Grid Reference:	503220, 103350
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	100

Site Details
Corrfield School, Corrfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 5HY

Landmark

ARUN DISTRICT COUNCIL LU/133/14/WS



Envirocheck

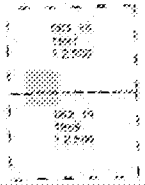
Sussex

Published 1897 - 1898

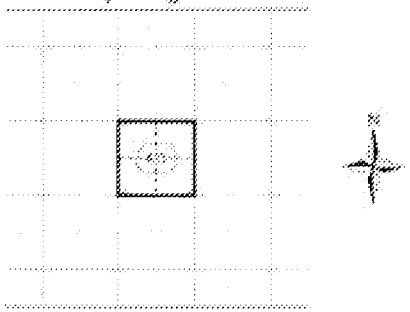
Source map scale - 1:2,500

The historical maps shown were reproduced from maps produced using one of the scales adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the economic parts of Great Britain. The published date given below is often some years after the survey was made. Before 1855, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant discontinuities in adjoining areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

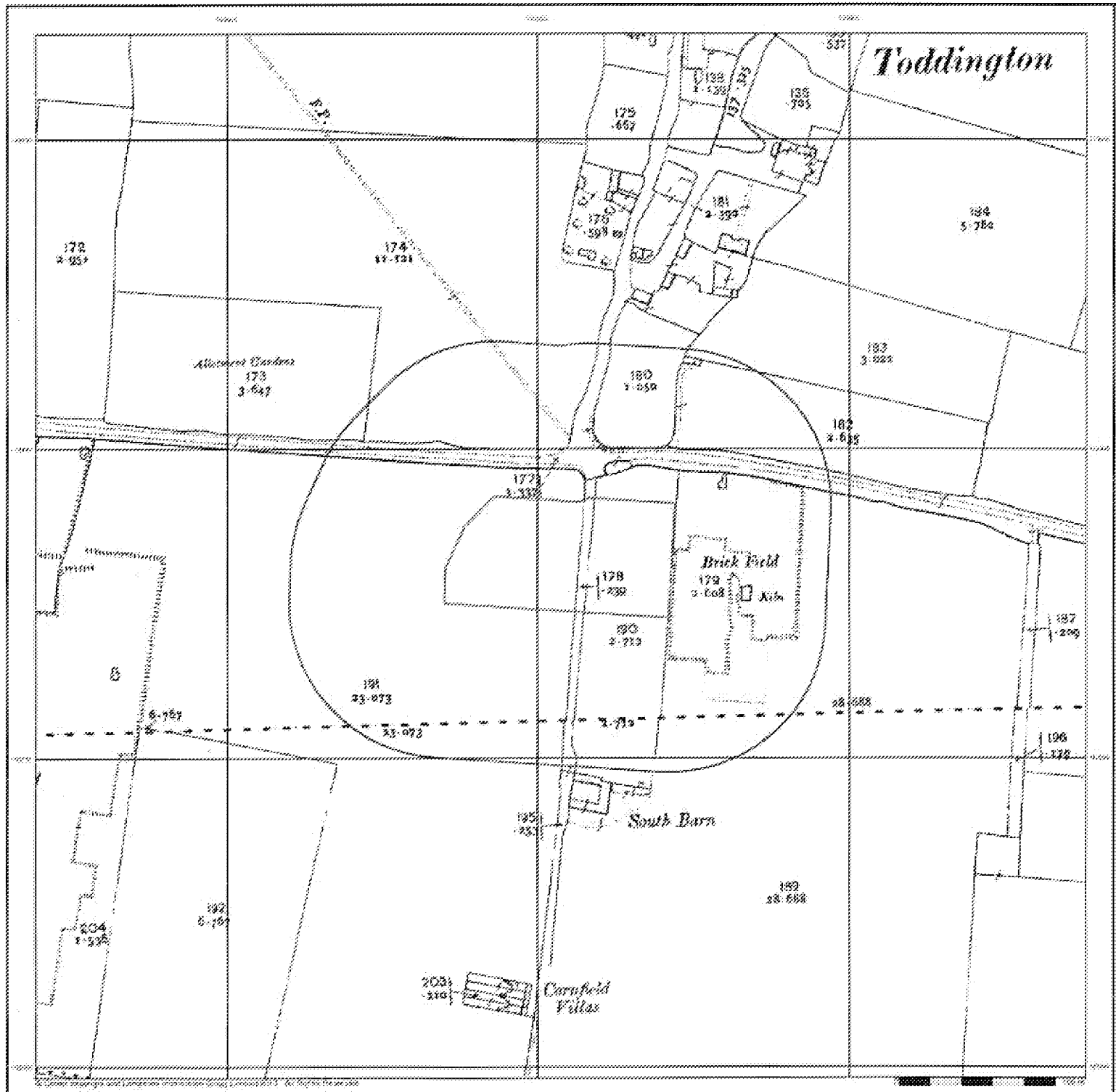
Order Number:	83232981_1_1
Customer Ref:	CE9757
National Grid Reference:	503330, 103330
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	100

Site Details

Cornfield School, Cornfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HY.

Landmark

ARUN DISTRICT COUNCIL LU/133/14/WS



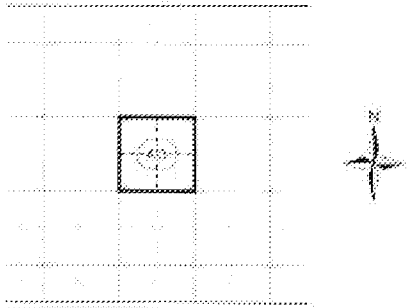
Envirocheck

Sussex
Published 1911 - 1912
Source map scale - 1:2,500

The historical maps shown were reproduced from maps produced by the Ordnance Survey at the scales adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1890 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often several years after the survey was first made. Before 1939, all OS maps were based on the Cassini Projection, with independent surveys at a variety of scales in a process of rolling programme that was suspended and rescheduled following World War II.

Map Name(s) and Date(s)

Historical Map - Segment A13



Order Details

Order Number	59232981_1_1
Customer Ref.	CS19757
National Grid Reference	503220, 103300
Slice:	A
Site Area (Ha)	1
Search Buffer (m)	500

Site Details

Cornfield School, Cornfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HY

Landmark

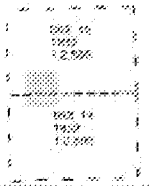
ARUN DISTRICT COUNCIL LU/133/14/WS

Envirocheck

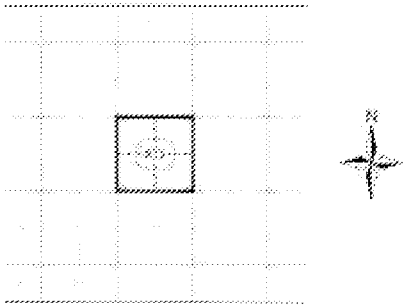
Sussex
Published 1932
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the Ordnance Survey and Stationery Office and published in the 1930's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1890 it covered the whole of what was considered to be the cultivated parts of Great Britain. The published maps were based upon surveys which were undertaken during the period 1840 to 1880, although some were based on earlier surveys. With interpolated revisions and single checks by a number of different people, they can be regarded as consistent in terms of accuracy.

Map Name(s) and Date(s)



Historical Map - Segment A13



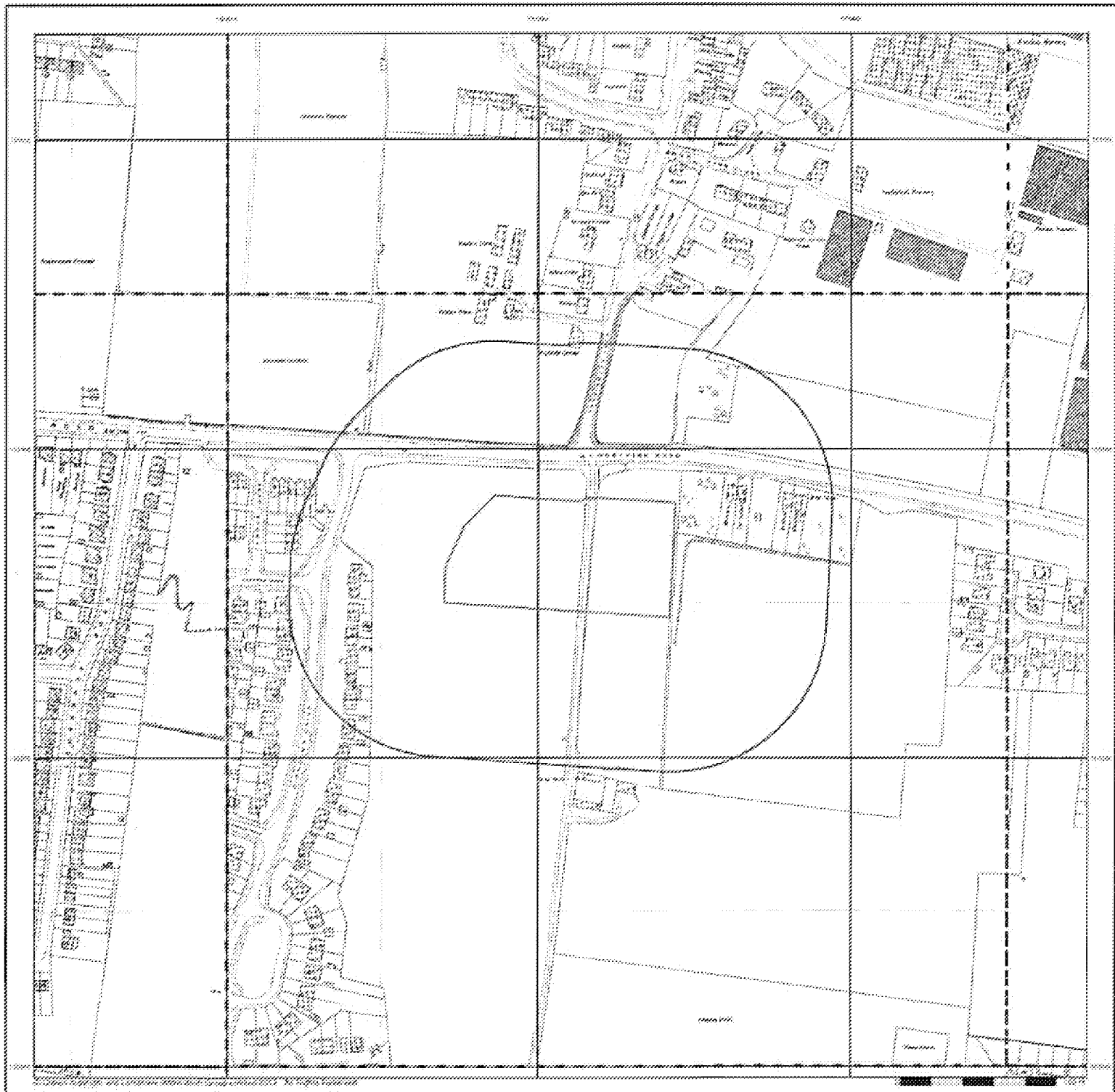
Order Details

Order Number	53002981_1_1
Customer Ref	CS/9757
National Grid Reference	503220, 103300
Slice	A
Site Area (Sq.m)	1
Search Buffer (m)	100

Site Details

Cornfield School, Cornfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HY

Landmark

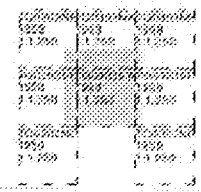


Envirocheck®

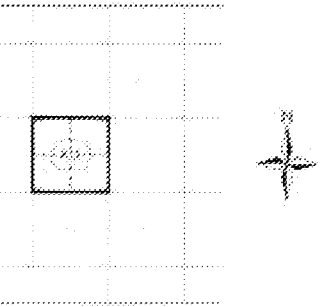
Ordnance Survey Plan
Published 1958 - 1969
Source map scale - 1:1,250

The historical maps shown were reproduced from maps produced by the Ordnance Survey at the scale detailed for England, Wales and Scotland in the 1940's to 1950's. In 1954 the 1:2,500 scale was adopted for mapping urban areas and by 1956 it covered the whole of what was considered to be the developed parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1936, all OS maps were based on the Cassini Projection, with the accepted variation of a slight change in grid and spheroid, giving rise to significant inaccuracies in mapping terms.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

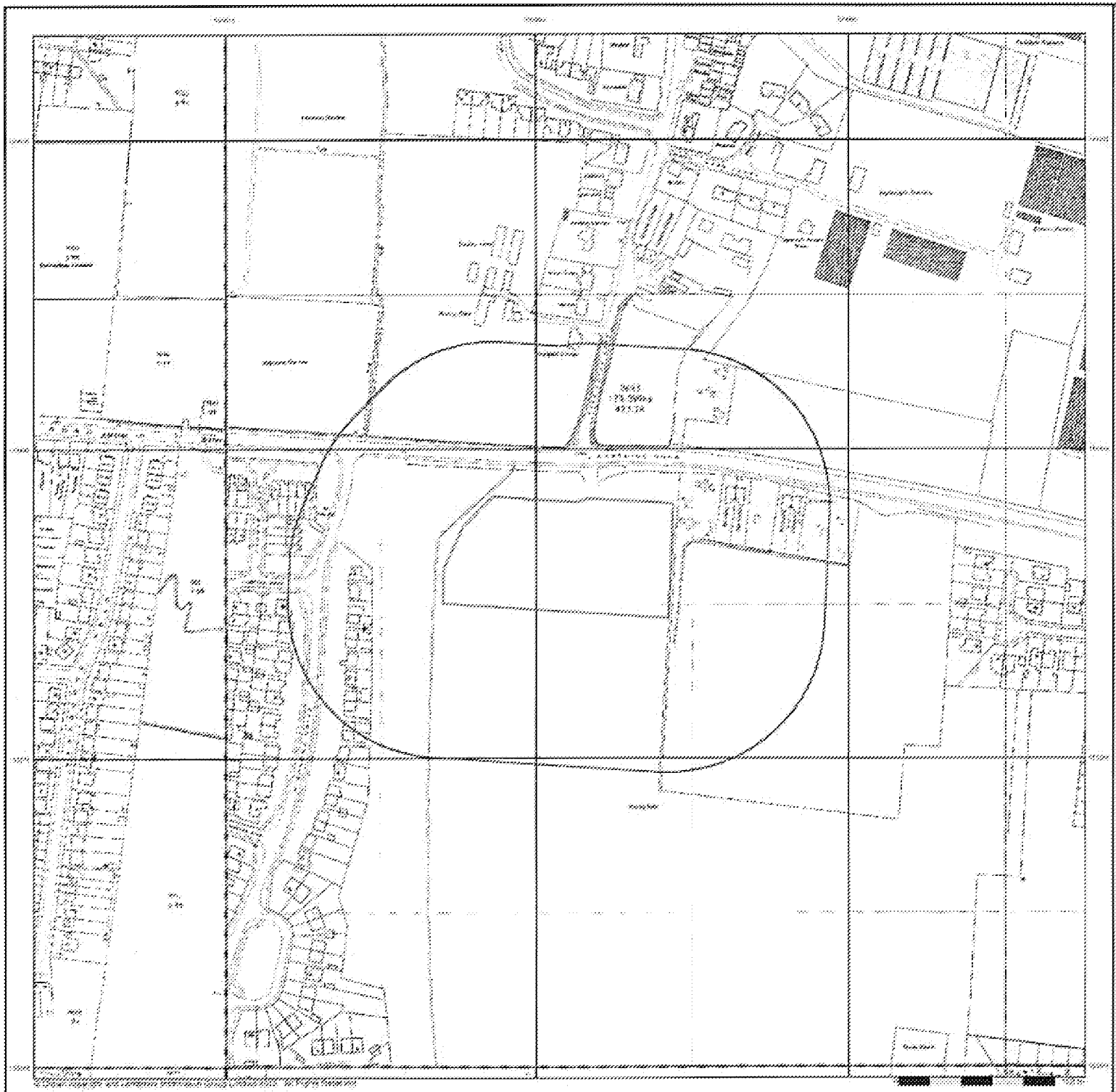
Order Number:	53232561_1_1
Customer Ref.:	0139757
National Grid Reference:	503220, 103330
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	100

Site Details

Cornfield School, Cornfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HW

Landmark

ARUN DISTRICT COUNCIL LU/133/14/WS

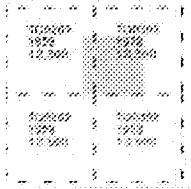


Envirocheck

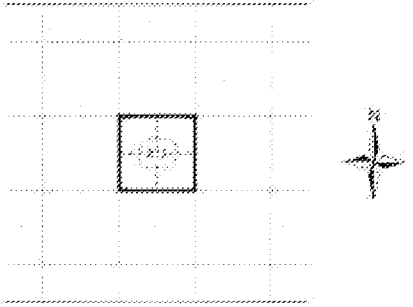
Ordnance Survey Plan
Published 1959 - 1972
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held within the British Library. They were published for England, Wales and Scotland between 1843 and 1952 at a scale of 1:2,500 and were published for irregularly shaped areas centred on towns and cities. Some of these areas were enlarged to 1:1,056 scale and others reduced to 1:10,560 scale. The earliest date given below is often several years later than the surveyed date. Editions 1888 - 1913 OS maps were based on the Cassini Projection, with subsequent editions of a single county or group of counties, using the most significant boundaries or outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	53207961_1_1
Customer Ref:	06/0057
National Grid Reference:	503220, 103330
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	100

Site Details

Cornfield School, Cornfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HY

Landmark

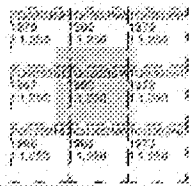
ARUN DISTRICT COUNCIL LU/133/14/WS

Envirocheck

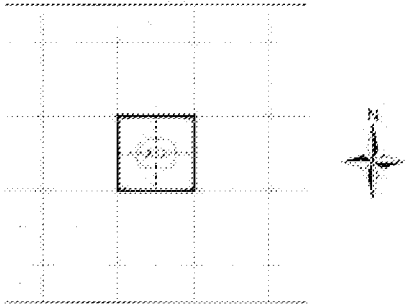
Ordnance Survey Plan
Published 1966 - 1980
Source map scale - 1:1,250

The historical maps supplied were reproduced from maps predominantly held at the scales detailed by England, Wales and Scotland in the 1940's. In 1956 the 1:2,500 scale was adopted for mapping urban areas and by 1956 it covered the whole of what were considered to be the developed parts of Great Britain. The published date given below is often many years later than the surveyed date. Before 1956, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, using one to significant inaccuracies in differing areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

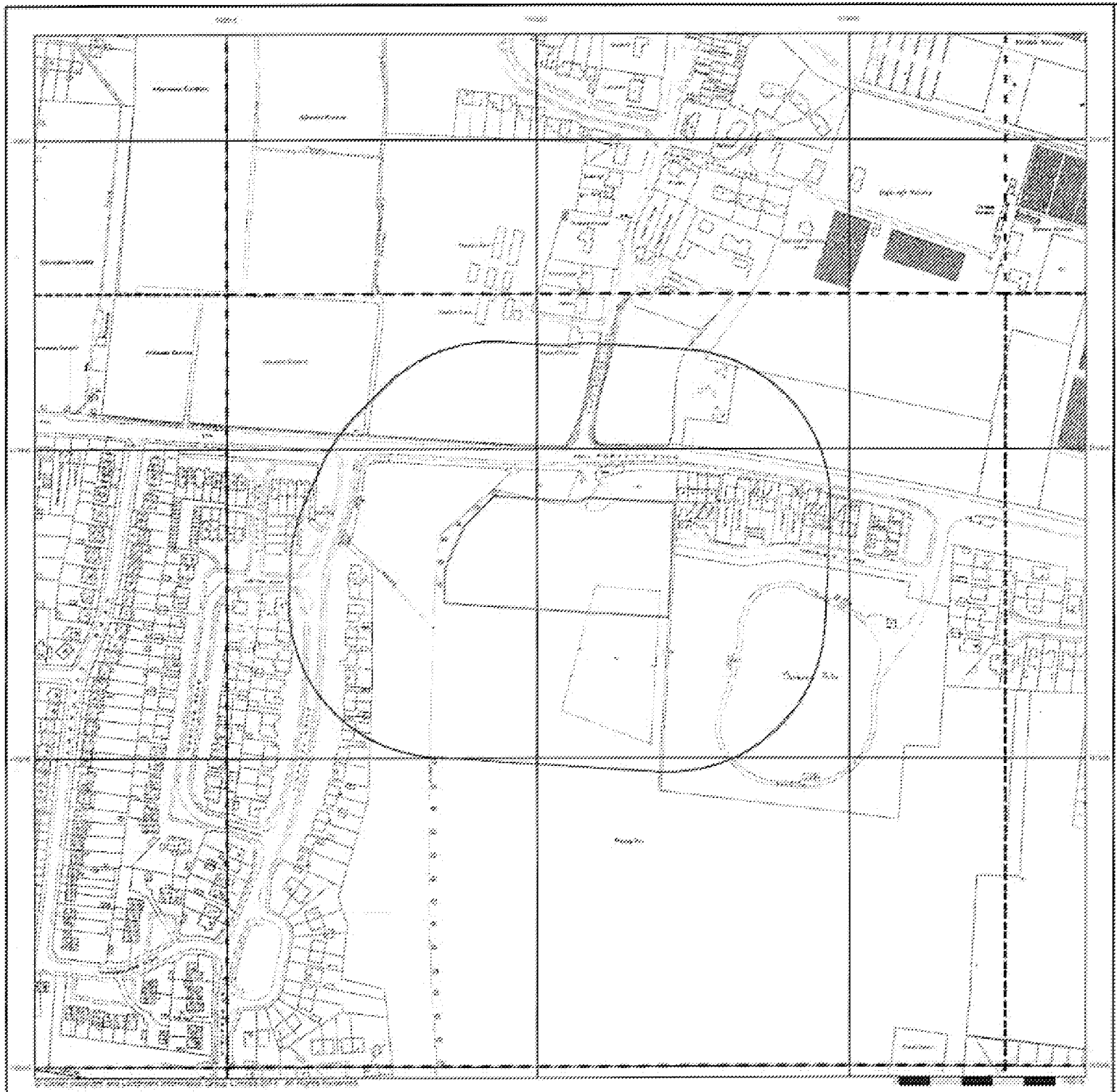
Order Number:	63232961_1_1
Customer Ref:	66.9757
National Grid Reference:	500220, 103330
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	100

Site Details

Cornfield School, Cornfield Close, Ilkley, LITTLEHAMPTON, West Sussex, BN17 6HY

Landmark

ARUN DISTRICT COUNCIL LU/133/14/WS



Envirocheck

Additional SIMs

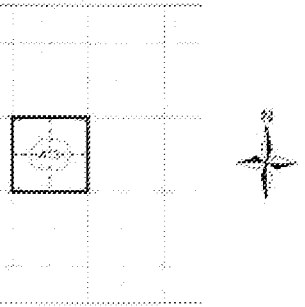
Published 1966 - 1987

Source map scale - 1:1,250

The SIM cards (Ordnance Survey's Source of Information on Mapping) are further, more detailed, of mapping which were produced and published between the main editions we on which was updated. They date from 1947 to 1994, and contain detailed information on buildings, trees and land use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

Historical Map - Segment A13



Order Details

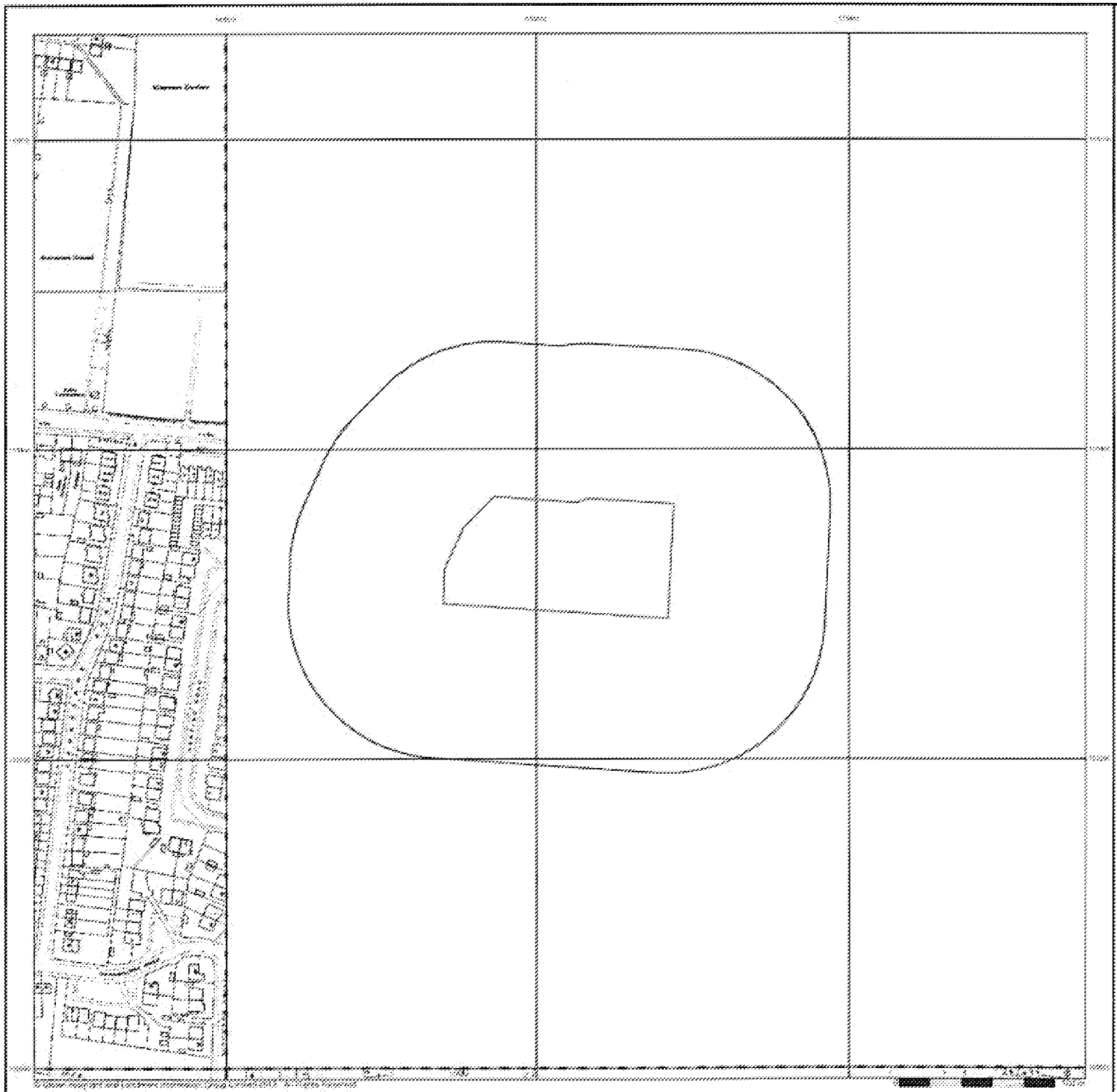
Order Number:	53232981_1_1
Customer Ref:	GE0757
National Grid Reference:	503320, 103930
Size:	A
Site Area (Ha):	1
Search Buffer (m):	100

Site Details

Cornfield School, Cornfield Close, Work, LITTLEHAMPTON, West Sussex, BN17 6HY

Landmark

ARUN DISTRICT COUNCIL LU/133/14/WS

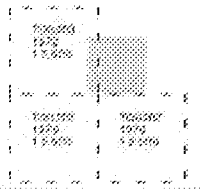


Envirocheck

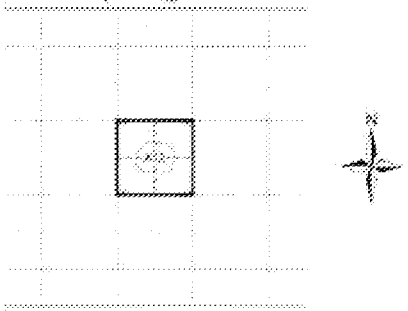
Ordnance Survey Plan
Published 1970 - 1972
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's, i.e. 1:2,500 scale was adopted for mapping urban areas and by 1890 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1855, all OS maps were hand-drawn in the Ordnance Department with subsequent surveys of a single county or group of counties, going over to lithographic reproduction or surveying proper.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

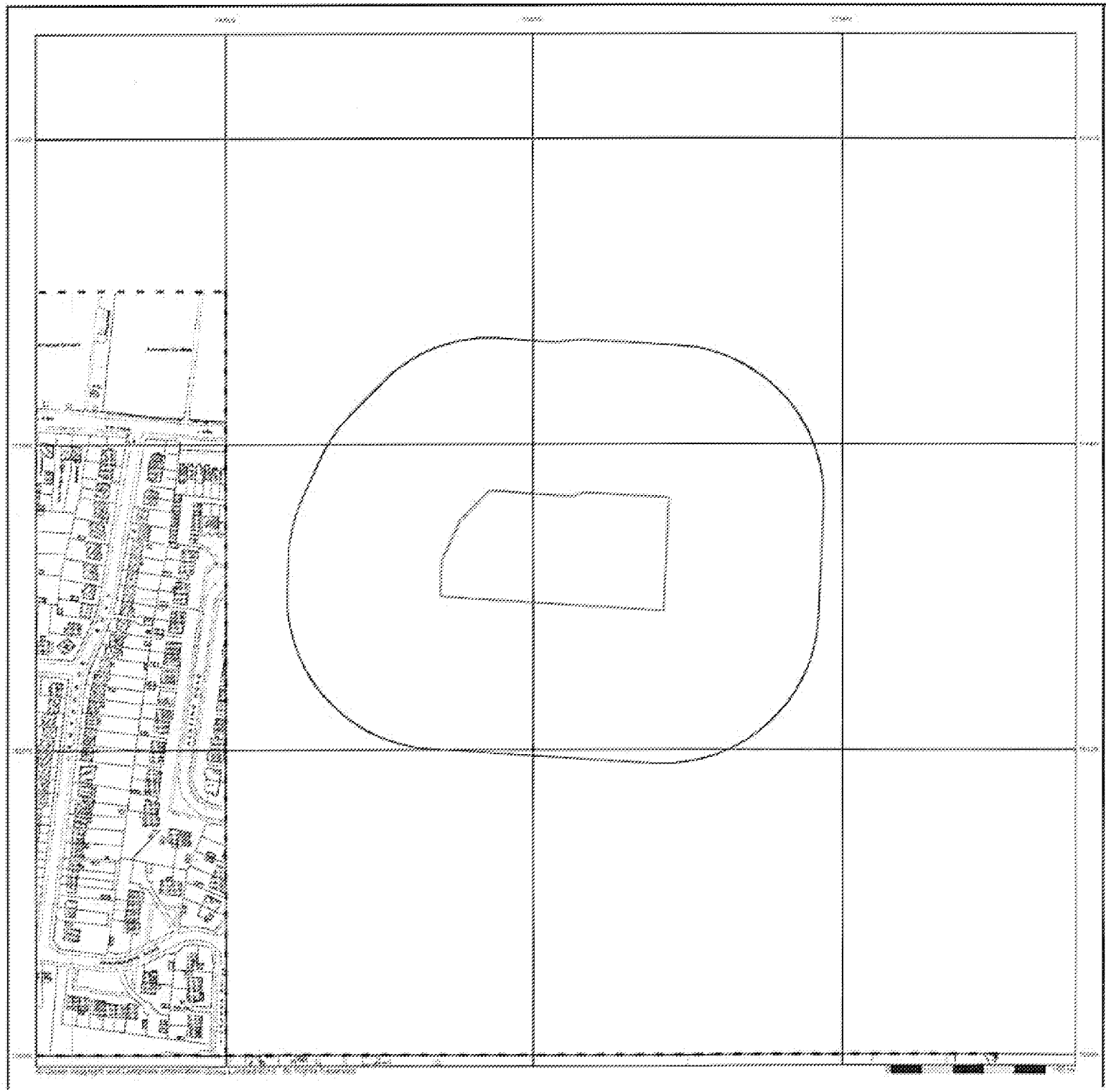
Order Number:	53232881_1_1
Customer Ref:	163357
National Grid Reference:	503220, 103330
Slice:	A
Site Area (Sq.Km):	1
Search Buffer (m):	100

Site Details

Cornfield School, Cornfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HY

Landmark

ARUN DISTRICT COUNCIL LU/133/14/WS

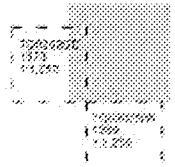


Envirocheck

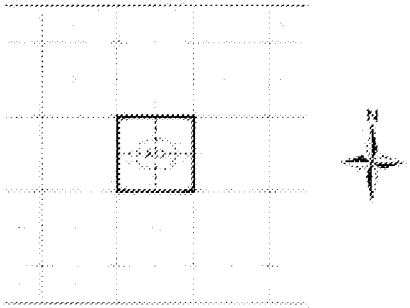
Ordnance Survey Plan
Published 1973 - 1980
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale specified for England, Wales and Scotland in the 1940's. In 1952 the 1:2,500 scale was adopted for mapping urban areas and by 1956 it covered the whole of what were considered to be the industrial cities of Great Britain. The published date given below is often some years later than the surveyed date. Before 1935, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant discontinuities in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



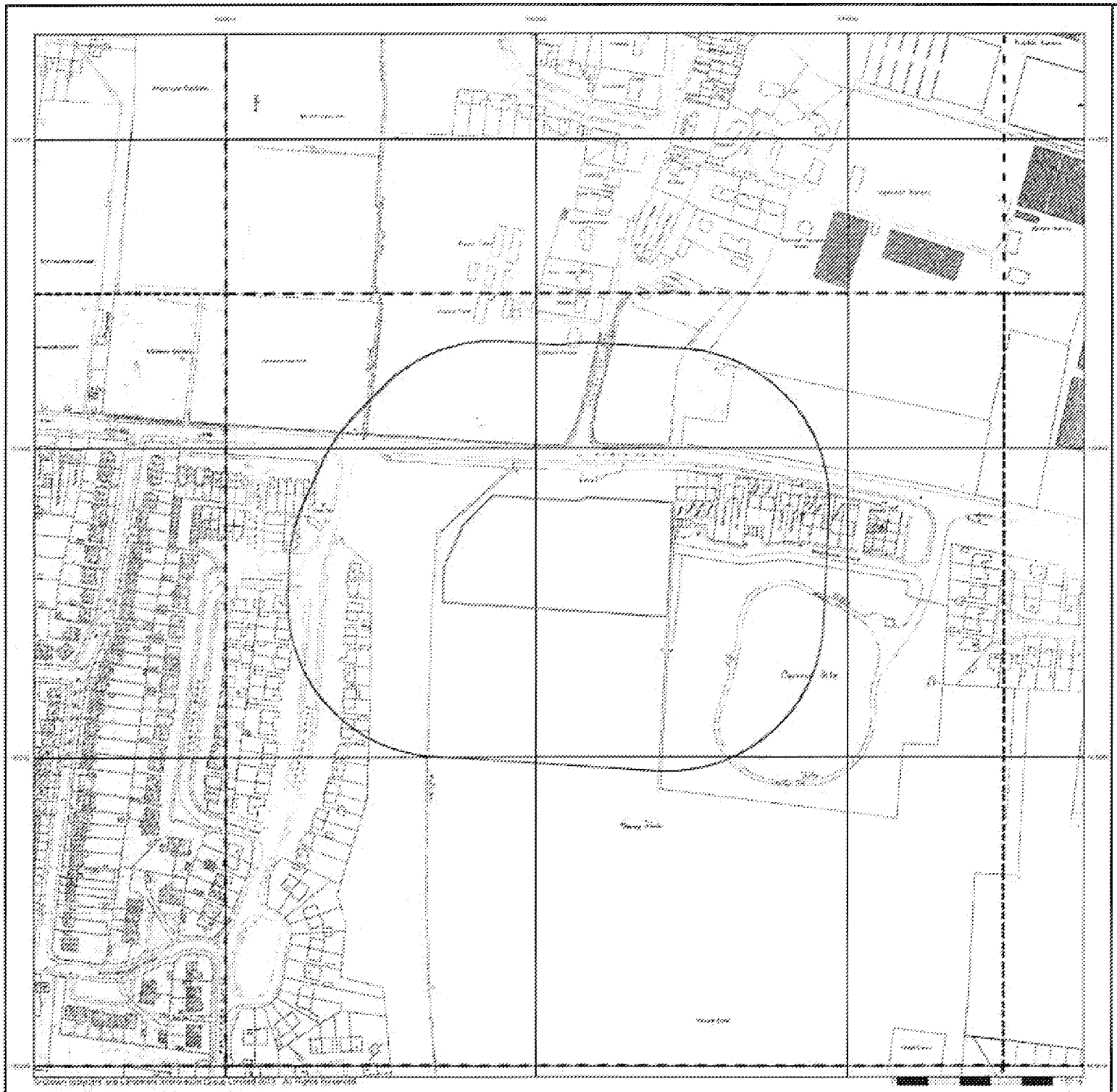
Order Details

Order Number:	63210581_1_1
Customer Ref:	133/14/WS
National Grid Reference:	503228, 103330
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	100

Site Details
Cornfield School, Cornfield Close, West, LITTLEHAMPTON, West Sussex, BN17 6QY

Landmark

ARUN DISTRICT COUNCIL LW/133/14/WS



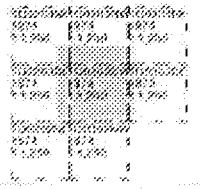
Envirocheck

Supply of Unpublished Survey Information

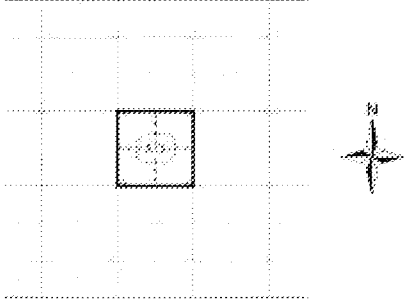
Published 1973 - 1974

Source map scale - 1:1,250

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

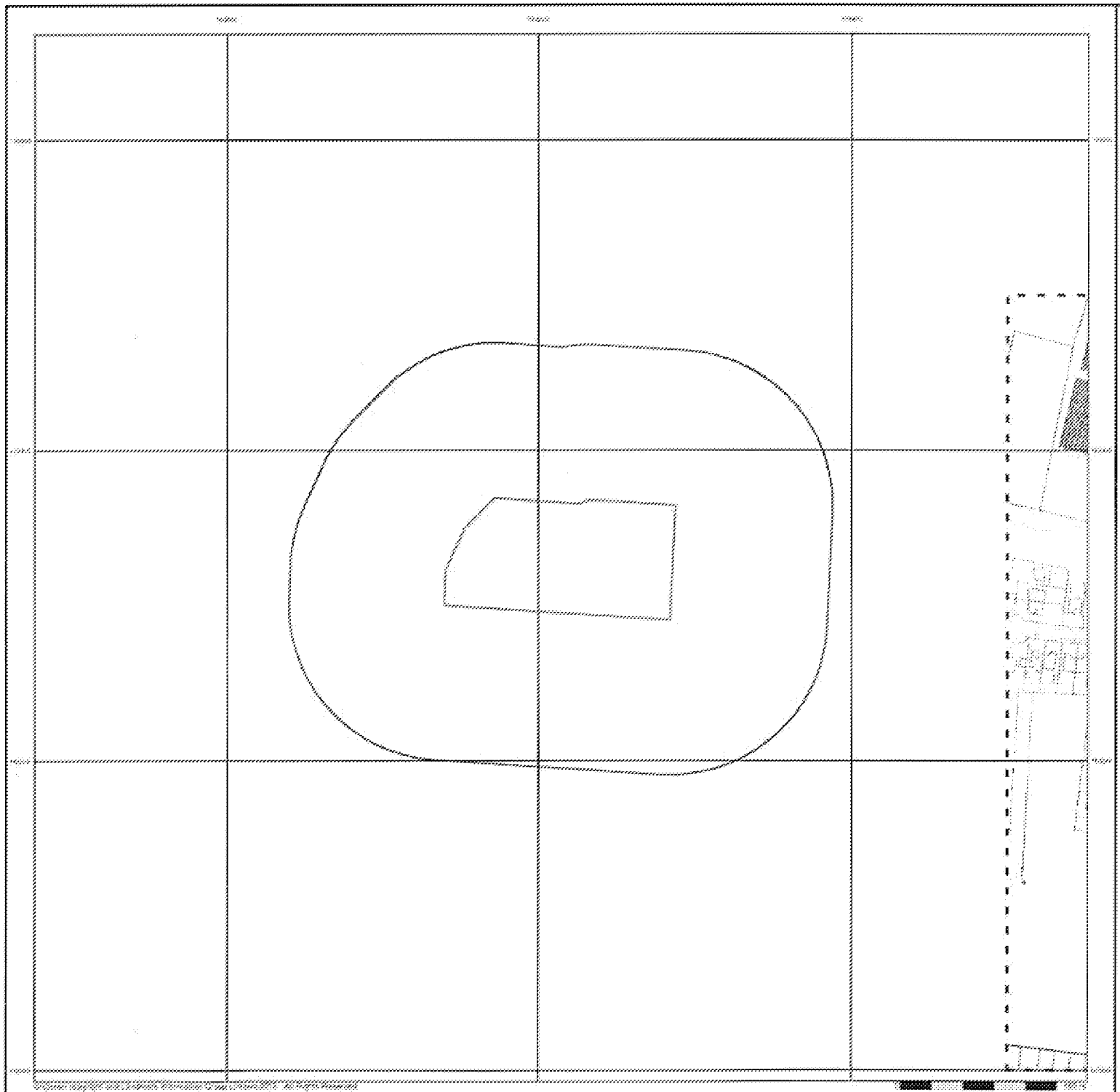
Order Number:	53232881_1_1
Customer Ref:	GR/757
National Grid Reference:	503230, 103330
Slice:	A
Site Area (Sq.Km):	1
Search Buffer (m):	1000

Site Details

Climfield School, Comfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HY

Landmark

ARUN DISTRICT COUNCIL LU/133/14/WS



Envirocheck®

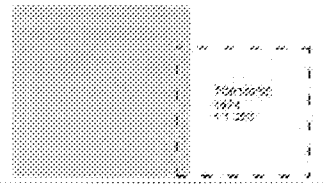
Supply of Unpublished Survey Information

Published 1974

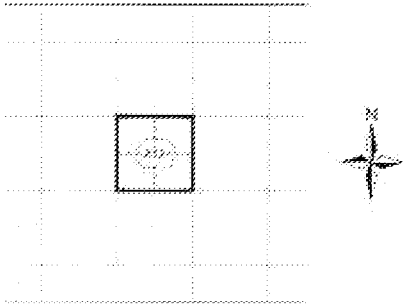
Source map scale - 1:1,250

OS maps (Supply of Unpublished Survey information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were mostly at a 'work-in-progress' stage so they showed sections of detail not shown on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

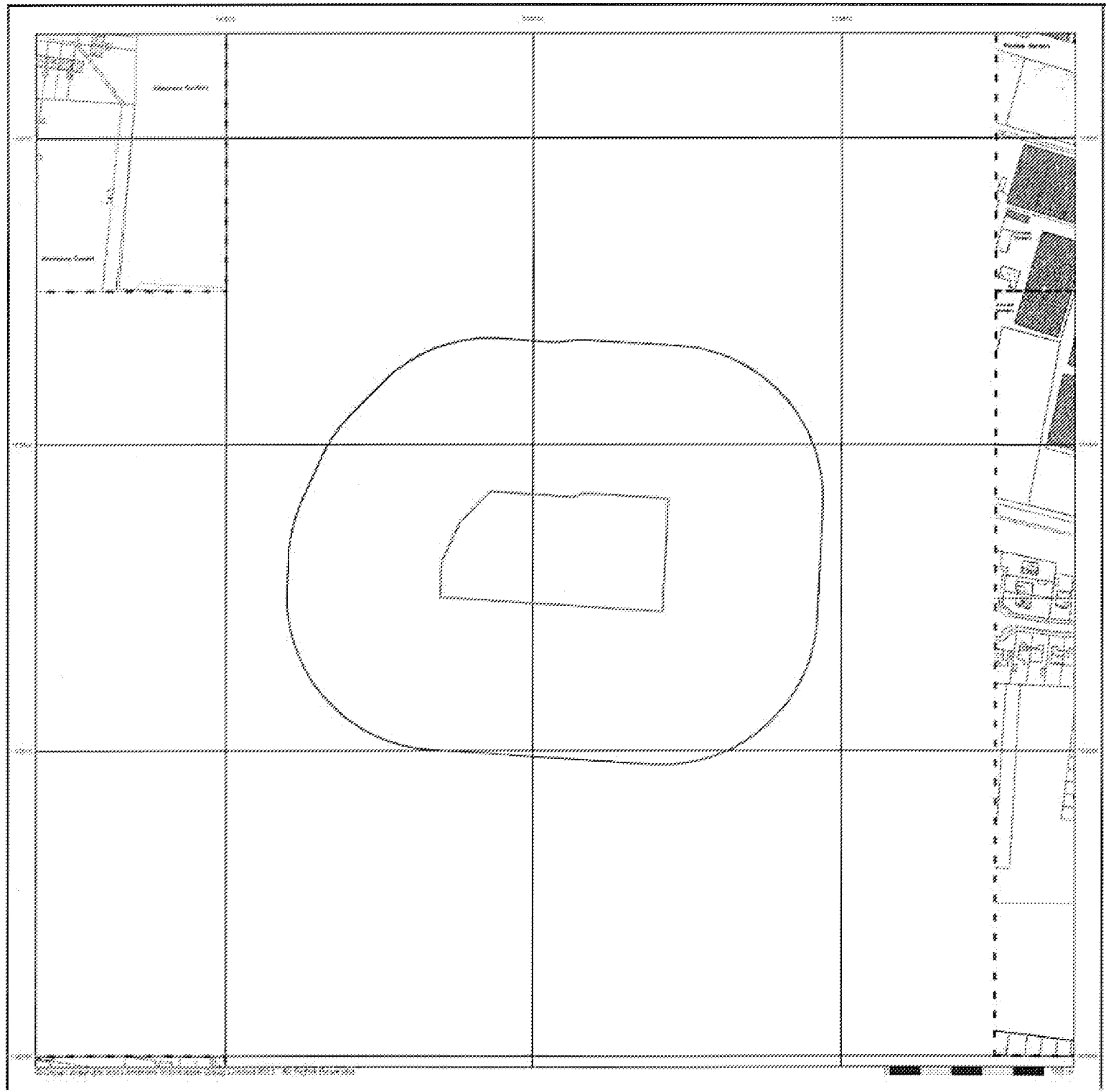
Order Number:	53232661_1_1
Customer Ref.:	CS/9767
National Grid Reference:	503220, 103330
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	100

Site Details

Cornfield School, Cornfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HY

Landmark

ARUN DISTRICT COUNCIL LU/133/14/WS



Envirocheck

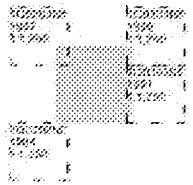
Additional SIMs

Published 1984 - 1991

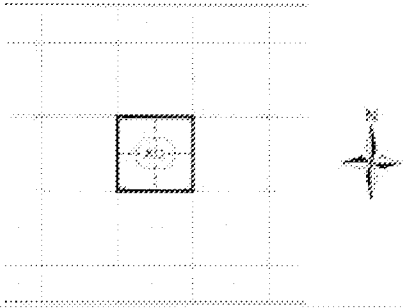
Source map scale - 1:1,250

The SIM uses Ordnance Survey information to identify any further, other editions of mapping which were produced and published between the main editions as an area was updated. They date from 1981 to 1994, and contain detailed information on buildings, roads and land use. These maps were published at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

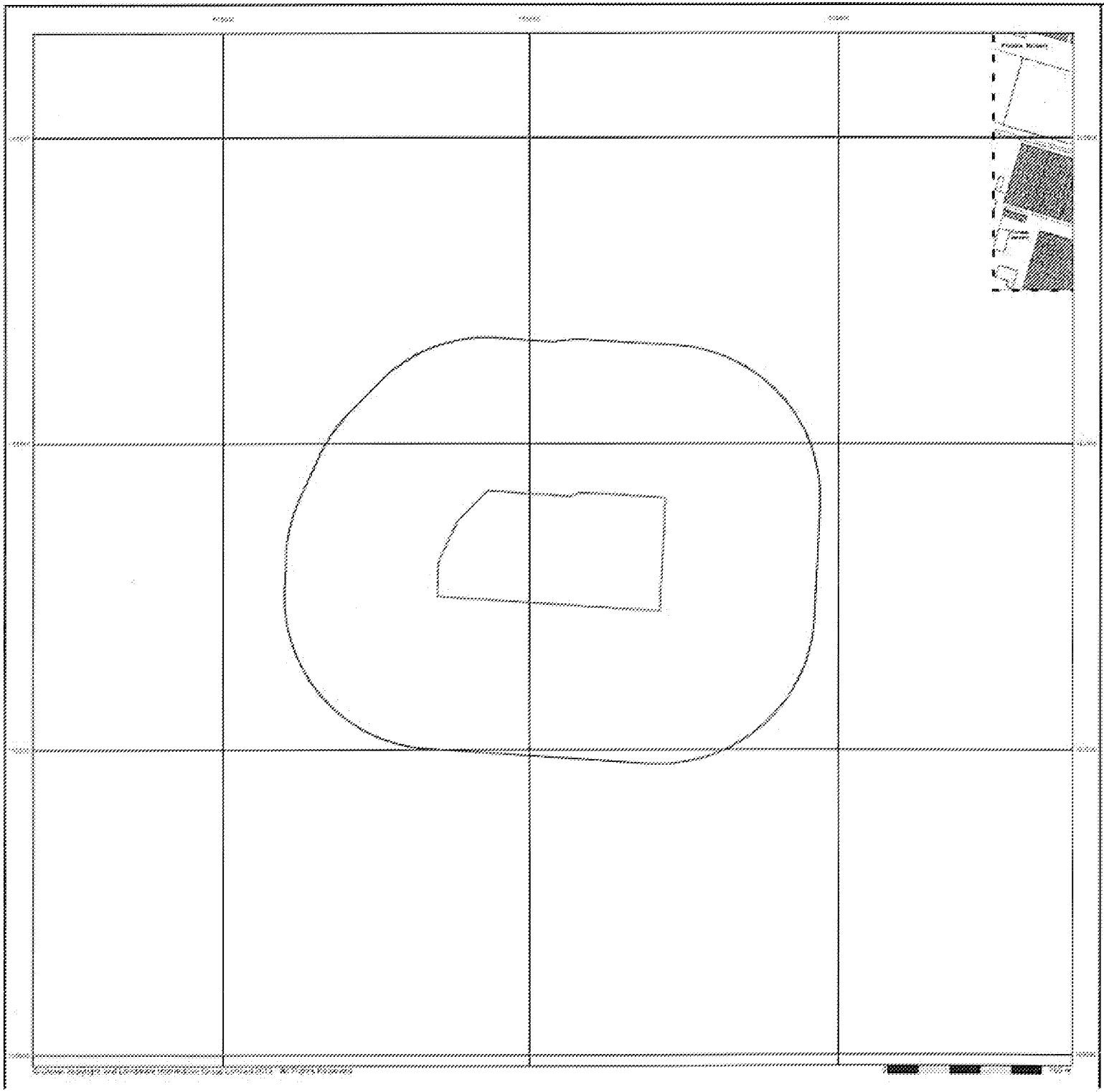
Order Number:	59213981_1_1
Customer Ref:	3019757
National Grid Reference:	503220, 103330
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	100

Site Details

Cornfield School, Cornfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HY

Landmark

ARUN DISTRICT COUNCIL LU/133/14/WS

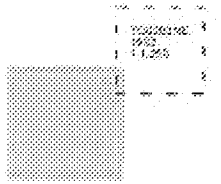


Envirocheck

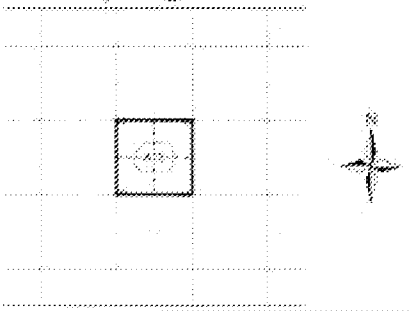
Additional SIMs
Published 1992
Source map scale - 1:1,250

The SIM (Sensitive Sheets of Information on Members) are further maps of mapping which were selected and published to enhance the main extract as an area was updated. They date from 1992 to 1994, and contain detailed information on buildings, roads and features. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

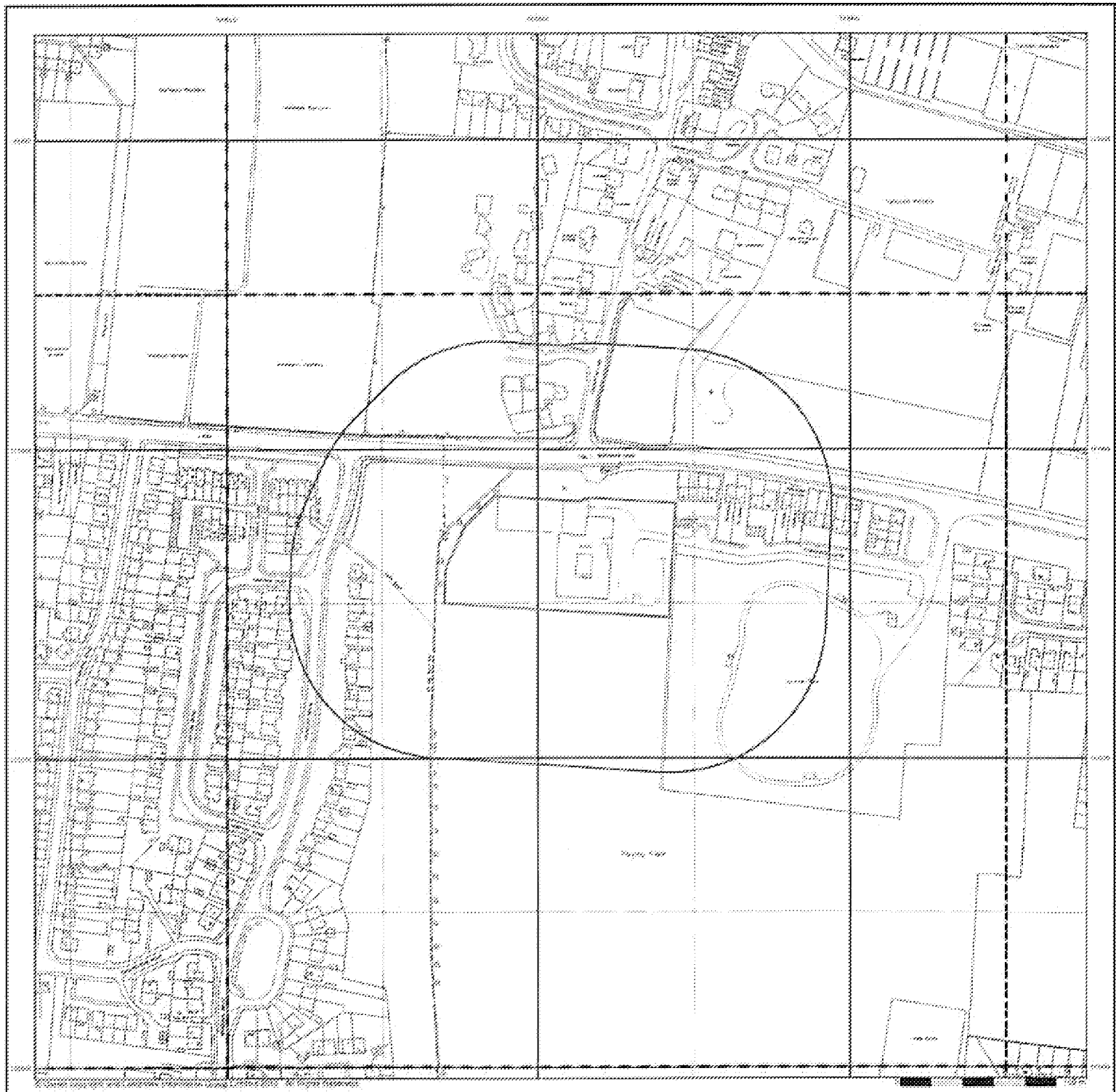
Order Number	53332961_1_1
Customer Ref.	GE/9787
National Grid Reference	503220, 105330
Slice:	A
Site Area (Ha)	1
Search Buffer (m)	100

Site Details

Oldfield School, Oldfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HY

Landmark

ARUN DISTRICT COUNCIL LU/133/14/WS



EnvirocheckⓇ

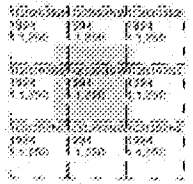
Large-Scale National Grid Data

Published 1994

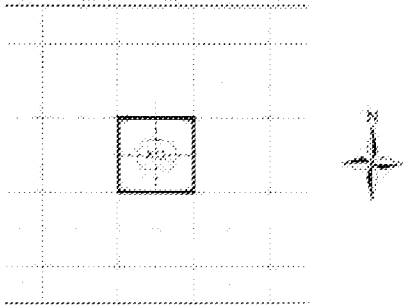
Source map scale - 1:1,250

Large Scale National Grid Data (OS) supplied by Landmark Information Group Ltd. Ordnance Survey's National Geographic Database (NGD) is a digital database containing over 400 million geographic features and 50 million addresses. The NGD is maintained to the latest survey standard. Large scale data (1:1,250, 1:2,500, 1:10,000) is derived from the NGD. Medium scale data (1:25,000, 1:50,000) is generalised from large scale data. Small scale data (1:250,000 and smaller) is derived from various Ordnance Survey publications.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

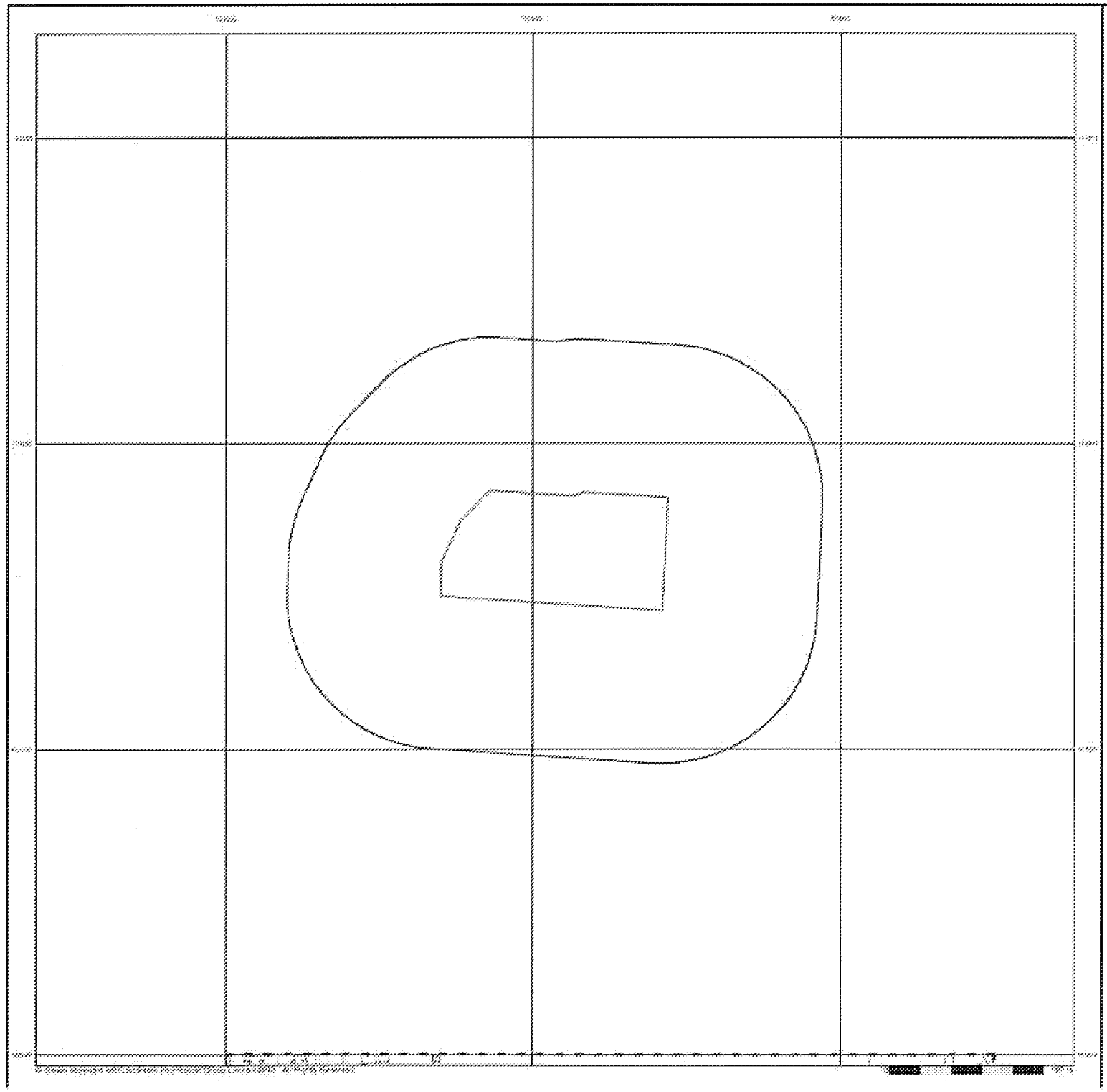
Order Number:	53232981_1_1
Customer Ref:	GE9757
National Grid Reference:	503220, 103330
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	100

Site Details

Corrifield School, Corrifield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HY

Landmark

ARUN DISTRICT COUNCIL LU/133/14/WS



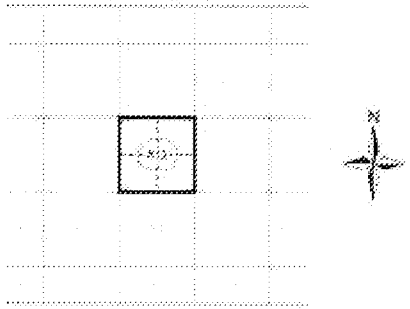
EnvirocheckⓇ

Large-Scale National Grid Data
Published 1995
Source map scale - 1:1,250

Large Scale National Grid Data superseded SIM Lands (Ordnance Survey's Survey of Information on Microfiche) in 1992, and continued to be produced until 1995. These maps were the forerunners of digital mapping and so provide detailed information on houses and roads, but land features and topographical features such as vegetation. These maps were produced at scales 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

Historical Map - Segment A13



Order Details

Order Number:	53232681_1_1
Customer Ref:	GE/9757
National Grid Reference:	503220, 105330
Slice:	A
Site Area (Sq.m):	1
Search Buffer (m):	100

Site Details

Cornfield School, Cornfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HY

LandmarkⓇ

ARUN DISTRICT COUNCIL LU/133/14/WS

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

Gravel Pit
Sand Pit
Other Pits
Quarry
Shingle
Orchard
Osiers
Reeds
Marsh
Mixed Wood
Coniferous
Deciduous
Brushwood
Furze
Rough Pasture
Arrow denotes flow of water
Triangulation Station
Site of Antiquities
Bench Mark
Pump, Guide Post, Signal Post
Well, Spring, Boundary Post
Surface Lines
Sketched Contour
Instrumented Contour
Main Roads
Fenced
Unfenced
Minor Roads
Fenced
Unfenced
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)
Co. Boro. Bdy.
County Burgh Boundary (Scotland)
Co. Burgh Bdy.
Rural District Boundary
RD.BDY.
Civil Parish Boundary

Ordnance Survey Plan 1:10,000

Chalk Pit, Clay Pit or Quarry
Gravel Pit
Sand Pit
Gravel 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
Shingle
Sand
Glasshouse
Sloping Masonry
Pylon
Electricity Transmission Line
Pole
Cutting
Embankment
Standard Gauge Multiple Track
Road Under
Road Over
Level Crossing
Foot Bridge
Standard Gauge Single Track
Siding, Tramway or Mineral Line
Narrow Gauge
Geographical County
Administrative County, County Borough or County of City
Municipal Borough, Urban or Rural District, Burgh or District Council
Borough, Burgh or County Constituency
Civil Parish

BP, BS	Boundary Post or Stone	Pol Sta	Police Station
Ch	Church	PO	Post Office
CH	Club House	PC	Public Conveniences
F S Sta	Fire Engine Station	PH	Public House
FB	Foot Bridge	SB	Signal Box
Fn	Fountain	Spr	Spring
GP	Guide Post	TCB	Telephone Call Box
MP	Mile Post	TCP	Telephone Call Post
MS	Mile Stone	W	Well

1:10,000 Raster Mapping

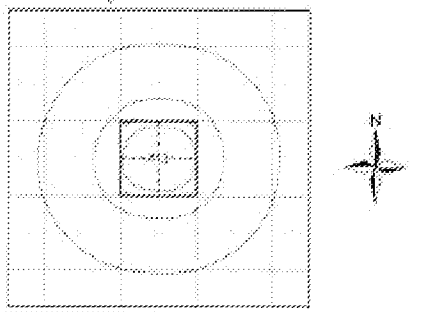
Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi track railway
Single track railway
County boundary (England only)
Civil, parish or community boundary
District, Unitary, Metropolitan, London Borough boundary
Constituency boundary
Area of wooded vegetation
Non-coniferous trees
Non-coniferous trees (scattered)
Coniferous trees
Coniferous trees (scattered)
Positioned tree
Orchard
Coppice or Osiers
Rough Grassland
Heath
Scrub
Marsh, Salt Marsh or Reeds
Water feature
Flow arrows
Mean high water (springs)
Mean low water (springs)
Telephone line (where shown)
Electricity transmission line (with pylons)
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

EnvirocheckⓇ

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Survey	1:10,560	1879	2
Survey	1:10,560	1899	3
Survey	1:10,560	1913	4
Survey	1:10,560	1913	5
Survey	1:10,560	1932	6
Survey	1:10,560	1935	7
Historical Aerial Photography	1:10,560	1947	8
Ordnance Survey Plan	1:10,000	1962	9
Ordnance Survey Plan	1:10,000	1962	10
Ordnance Survey Plan	1:10,000	1977	11
Ordnance Survey Plan	1:10,000	1982	12
Ordnance Survey Plan	1:10,000	1993	13
10K Raster Mapping	1:10,000	2006	14
10K Raster Mapping	1:10,000	2013	15

Historical Map - Slice A



Order Details

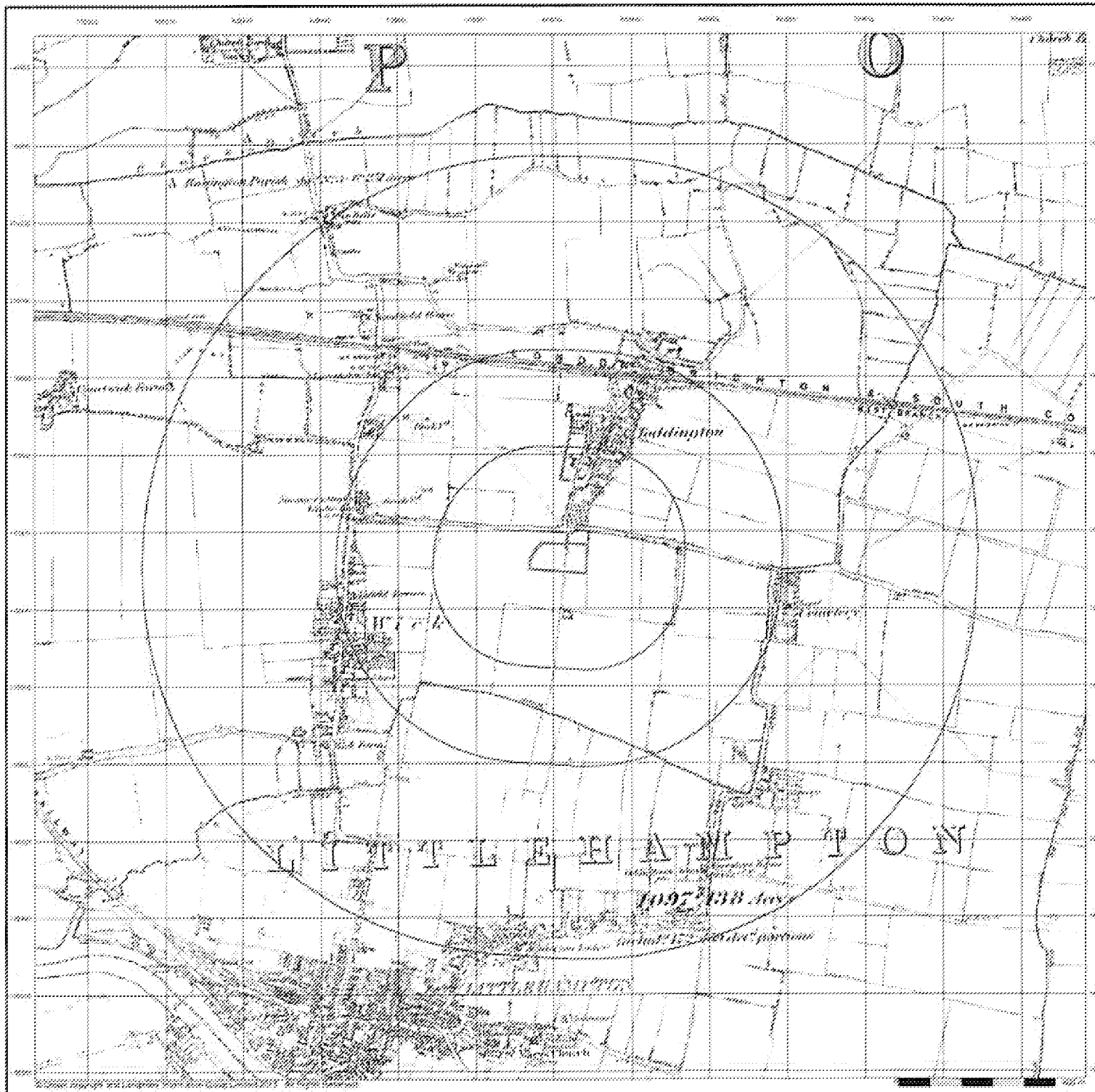
Order Number: 53232261_1_1
Customer Ref: GE8757
National Grid Reference: 503223, 100330
Slice: A
Site Area (Ha): 1.
Search Buffer (m): 1000

Site Details

Cornfield School, Cornfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6RY

Landmark

ARUN DISTRICT COUNCIL LU/133/14/WS



EnvirocheckⓇ

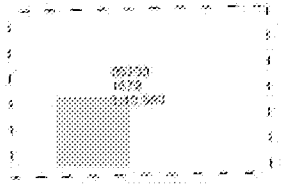
Sussex

Published 1879

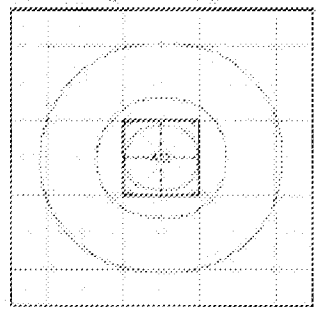
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale supplied to England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas, these maps were used to update the 1:10,560 maps. The date of publication is often some years later than the surveyed date. Before 1855, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inconsistencies in adjoining areas. In the late 1840's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps as now published - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1875, the first 1:10,000 maps were produced using the Transverse Mercator Projection. This covered principal settlements with boundary, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

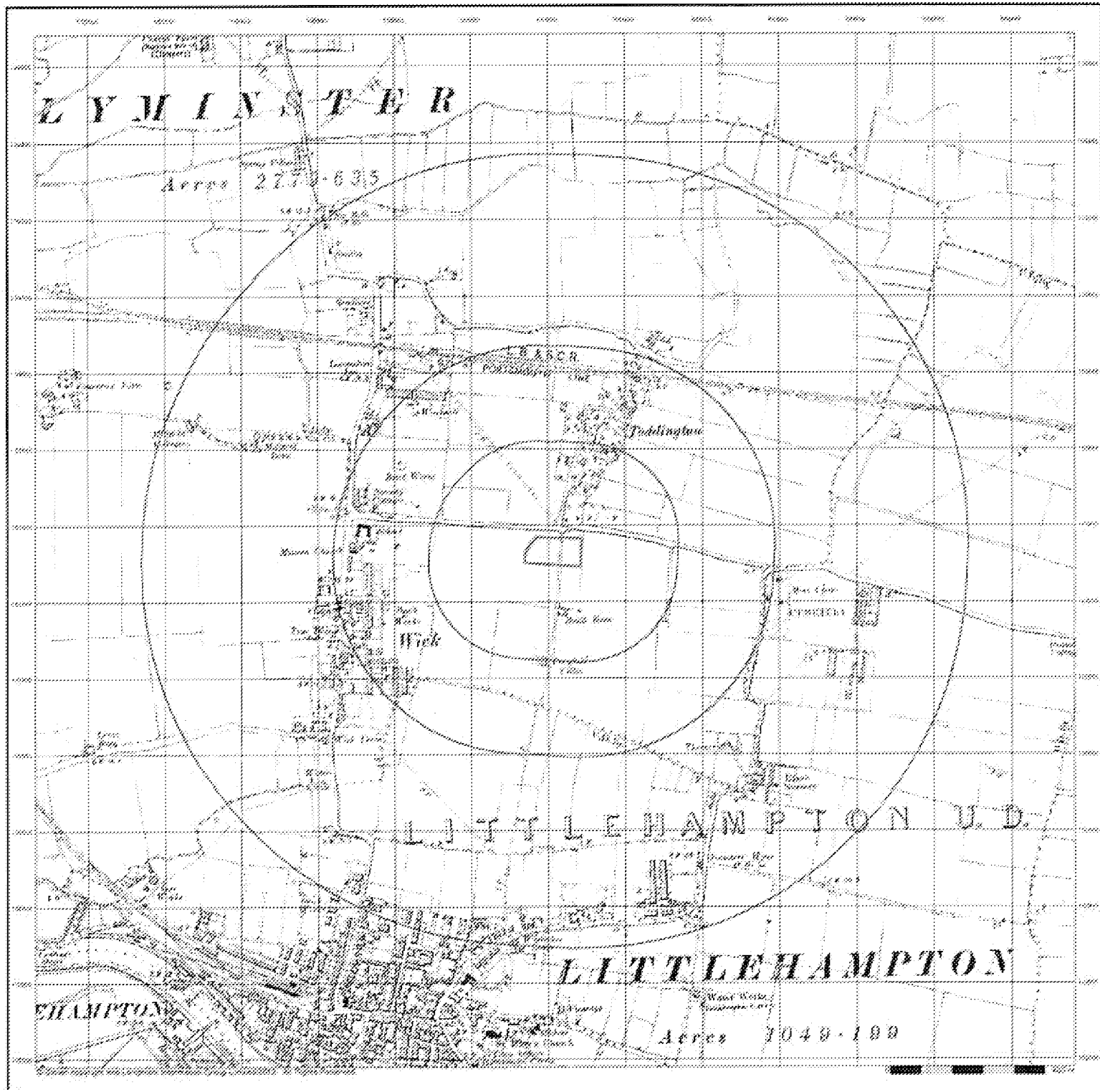
Order Number:	53232961_1_1
Customer Ref:	GE0787
National Grid Reference:	503220, 103330
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	1000

Site Details

Cornfield School, Cornfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HY

LandmarkⓇ

ARUN DISTRICT COUNCIL LU/133/14/WS

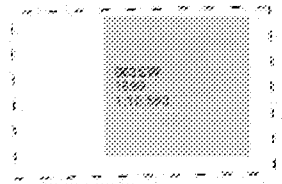


EnvirocheckⓇ

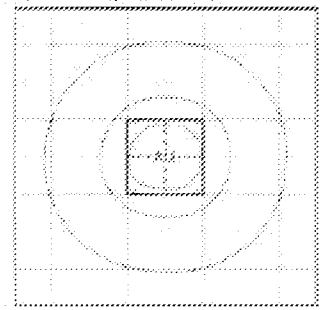
Sussex
Published 1899
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held in the private collection of Landmark Information Group Limited. Between the 1840's and 1950's the Ordnance Survey produced maps of towns and cities at a large scale, usually 1:1,056 (5 feet to 1 mile) or 1:500 (10.56 feet to 1 mile). For towns and cities with populations above 10,000 the Ordnance Survey usually produced successive editions, updating the mapping to take account of changes in the urban landscape. Most towns above 20,000 population were mapped at 1:1,056 and towns above 80,000 were usually mapped at 1:500. Mapping of towns with populations below 10,000 was usually at 1:2,500, with some towns mapped at 1:1,056 or 1:500. Rural areas were mapped at 1:10,560 (6 inches to 1 mile) or 1:2,500 scales. Mapping of areas covering more than one sheet is available as a combined special sheet. Some towns were mapped on request at 1:128 (126.72 inches to 1 mile) or 1:256 (253.44 inches to 1 mile). Country Series maps were produced at 1:63,360 scale (1 inch to 1 mile) and 1:126,720 scale (half inch to 1 mile). Survey information from the earliest editions was collected between the 1840's and 1880's, but the dates of revision vary between sheets of the same county and even between different parts of the same sheet. Many sheets were revised several times before the end of the century and some were revised as late as 1913 to 1930. Sheets published after 1888 were usually corrected up to the date of publication. Before 1888, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in collating areas. In the late 1880's a Provisional Edition was produced, which included the 1:10,560 mapping in a number of counties. The name spelling underwent with old names correct and other changes also removed. These maps were initially incompatible with the National Grid. In 1973, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The mapping is now continuously updated, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

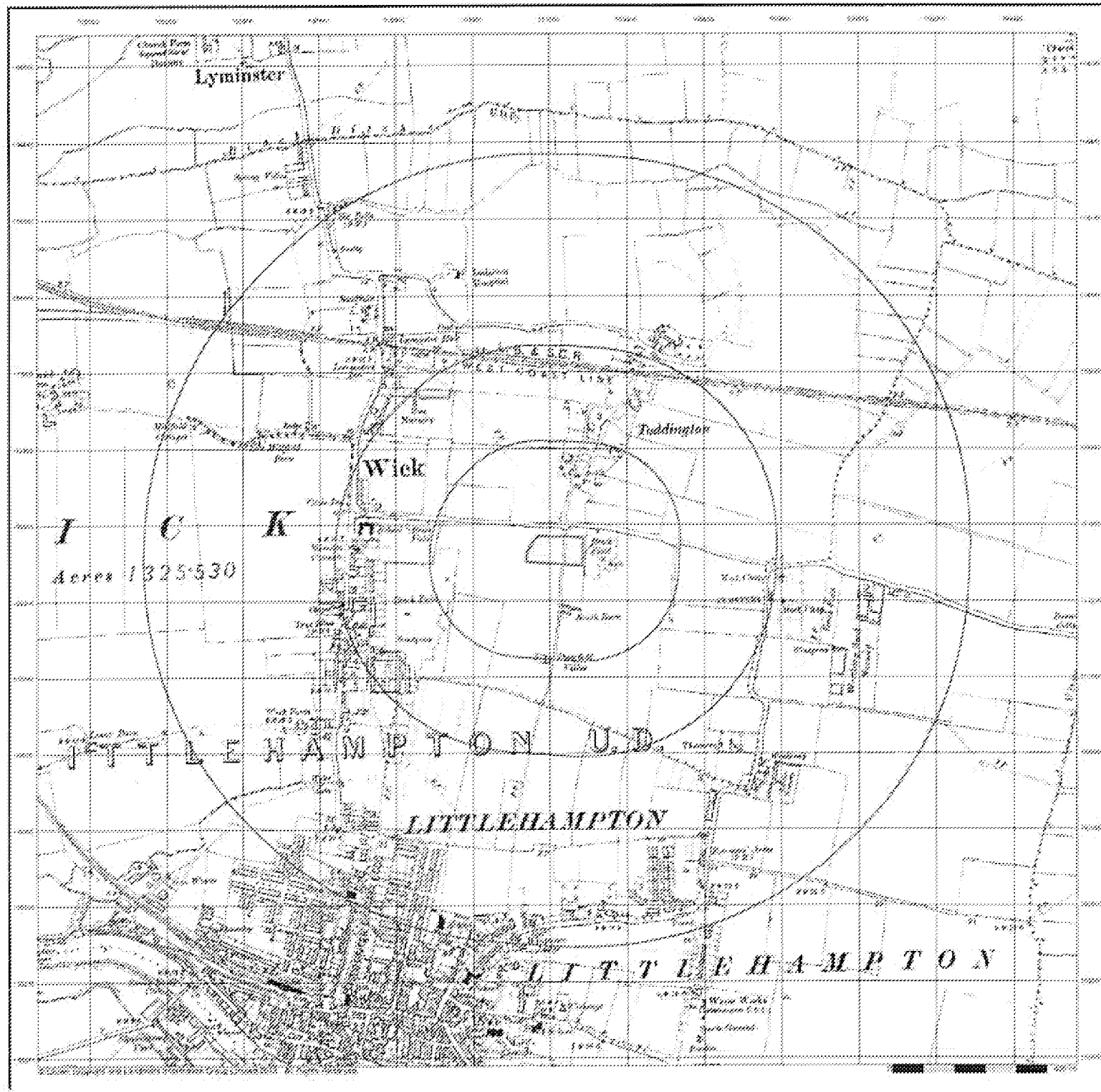
Order Number:	53232081_1_1
Customer Ref:	GE9757
National Grid Reference:	503220, 103330
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	1000

Site Details

Compton School, Compton Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HY

Landmark

ARUN DISTRICT COUNCIL LU/133/14/WS

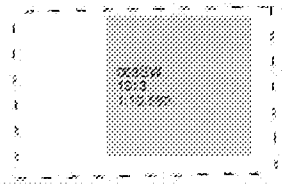


EnvirocheckⓇ

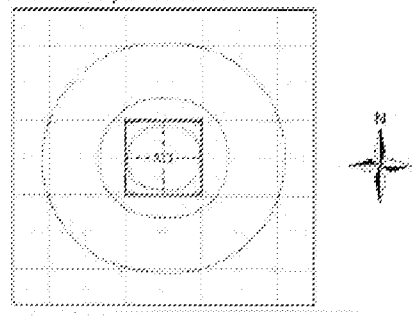
Sussex
Published 1913
Source map scale - 1:10,560

The historical maps shown were originally produced by the Ordnance Survey and published in the 1840's. In 1854 the 1:10,560 scale was adopted for mapping urban areas, these maps were mostly replaced by 1:2,500 maps. The published date given is normally a few years later than the surveyed date. Before 1855, all OS maps were based on the Clarke Projection, with individual sheets of a single county or group of counties, giving rise to significant misalignment in adjoining areas. In the late 1840's a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps showed coastlines with all military camps and other strategic sites removed. These maps were initially superseded with the National Grid in 1870, the first 1:10,560 maps were produced being the Transverse Mercator Projection. The cheaper process continued until recently with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

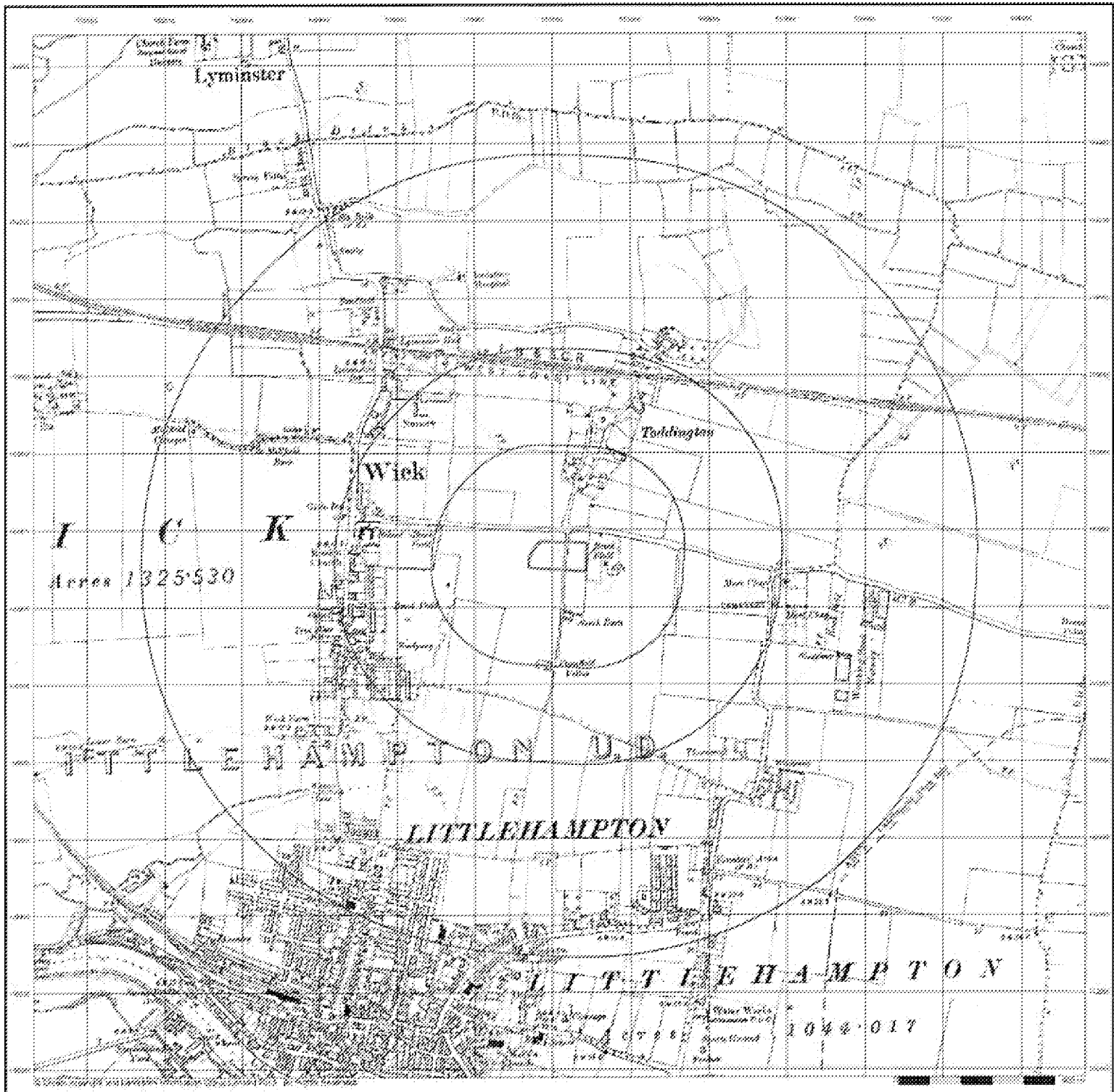
Order Number:	53023081_1_1
Customer Ref:	CE9154
National Grid Reference:	503250, 103330
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	1000

Site Details

Cornfield School, Cornfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 5HY

Landmark

ARUN DISTRICT COUNCIL LU/133/14/WS

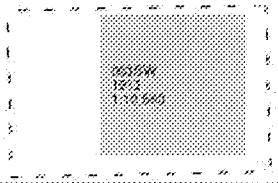


EnvirocheckⓇ

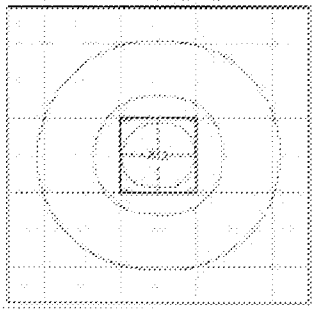
Sussex
Published 1913
Source map scale - 1:10,560

The historical maps shown were reproduced from copies predominantly held at the copies selected by England, Wales and Scotland at the time(s) to 1:2,500 scale were adopted for mapping urban areas. Some areas were revised to update the 1:10,560 maps. The published date given should be one or more years later than the surveyed date. Before 1939, 1:10,560 maps were based on the Cassini Projection, with subsequent surveys on a single revised to cover all countries, giving rise to significant movements on the boundary areas. In the late 1940's a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps below reproduced - with all existing corrupt and minor errors retained. These errors were initially unregistered with the National Grid. In 1970, the first 1:10,000 maps were published using the Transverse Mercator Projection. The complete survey was completed and recently, with most editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

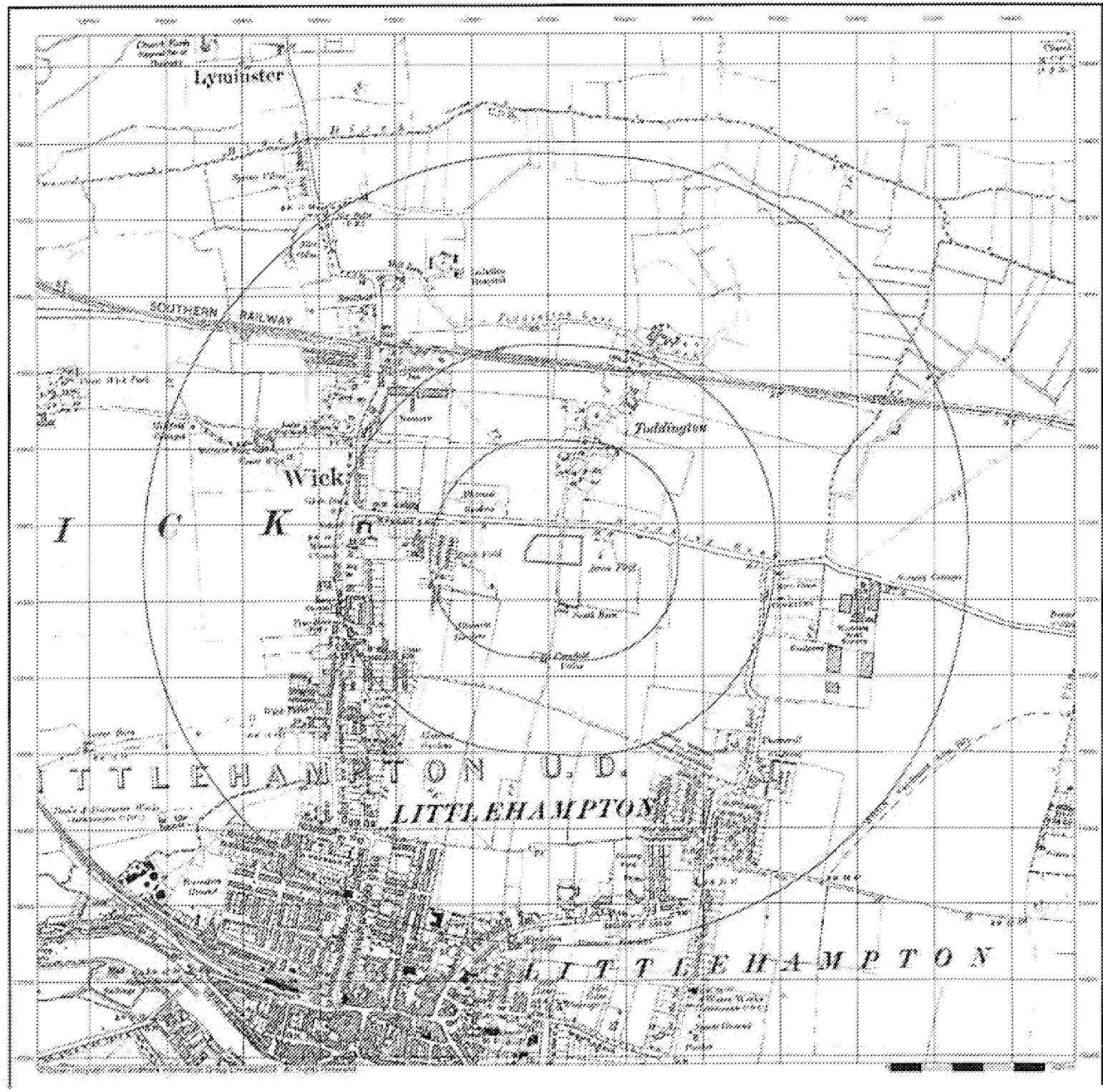
Order Number:	63232061_1_1
Customer Ref:	CE1870
National Grid Reference:	503229, 103330
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	1000

Site Details

Cornfield School, Cornfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6EN

LandmarkⓇ

ARUN DISTRICT COUNCIL LU/133/14/WS



EnvirocheckⓇ

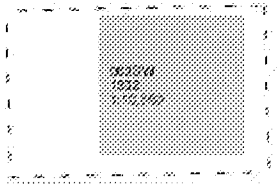
Sussex

Published 1932

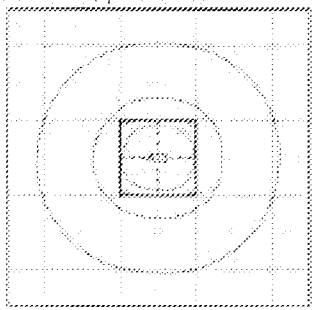
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held in the copyright collection of the British Library and published in the 1930's. In 1854 the 1:2,500 scale was adopted for mapping urban areas, these maps were used to replace the 1:10,560 maps. The publication date given however is often some years after that the surveyed data. Before 1939, all OS maps were based on the Cassini Projection, with independent drawings of a single county or group of counties, given rise to significant inconsistencies in edge to edge. In the late 1940's a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps comprise collections with all military camps and other sensitive sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The mapping provided continued until recently, with new editions appearing every 10 years or so in urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

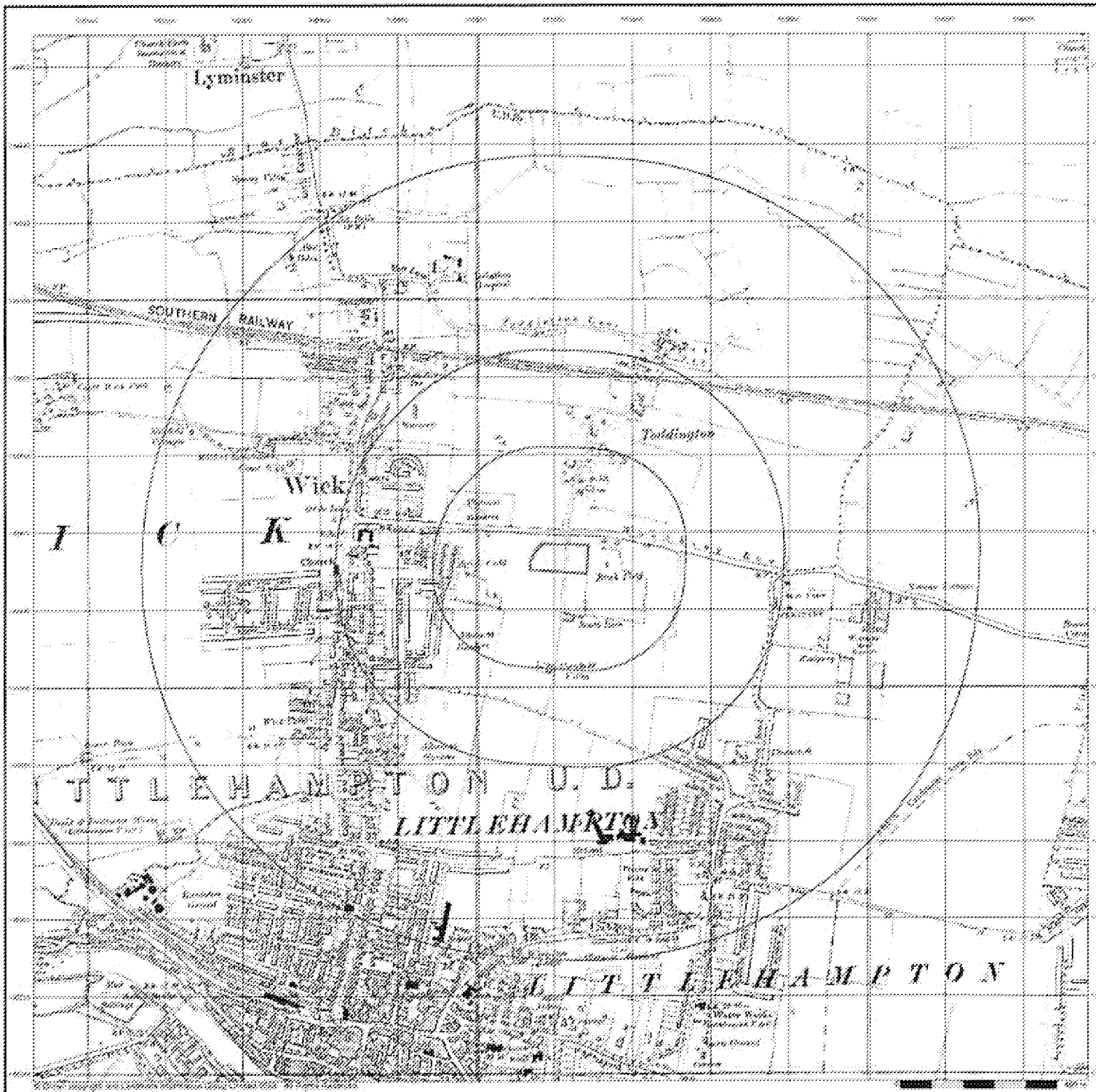
Order Number:	53232581_1_1
Customer Ref:	GE9757
National Grid Reference:	503220, 103330
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	1000

Site Details

Cornfield School, Cornfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HY

Landmark

ARUN DISTRICT COUNCIL LU/133/14/WS

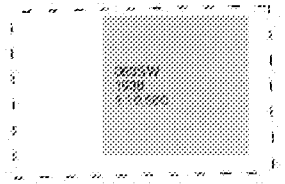


EnviroCheck®

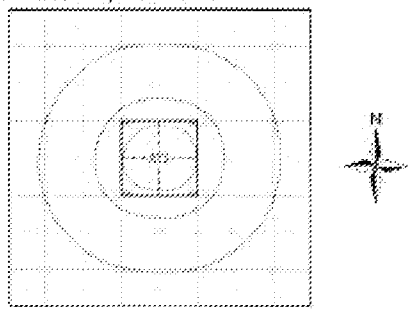
Sussex
Published 1938
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the archive depot of the Ordnance Survey near Chessington in the 1840's. In 1855 the 1:2,500 scale was adopted for mapping urban areas, these maps were used to update the 1:10,560 maps. The published date was therefore in some cases later than the survey date. Before 1855, all OS maps were based on the Cassini Projection, and incorporated surveys of a single county or group of counties, giving rise to significant inaccuracies in mapping areas. In the late 1840's a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unbranded - with ancillary notes and other strategic sites removed. These maps were initially reconciled with the Scottish Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 30 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	53232981_1_1
Customer Ref:	GC9757
National Grid Reference:	503220, 103330
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	1000

Site Details

Cornfield School, Cornfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HY

Landmark

ARUN DISTRICT COUNCIL LU/133/14/WS

Envirocheck®

Historical Aerial Photography
Published 1947
Source map scale - 1:10,560

The Historical Aerial Photos were produced by the Ordnance Survey at a scale of 1:1,250 and 1:10,560 from Air Force photography. They were photographed between 1945 and 1951 as an aerial reconnaissance, mapping exploitation of unprecedented coverage, due to good war conditions of climate. Now readily available as the OS still retained the negative and was in charge for potentially hostile information with very few replaced by later flights or drones. The original negatives were withdrawn and only were made available after a period of fifty years although due to the accuracy of the editing, without viewing both simultaneously is not easy to spot the edits. Where available Landmark have included both versions.

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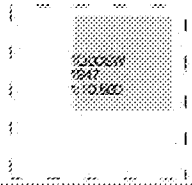
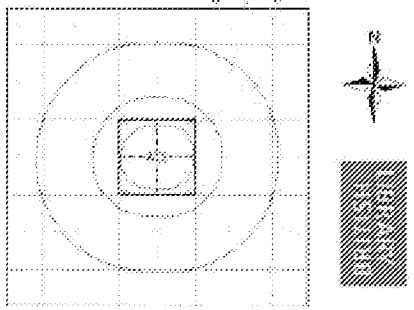
Map Name(s) and Date(s)



Historical Aerial Photography - Slice A



Order Details:

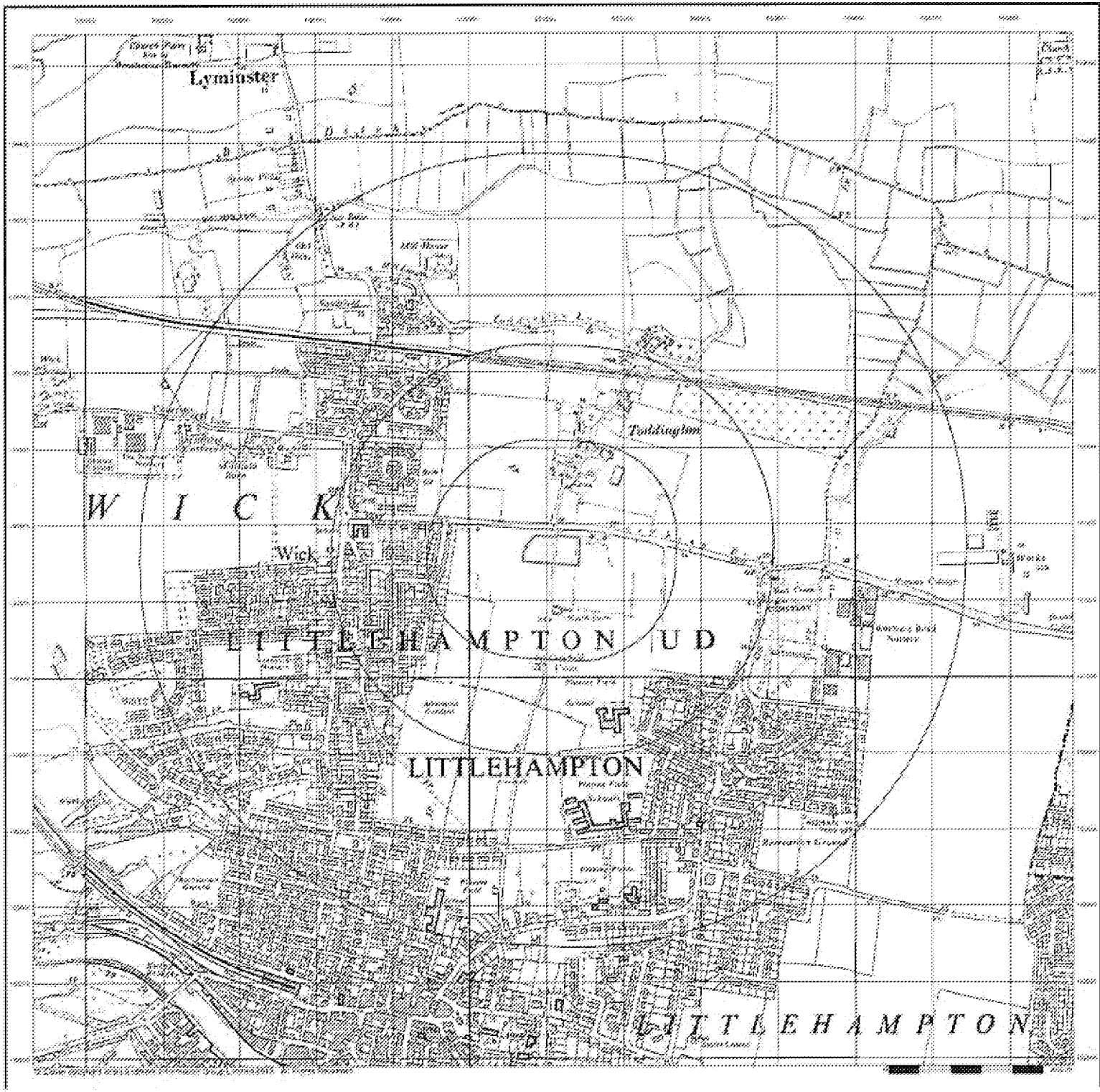
Order Number:	53232081_1_1
Customer Ref:	GE/9757
National Grid Reference:	503220, 103330
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	1000

Site Details:

Cornfield School, Cornfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HY

Landmark

ARUN DISTRICT COUNCIL LU/133/14/WS

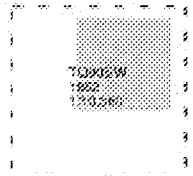


Enviroclieck

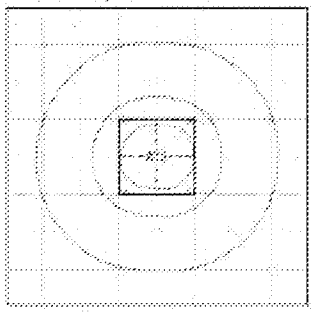
Ordnance Survey Plan
Published 1962
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly sold at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for developed urban areas. Subsequent revisions were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1939, all OS maps were based on the Cassini Projection with independent surveys of a single county or groups of counties, giving rise to significant inconsistencies in edging areas. In the late 1940's a Provisional Edition was produced which provided the 1:10,560 mapping from a number of sources. The maps shown were revised - with ancillary change and other strategic sites updated. These maps were initially superseded when the National Grid, in 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The mapping process continued successfully, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	53232961_1_1
Customer Ref:	GI 8757
National Grid Reference:	503220, 103330
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	1000

Site Details

Cornfield School, Cornfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HY

Landmark

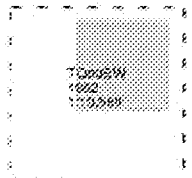
ARUN DISTRICT COUNCIL LU/133/14/WS

Envirocheck

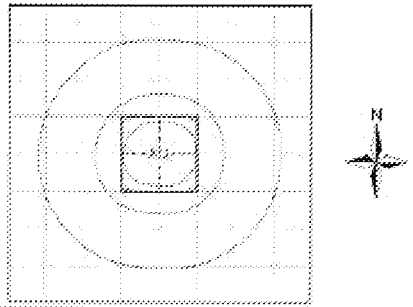
Ordnance Survey Plan
Published 1962
Source map scale - 1:10,000

The historical maps shown are reproduced from maps produced mainly to the scale referred to for England, Wales and Scotland in the 1840's to 1890's the 1:2,500 scale was adopted for mapping rural areas. Town maps were used to update the 1:10,560 maps. The published date given refers to when some years later than the survey date. Before 1888, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant discrepancies at outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unchecked - with all military detail and other sensitive sites removed. These areas were finally completed with the National Grid in 1950. The first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process comprised continuously, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	53233581_1_1
Customer Ref:	CE19157
National Grid Reference:	503220, 103330
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	1000

Site Details

Cornfield School, Cornfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HY

Landmark

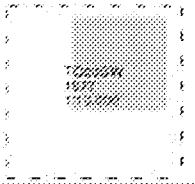
ARUN DISTRICT COUNCIL LU/133/14/WS

Envirocheck

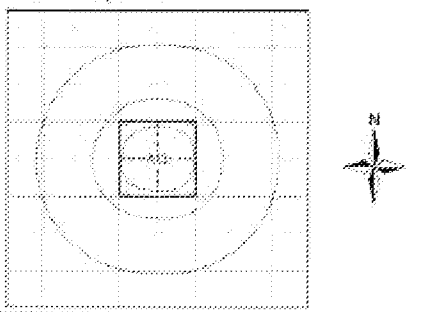
Ordnance Survey Plan
Published 1977
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly used at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping built-up areas. These maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1888, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inconsistencies at outlying areas. In the late 1840's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps showed all buildings - with all military camps and most strategic sites removed. These maps were usually overprinted with the National Grid. In 1888, the first 1:2,500 maps were produced using the Transverse Mercator Projection. The surveys were continued and recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

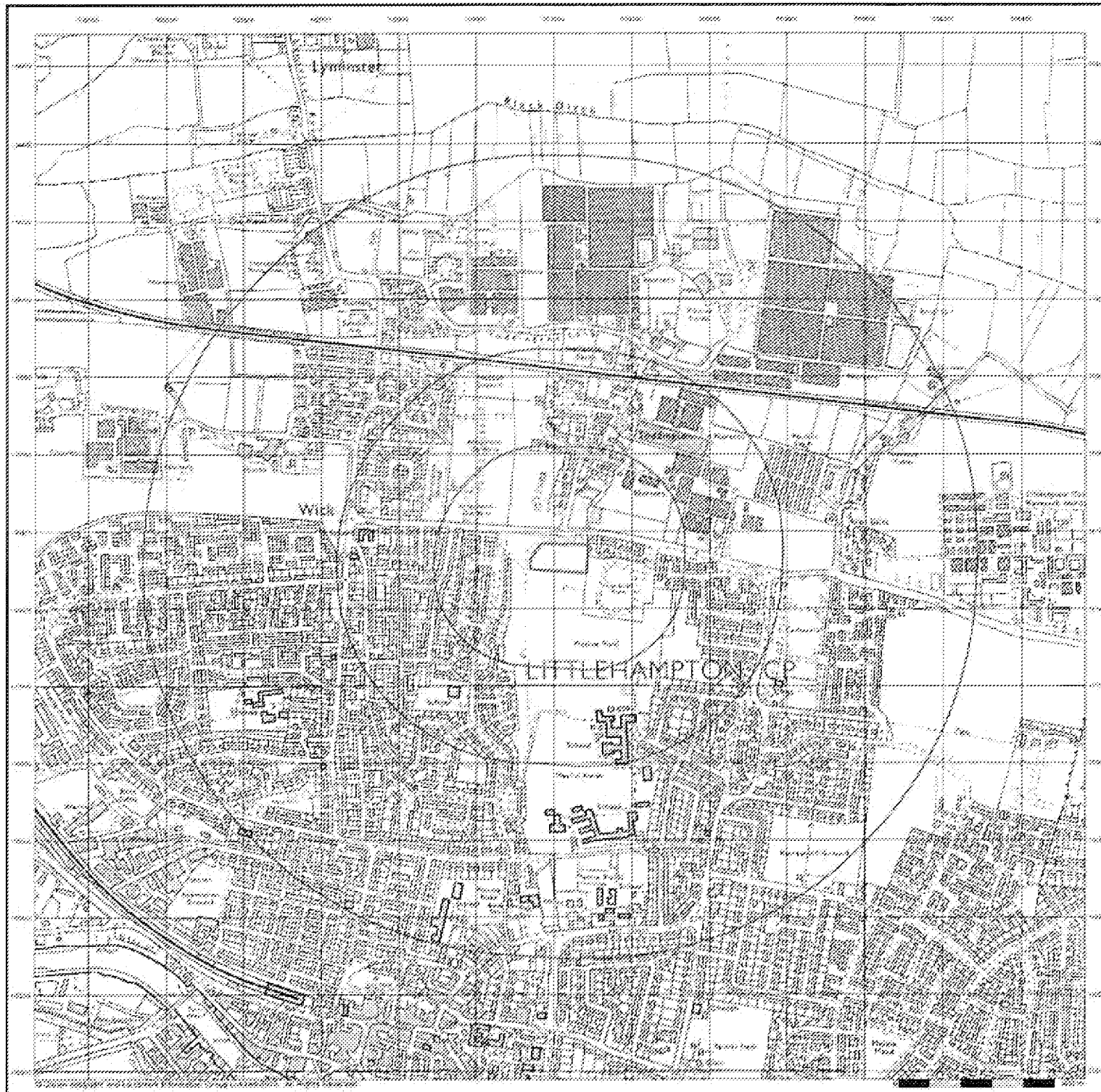
Order Number:	53232983_1_1
Customer Ref:	CF 9757
National Grid Reference:	503220, 103330
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	1000

Site Details

Cornfield School, Cornfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HY

Landmark

ARUN DISTRICT COUNCIL LU/133/14/WS



Envirocheck®

Ordnance Survey Plan
Published 1982
Source map scale - 1:10,000

The historical maps shown were originally published at various scales depending on the density of detail required. Most of the maps published in England, Wales and Scotland in the 1840's to 1880's were published at the 1:10,560 scale. Many of the towns were subsequently published at the 1:2,500 scale. Rural areas were usually published at the 1:10,560 scale. Mountainous and moorland areas were usually published at the 1:63,360 scale. Most of the maps published after the 1880's were published at the 1:2,500 scale. Towns and cities were usually published at the 1:1,250 scale. After the Second World War, maps were published at a variety of scales. Most rural areas were published at the 1:10,000 scale. Towns and cities were usually published at the 1:2,500 scale. Conurbations were usually published at the 1:1,250 scale. Country areas were usually published at the 1:10,560 scale. Towns and cities were usually published at the 1:2,500 scale. Towns and cities were usually published at the 1:1,250 scale. Towns and cities were usually published at the 1:1,250 scale. Towns and cities were usually published at the 1:1,250

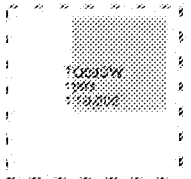
ARUN DISTRICT COUNCIL LU/133/14/WS

Envirocheck

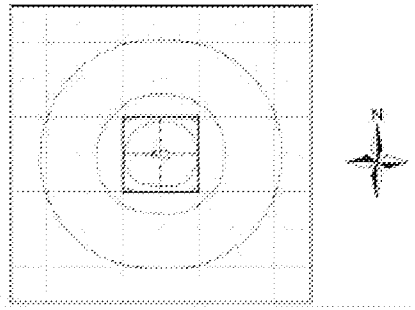
Ordnance Survey Plan
Published 1993
Source map scale - 1:10,000

The selected maps shown were reproduced from maps predominantly held at the Ordnance Survey of England, Wales and Scotland in the 1940's. In 1944, the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1956, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in adjoining areas. In the late 1940's a Provisional Edition was produced, which combined the various mapping from a number of sources. The maps were republished - with all military details and other changes taken removed. These maps were mostly superseded with the National Grid in 1956, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The mapping process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	53232081_1_1
Customer Ref.:	GS 8757
National Grid Reference:	503230, 103300
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	1000

Site Details

Cornfield School, Cornfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HY

Landmark

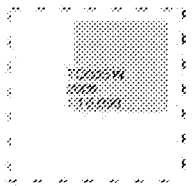
ARUN DISTRICT COUNCIL LU/133/14/WS

Envirocheck®

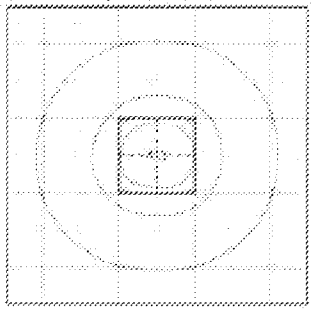
10k Raster Mapping
Published 2006
Source map scale - 1:10,000

The historical maps contained within this report are reproduced from the Ordnance Survey's 1:10,000 raster digital mapping. These maps are derived from original maps which depict the land in detail, usually published at 1:2500. The data is supplied as a single tile, or as a group of tiles, based on the area of interest. Where the area of interest is near the edge of a tile, adjacent tiles are also supplied. Tiles are not joined together and may therefore have a gap between them. Boundary information is not shown on the maps. Historical maps are also available joined together across county, unitary, district, civil parish and constituency.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	53232063_1_1
Customer Ref:	GE/9757
National Grid Reference:	503220, 103330
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	1000

Site Details

Comfield School, Comfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6HY

Landmark

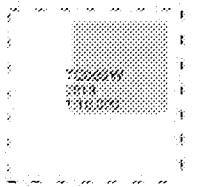
ARUN DISTRICT COUNCIL LU/133/14/WS

Envirocheck

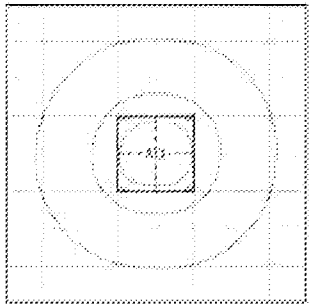
10k Raster Mapping
Published 2013
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 raster mapping. These maps are derived from original survey information at 1:10,000 scale originally published in 1975. The data is heavily detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Most features are also displayed together with the selected road number and classification. Boundary information depicted includes county, unitary authority, district, metropolitan and constituency.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	53232883_1_1
Customer Ref:	GE9757
National Grid Reference:	503220, 103330
Slice:	A
Site Area (Ha):	1
Search Buffer (m):	1000

Site Details

Oakfield School, Oakfield Close, Wick, LITTLEHAMPTON, West Sussex, BN17 6RF

Landmark

Environment Agency

Enter a postcode or place name:

Other topics for this area...

Flood Map for Planning (Rivers and Sea)

Flood Map for Planning (Rivers and Sea)

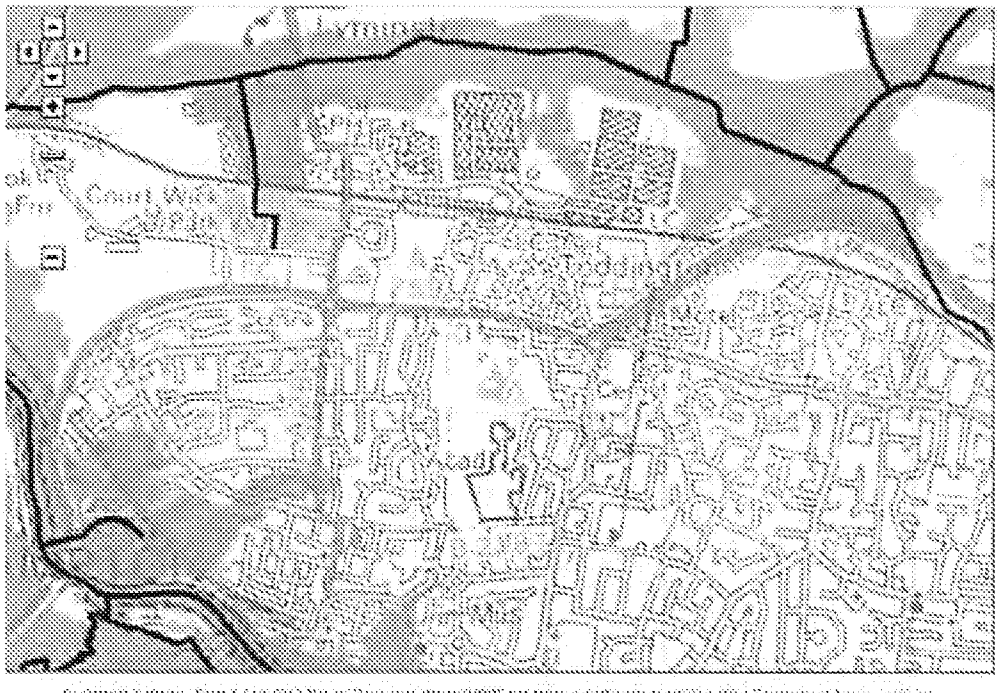
Map legend

X: 503,346;Y: 103,302 at scale 1:20,000

Data search Text only version

Click on the map to see what Flood Zone (National Planning Policy Guidance definitions) the proposed development is in.

- Flood Map for Planning (Rivers and Sea)
- Flood Zone 3
- Flood Zone 2
- Flood defences (Not all may be shown*)
- Areas benefiting from flood defences (Not all may be shown*)
- Main rivers



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Contains Royal Mail data © Royal Mail copyright and database right 2014.
This service is designed to work with all browsers and versions. For browsers or shortcuts you cannot use,

More about flooding:

Understanding the Flood Map for Planning (Rivers and Sea)

A more detailed explanation to help you understand the flood map shown above.

Current flood warnings

We provide flood warnings online 24 hours a day. Find out the current flood warning status in your local area.

* **Legend information:** Flood defences and the areas benefiting from them are gradually being added through updates. Please contact your local environment agency office for further details.

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Follow us: YouTube Twitter Flickr Facebook

Author: the Environment Agency [redacted]

Last updated: 26th February 2014

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ARUN DISTRICT COUNCIL LU/133/14/WS

Environment Agency

Enter a postcode or place name: BN17 6HY

Other topics for this area... Landfill

Waste

Map legend

Click on a feature for details of that site

Authorised Landfill

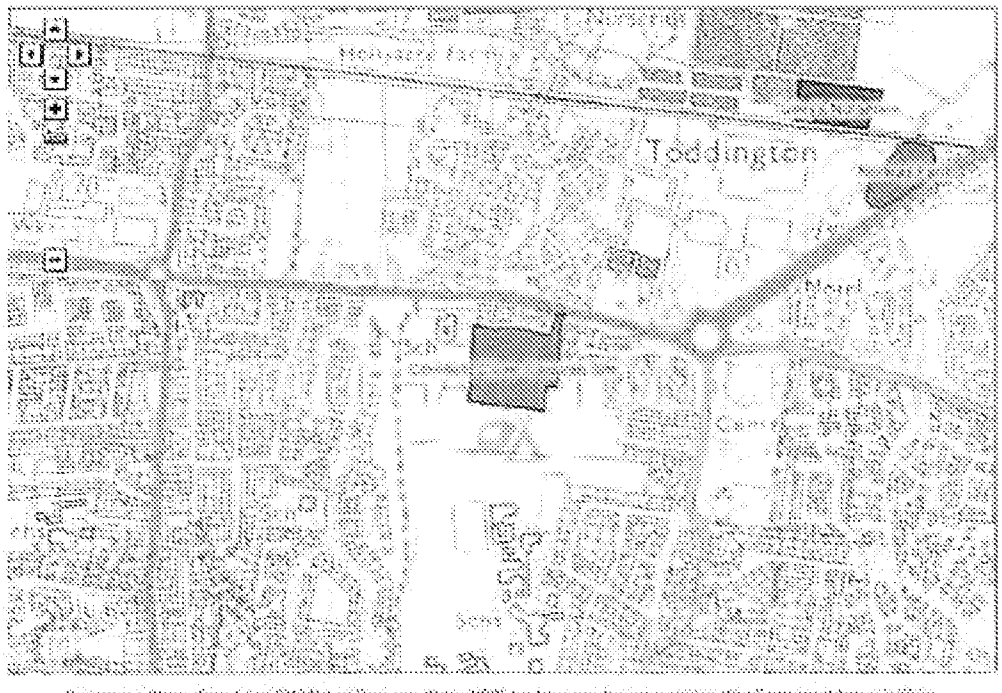
Site boundary

Historic landfill

Site boundary

BN17 6HY at scale 1:10,000

Data search Text only version



Customers in Wales - From 1 April 2013 Natural Resources Wales (NRW) has taken over the responsibilities of the Environment Agency in Wales.
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Tell me more about waste and landfill:

Waste regulation

We regulate waste management through a system of licences. Find out how to get the correct licence here, get data on waste and find out if there are any rules applying to household waste.

Waste facts and figures

The UK produces about 230 million tonnes of controlled wastes per year. Find out about waste incineration, hazardous waste, recycling and landfill.

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Author: The Environment Agency [redacted]
Last updated: 26th February 2013

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ARUN DISTRICT COUNCIL LU/133/14/WS

Environment Agency

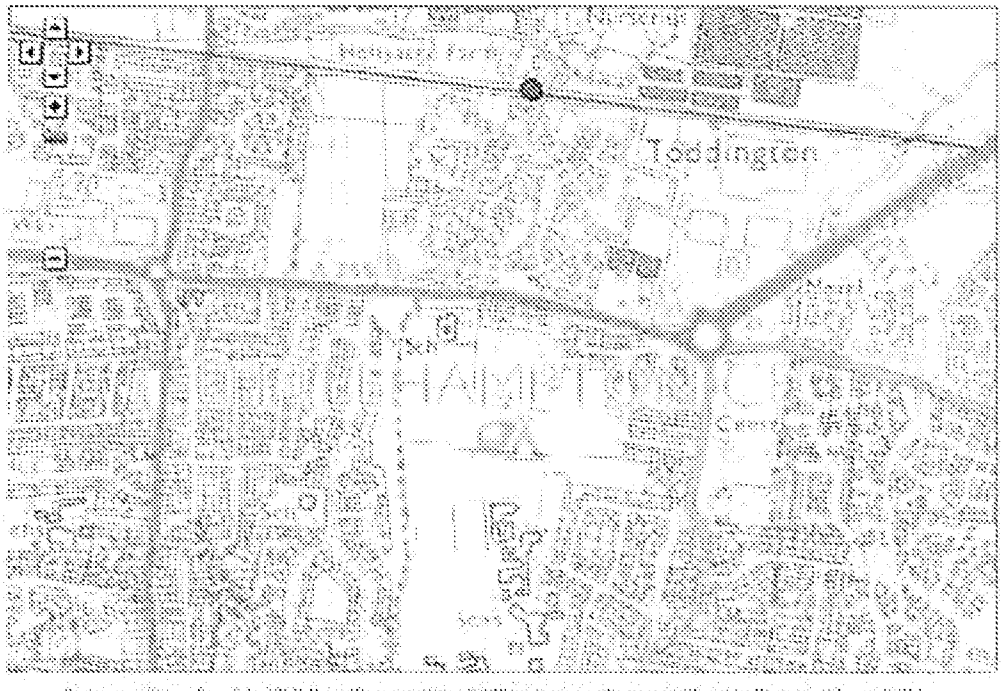
Enter a postcode or place name: Other topics for this area... Pollution

Map of X: 503,345.9; Y: 103,302.98 at scale 1:10,000 Data search Text only version

Map legend

Click on a feature for details of that site

- Pollution incidents
  - Major
  - Significant
- Industrial Pollution
  - Fuel & Power
  - Metal
  - Mineral
  - Chemical
  - Waste
  - Water
  - Radioactive
  - Associated
  - Other
  - Not Classified
- Industrial Operator Scores (OPRA) 2011
  - Band A
  - Band B
  - Band C
  - Band D
  - Band E
  - Band F
- Compliance Rating Scores
  - Very Good
  - Good
  - Moderate
  - Poor
  - Poor
  - Bad
- Mining Waste
  - Closed Mining Waste Sites
- Historic Industrial Operator Scores (OPRA)
  - Permitted Sites



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Tell me more about Pollution:

Pollution Incidents

Find out how we categorise incidents and their possible effects on health and the environment.

Industrial Pollution

Every industrial process could theoretically pose a risk to human health and the environment. Find out how we measure this risk and how we score operators on their potential to impact the environment.

Industrial Operator Scores (OPRA)

Industrial Operator Scores reflect two of the five attributes that make a site's Operational risk appraisal (Opra) profile. The Compliance Rating band reflects the number of non-compliances with permit conditions we have recorded at the site over the course of a year.
The Operator Performance band is influenced by the type of management system the operator has in place and any formal enforcement action we have taken at the site.

More information about OPRA

Compliance Rating Scores

Compliance Rating Scores is our report of the level of permit breaches we've recorded at sites during the year. We include both the number of breaches and also our assessment of the severity of these breaches, as determined by our Compliance Classification Scheme (CCS).

More information about Compliance Classification Scheme

Mining Waste

Closed mining waste facilities pose serious environmental impacts. The map states the cause of the impact: either water pollution, harm to human health, instability or fire hazard.

ARUN DISTRICT COUNCIL LU/133/14/WS

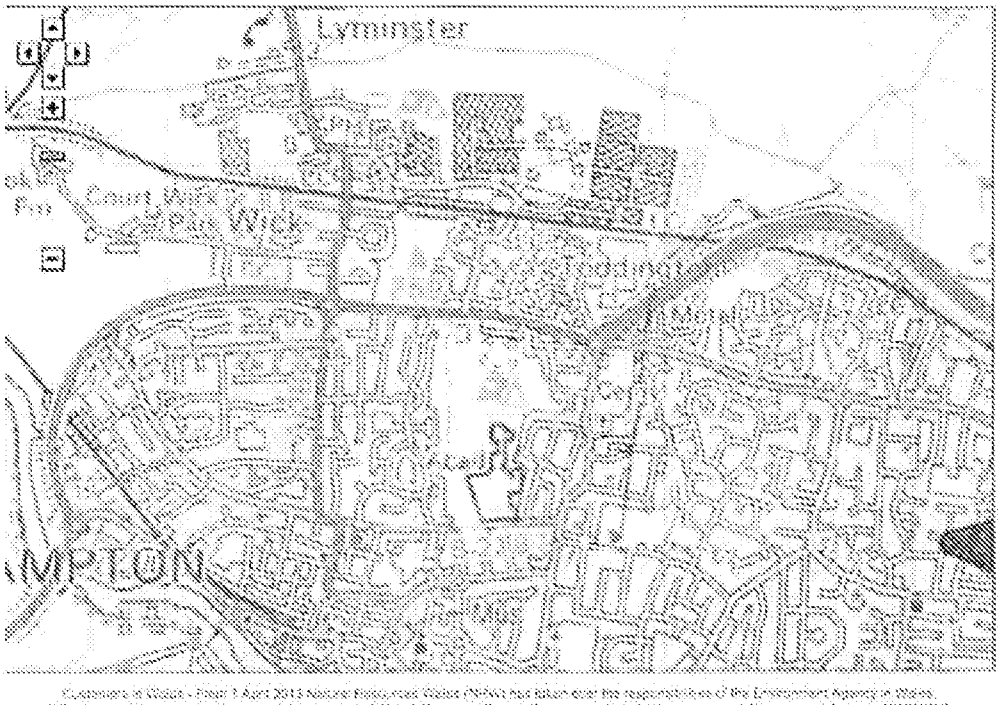
Environment Agency

Enter a postcode or place name: Other topics for this area... Groundwater

X: 503,346;Y: 103,302 at scale 1:20,000 Data search Text only version

Map legend

- Groundwater source protection zones
  - Inner zone (Zone 1)
  - Outer zone (Zone 2)
  - Total catchment (Zone 3)
  - Special interest (Zone 4)
- Aquifer Maps - Superficial Deposits Designation
  - Principal
  - Secondary A
  - Secondary B
  - Secondary (undifferentiated)
  - Unknown (likely non-aquifer)
- Aquifer Maps - Bedrock Designation
  - Principal
  - Secondary A
  - Secondary B
  - Secondary (undifferentiated)
- Groundwater Vulnerability Zones
  - Major Aquifer High
  - Major Aquifer Intermediate
  - Major Aquifer Low
  - Minor Aquifer High
  - Minor Aquifer Intermediate
  - Minor Aquifer Low



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More about Groundwater

British Geological Survey Aquifer data:

The Aquifer Extents are not displayed at scales greater than 1:75,000 (Ordnance Survey 1:250,000 scale) as the data was only modelled to this level and is not accurate pass this.

New BGS Aquifer Designation Maps

From 1st April 2010 new aquifer designations replace the old system of classifying aquifers as Major, Minor and Non-Aquifer. This new system is in line with our Groundwater Protection Policy (GP3) and the Water Framework Directive (WFD) and is based on British Geological Survey mapping.

Groundwater Source Protection Zones data:

The Source Protection Zones are not displayed at scales greater than 1:20,000 (Ordnance Survey 1:50,000 scale) as the data was only modelled to this level and is not accurate pass this. They should not be compared against field boundaries.

Groundwater Source Protection Zones

Groundwater provides a third of our drinking water. We ensure that your water is safe to drink defining Source Protection Zones. These zones help to minimise the risk of contamination from any activities that might cause pollution in the area.

Facts and figures of our groundwater resources

Find out more about groundwater and groundwater levels.

ARUN DISTRICT COUNCIL LU/133/14/WS

Environment Agency

Enter a postcode or place name:

Other topics for this area...

Groundwater

Groundwater

Map legend

X: 503,346;Y: 103,302 at scale 1:75,000

Data search Text only version

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  - Secondary A
  - Secondary B
  - Secondary (undifferentiated)
  - Unknown (Lakes and landslip)
- Aquifer Maps - Bedrock Designation
  - Principal
  - Secondary A
  - Secondary B
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  - Major Aquifer High
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  - Major Aquifer Low
  - Minor Aquifer High
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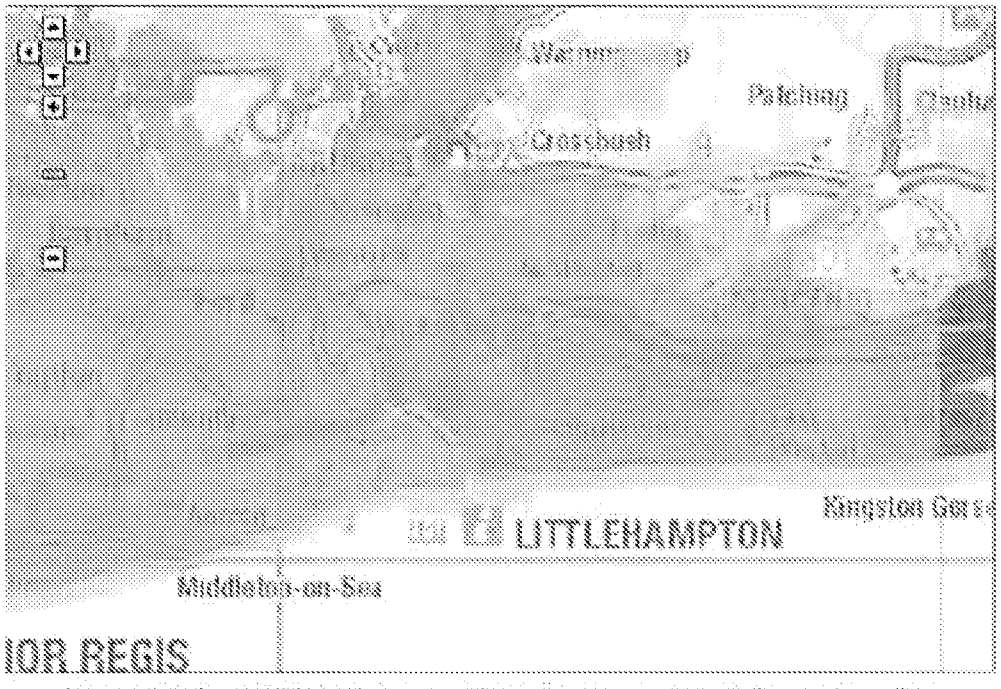

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Map legend X: 503,348;Y: 103,302 at scale 1:75,000 Data search Text only version

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  - Secondary B
  - Secondary (undifferentiated)
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  - Secondary A
  - Secondary B
  - Secondary (undifferentiated)
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  - Major Aquifer Intermediate
  - Major Aquifer Low
  - Minor Aquifer High
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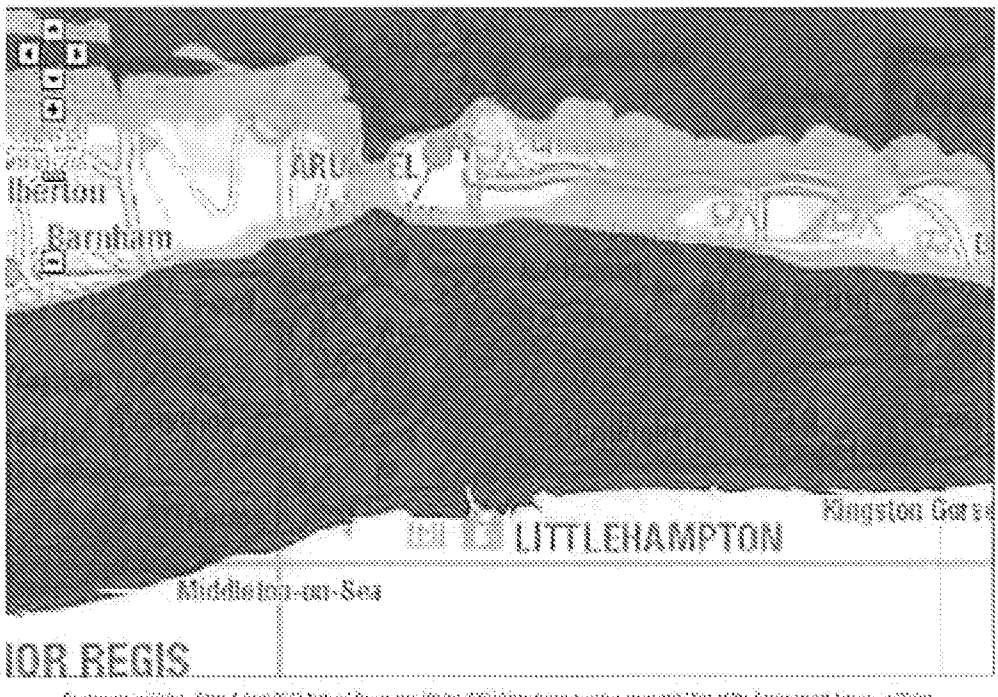
  - Minor Aquifer Low



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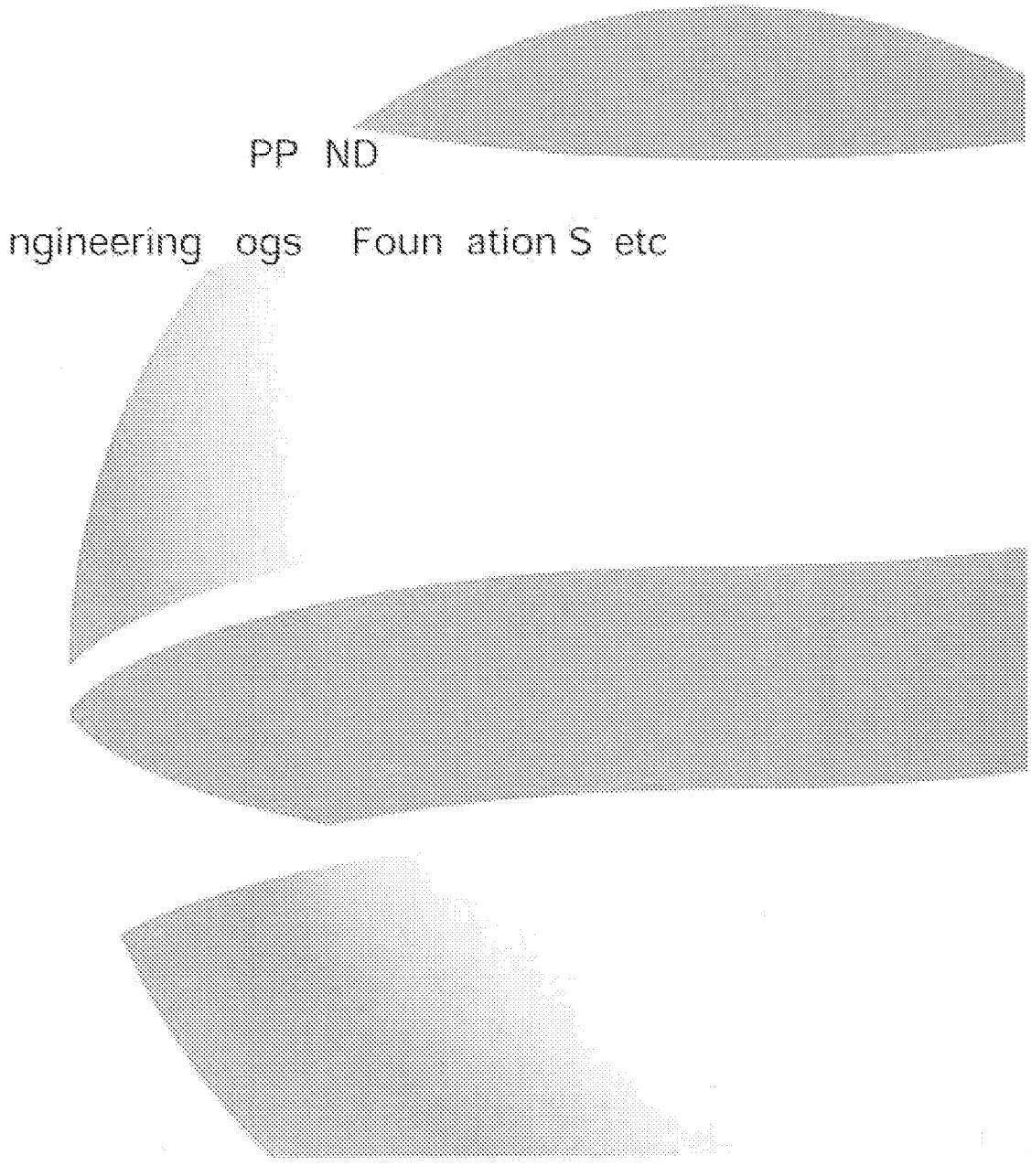


ARUN DISTRICT COUNCIL LU/133/14/WS

SA PLING TESTING

ST ATA ESC IPTI N

ST ATA

Legend	No	Depth (m)	Water	Backfill

ar grey no a fine to medium sandy clayey silt with occasional fine to coarse sub angular to sub rounded flint gravel and fine roots no obvious contamination Progressive A E G N

olian strength average no a medium silty sandy CLAY T E YE ACE OF SPTS

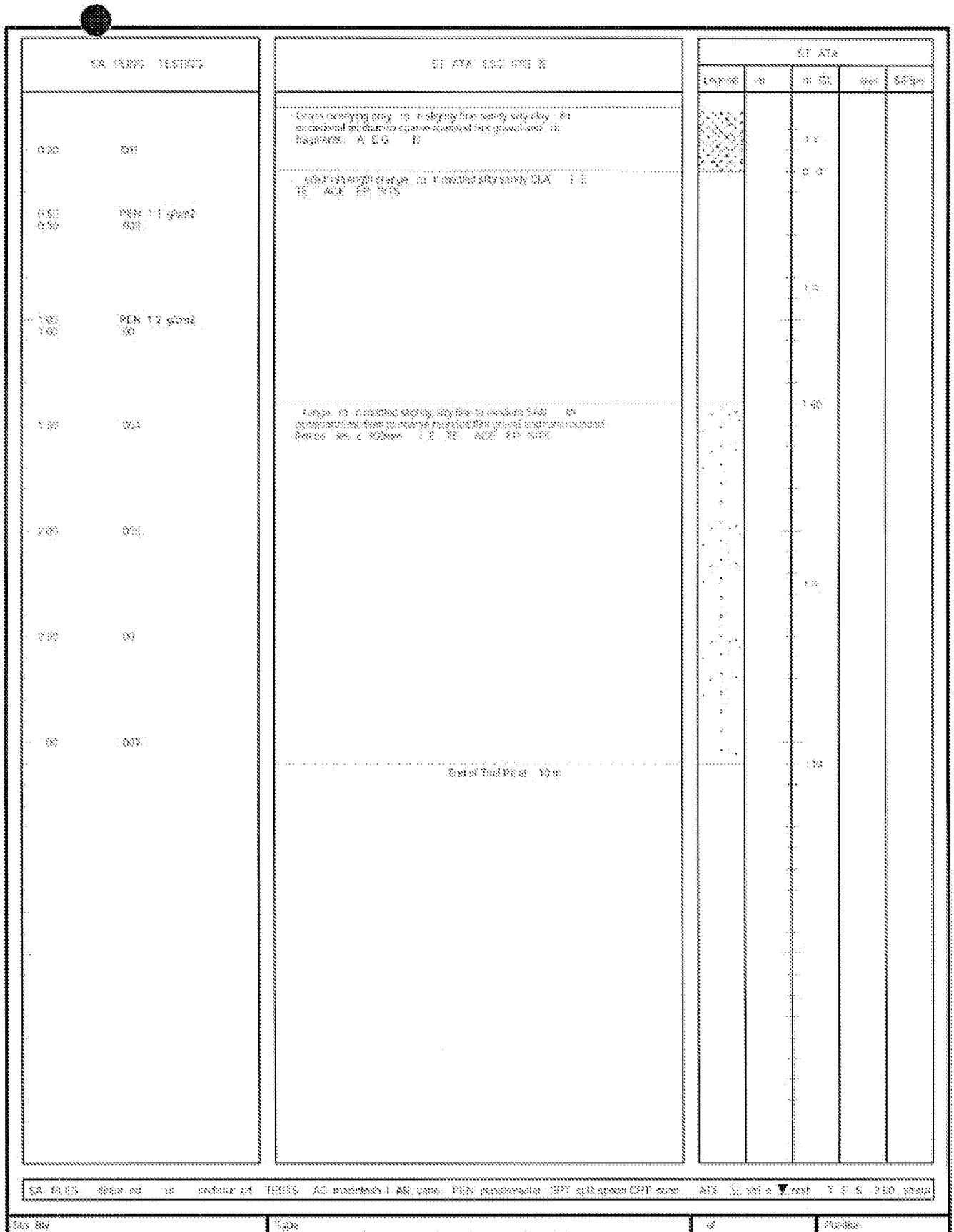
1.00 PEN 1.2 kg/cm²
1.10 ORT

End of Trial Pit at 1.20 m

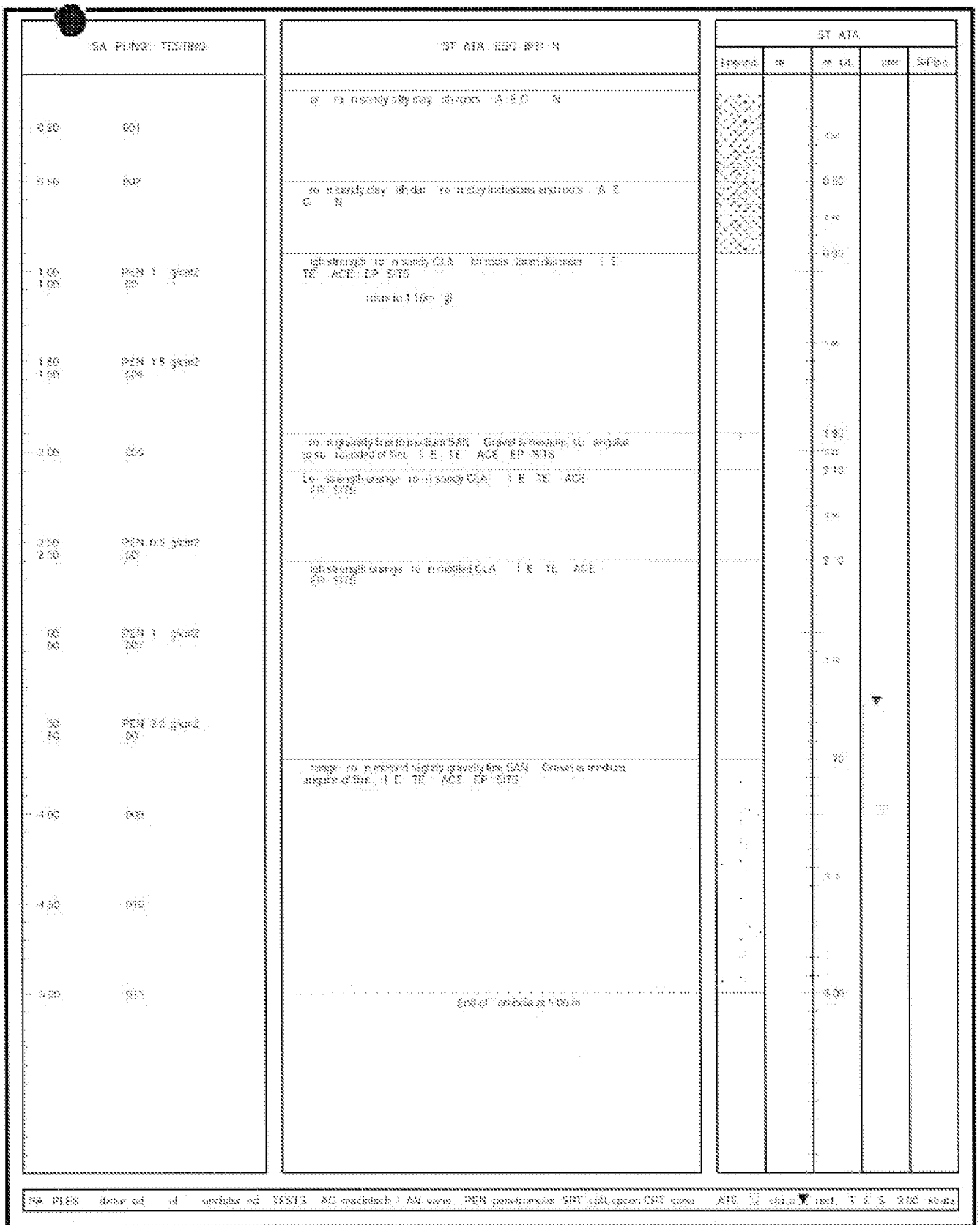
1.20

SA PLES Status not no sandstone not TESTS AC moisture LAB orse PEN penetrometer SPT split spoon CP1 cone AIR ▽ water ▼ inst T E S 200 shake

No. By No Waste Recovered	Type and E cavated Trial Pit	ref. GE9757	Position P1
Ground water No Ground water Encountered	ethod and e cavated	Start 21/02/2014 finish 21/02/2014	Scale 1:25 Size
Plant and e cavator	Project Cornfield School, Littlehampton	Logged 21/02/2014 Eng AP	depth 1.20m GL Level
rmed on filled ith arings	Client Kier Construction	Ch ked BN D d AP	Figures IG Sheet Sheet 1 of 1



Gnd Wtr No water encountered	Type achine E cavated Trial Pit	ref GE9757	Number TP1
Ground Level No Ground Level Encountered	Method C	Start 21/8/2014	Scale 1:25
Plant C	Project Cornfield School, Littlehampton	finish 21/8/2014 Dated 21/8/2014	Sh n depth 3.0m GL
Weather ot fined ith showers	Client Kier Construction	Eng AP Logged EN	Level Checked CS
		C d AP	Sheet Sheet 1 of 1



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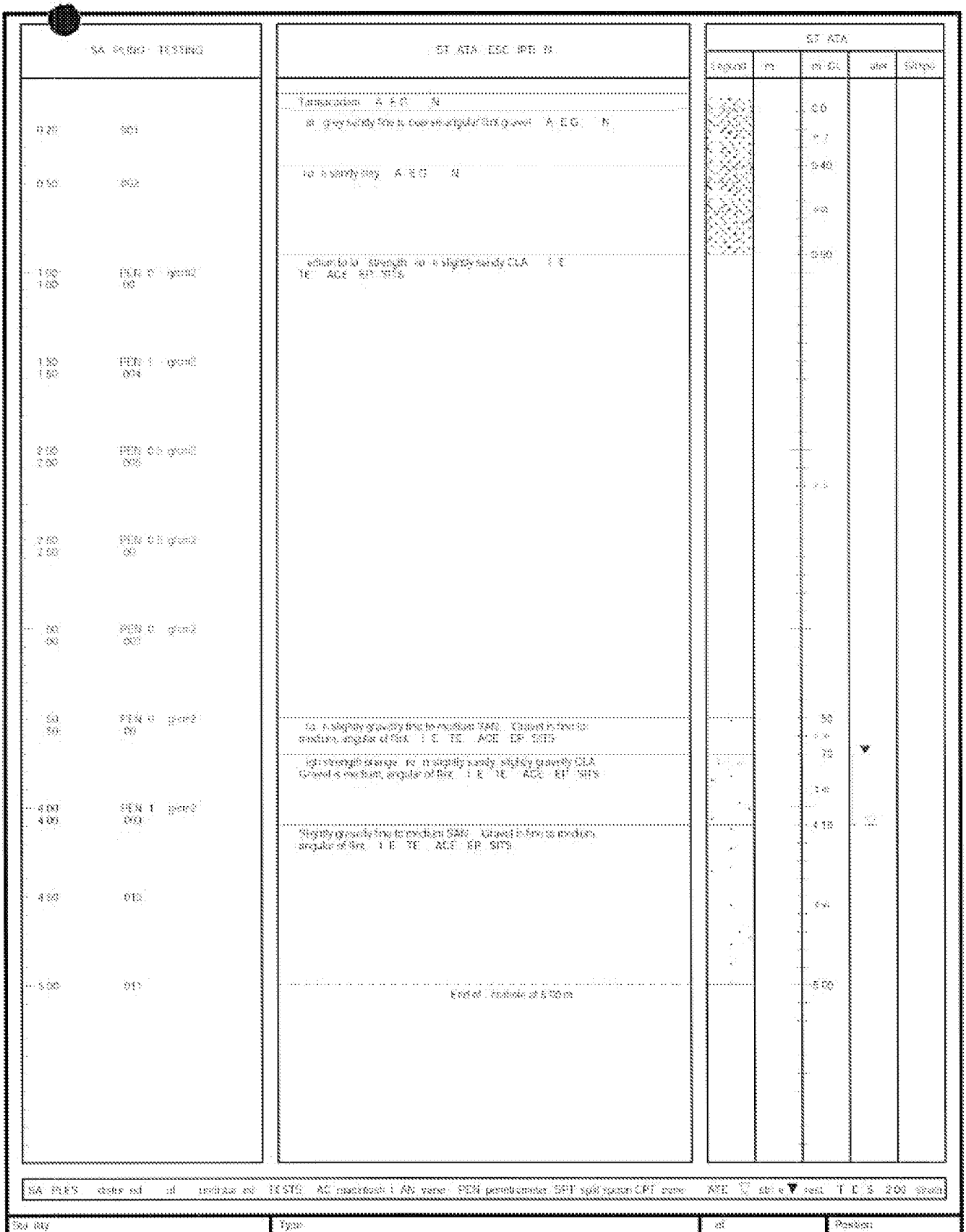
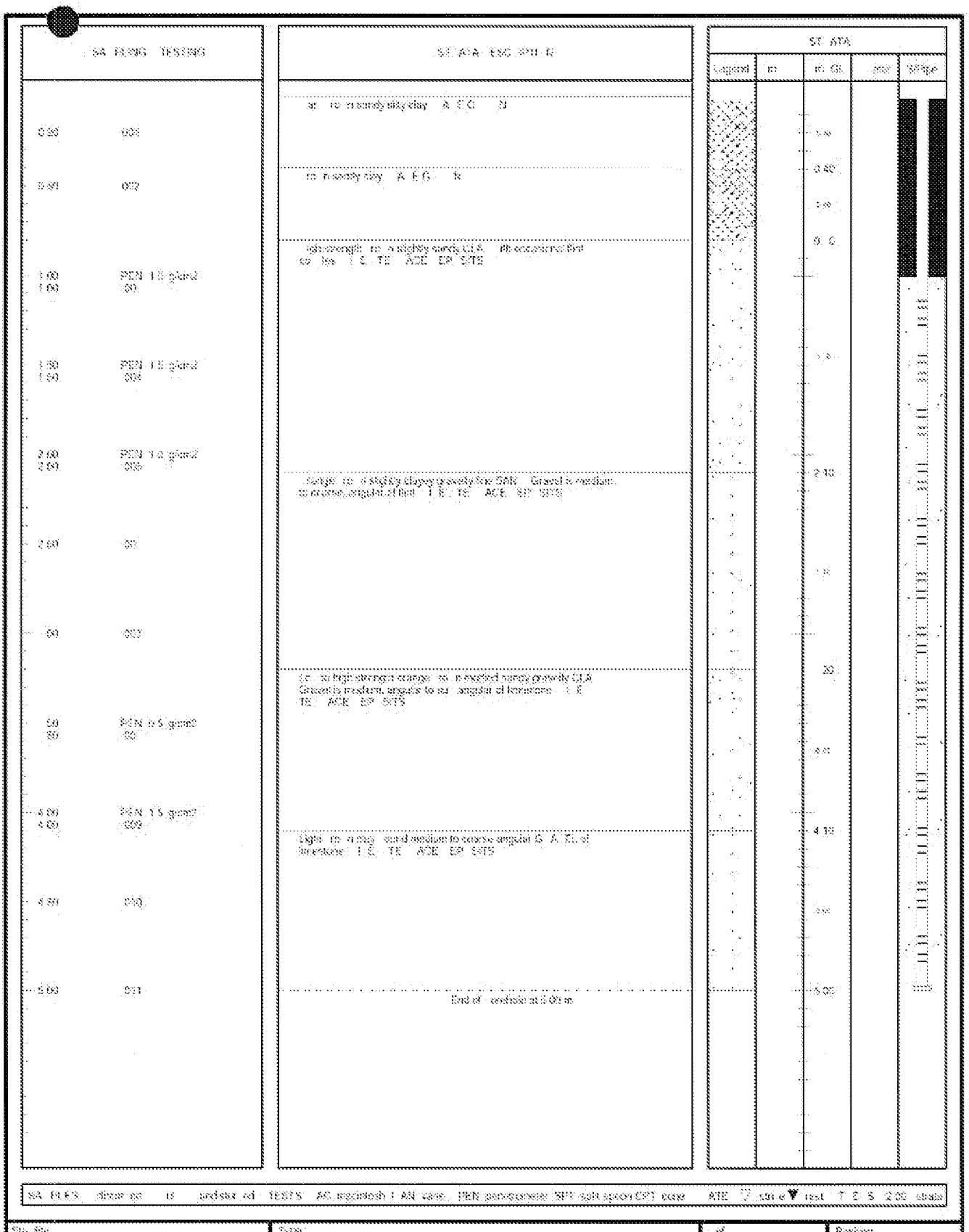


Type: ydraulic indo Sampler Geopro e		GE9757	Position: S2
Method: Arch ay		Start: 21/06/2018	Scale: 1:25
Project: Cornfield School, Littlehampton		End: 21/06/2018	Logged:
Client: Kier Construction		Dwg no:	Checked:

ARUN DISTRICT COUNCIL LU/133/14/WS

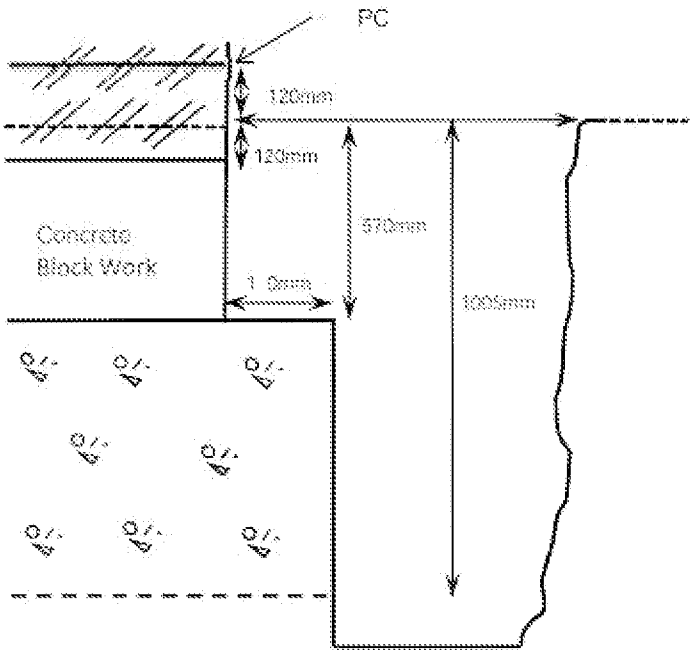


Site Key No known risks encountered	Type ydraulic indo Sampler Geopro e	Id GE9757	Position S
Ground Water No Ground water encountered	Client Arch ay	Start 21/02/2014 Finish 21/02/2014	Scale 1 :0 Grid
Plant Arch ay	Project Cornfield School, Littlehampton	Hole 21/02/2014 Prog AP	Depth 5.00m GL Logged
Remarks Standpipe installed to 5.00m GL	Client Kier Construction	Checked BN Approved AP	Figure 01 Sheet Sheet 1 of 1

ARUN DISTRICT COUNCIL LU/133/14/WS

Geo-Environmental

TP

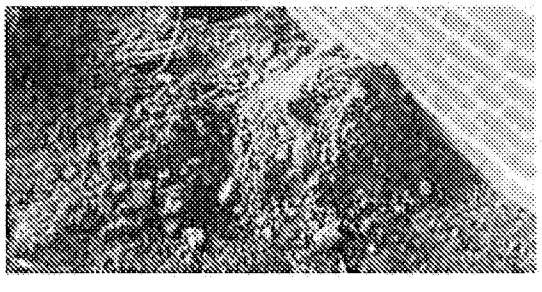


roun evel

G L 0 0m ar grey ro n fine to medium sandy clayey silt ith a undant fine to coarse, su angular to su rounded flint gravel and fre uent ric and concrete fragments A E G N

0 0m 1 20m irm orange ro n silty sandy CLA I E TE ACE EP SITS

Pit location



Project:	Cornfield School, Littlehampton	Title	P1
Client:	Kier Construction	Geo-Environmental Services Ltd	
Ref No:	GE9757	Revision:	v1
Drawn:	AP	Date:	24 e ruary 2014
Figure:	n/a	Scale:	Not To Scale

28 Crescent Road, Brighton, BN2 3RP

T: [redacted] F: [redacted]

E: [redacted] W: [redacted]

ARUN DISTRICT COUNCIL LU/133/14/WS

PP ND C

roun as onitoring Results

ARUN DISTRICT COUNCIL LU/133/14/WS

ARUN DISTRICT COUNCIL LU/133/14/WS

Project: Crockfords School, Littlehampton
Ref: GE9357
Client: Rew Construction

Geo Environmental

Location	Date	Time	Temp	Atm	Wind	Flow	Dir	Pressure	Vol	Gas		Characteristic Situation		CS	Timing (min)			% LEL		% CH4	
										CH4	CO2	Lower	Upper		Flow	Lower	Upper	Lower	Comm	Lower	Comm
S	2.4.14	10	0.0	0.4	2.0	1.2		99	24	0.0	0.0	CS1	CS1	1	N	N	N				
S	2.4.14	25	0.0	0.4	2.0	1.2		99	24	0.0	0.0	CS1	CS1	1	N	N	N				
S	2.4.14	0	0.0	0.4	2.0	1.2		99	24	0.0	0.0	CS1	CS1	1	N	N	N				
S	2.4.14	0	0.0	0.4	2.0	1.2		99	24	0.0	0.0	CS1	CS1	1	N	N	N				
S	2.4.14	10	0.0	0.4	1.9	1.2		99	24	0.0	0.0	CS1	CS1	1	N	N	N				

PP ND D

a orator Testing Results Statistical ssess ents

ARUN DISTRICT COUNCIL LU/133/14/WS

Project No e:	Cornfield Service, Letchworthston	Su bo Sample:	25/02/2014
		Project Starte:	25/02/2014
Client:	Geo Environmental Services Ltd	Project Starte:	0 /0 /2014
Project No:	GE 9757	Case Re ence:	1969 /2014

K4 SOILS

Test Hole No	Sample No	Depth m	Description	Moisture Content	Liquid Limit	Plastic Limit	Plasticity Index	Passing 0.425 mm	Remarks
1		1.50	Firm slightly sandy silty CLAY	22	40	1	22	100	
1		2.50	Firm slightly sandy silty CLAY	22	7	1	18	100	
2		1.50	Firm sandy silty CLAY	15	25	1	9	100	
2		2.00	Firm slightly sandy silty CLAY	2	5	18	1	100	
		3.00	Firm slightly sandy silty CLAY	24	9	18	20	100	
		1.50	Firm slightly sandy silty CLAY	24		23	1	100	
P3		1.50	Firm slightly sandy silty CLAY	19	7	19	1	100	

Summary of Test Results

BS 1377: Part 2: Clause 4.4: 1990: Determination of the liquid limit by the cone penetrometer method
BS 1377: Part 2: Clause 5: 1990: Determination of the plastic limit and plasticity index
BS 1377: Part 2: Clause 3: 1990: Determination of the moisture content by the oven drying method

Checked by: K P
Date: 10/0 /2014

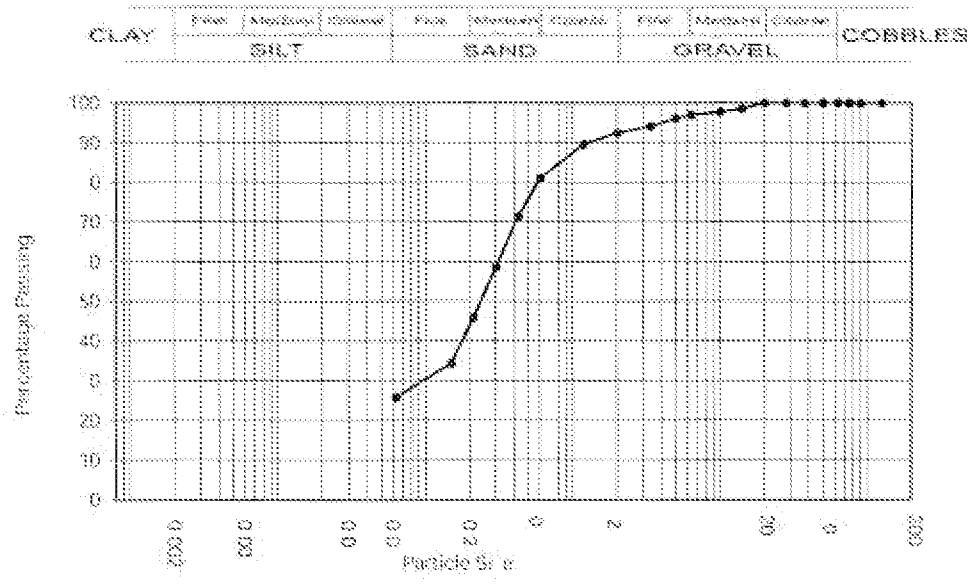
Tests Rejected by K4 S ILS LA AT RIB Ids Close Ids Approach Affiliations 1 S

Test results relate only to the sample from which they were Approved Signatory: Please Turn Over

All samples scheduled within report are kept for Months. Any unwanted samples will be disposed of according to Company policy. A copy of this policy is available upon request.

ARUN DISTRICT COUNCIL LU/133/14/WS

S S	P RTC S DSTR T N S : Part : Clause	ur eport No	
		Pro ect No	GE9757
Location	Cornfiel Sc ool ittle a ton	orehole / Trial Pit No	TP1
		epth	1 50 m
isual Soil escription	range rown gravell ver cla e S ND gravel is f an su angular to angular	Sample Type/No	



Sieving		Se i entation	
Particle Si e mm	Passing	Particle Si e mm	Passing
125	100		
90	100		
75	100		
	100		
50	100		
7 5	100		
2	100		
20	100		
14	9		
10	9		
	97		
5	9		
3	94		
2	92		
1 1	90		
0	1		
0 425	71		
0	59		
0 212	8		
0 15	4		
0 0	2		

Test et o	
S 1 77 Part 2 1990	
Sieving Sedimentation	Clause 9 2 N/A
Suita le Amount f Sample eceived	es

Sa le Pro ortions	
Co les	0 0
Gravel	7 5
Sand	7
Silt Clay	35 7

ra ing ata	
100	125 0
0	0
10	
ilformity Coefficient	N/A

S S R T R ne Soil Classi ica ion Approach alford ex s 1 9 mail Andy.k @ .com	rove Signatories: K Pleure Tech gr Pleure Ltd gr Tes ans ission only to the sample rom this ocation	C ec e an rove Initials ate 10/0 /2014	
			9518

ARUN DISTRICT COUNCIL LU/133/14/WS

Project Name	Cornfield School, Littlehampton	K4 SOILS
Client	Geo Environmental Services Ltd Project no GE9757	
	UF 0 no 1 194	

Borehole No	Sample No	Depth m	Description	pH	Sulphate content g/l
1		1.50	Brown slightly sandy silty CLAY	2	0.45
2		2.50	Brown slightly sandy silty CLAY	2	0.2
		1.90	Brown slightly sandy silty CLAY	2	0.24

Summary of Test Results

Checked and Approved

Issue 1 dated 10th April 2014

BS 1377 Part 3 Clause 5 1990

Determination of sulphate content of soil and ground water gravimetric method

Results pH

Issue No 1 Date 10th April 2014 Approved Page No 1 of 1

ARUN DISTRICT COUNCIL LU/133/14/WS

ELAB

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indmill oad
Pans oad Industrial Estate
St Leonards on Sea
East Susse
TN 9
Telephone [redacted]
acsimile [redacted]

2

T N R N NT R T R TD

A Anthony Potter
Geo Environmental Services Limited
nit 7 an orth arm
Cuc field oad, urstpierpoint
est Susse , N 9GL

eporting ate 10 arch 2014

N T C R P RT No R

Sa les Receive : La oratory Courier
Sa le Recei t Date: 25/02/14
our o No: GE9757
our r er No:
Site ocation: Cornfield School Littlehampton
No Sa les Receive : 4
Date of Sa ling:

This report was written by: G ouse

Authorised y

[redacted]

Steve Knight
eporting anager

Any comments, opinions or interpretations e pressed herein are outside the scope of KAS accreditation Accreditation Num er 2

ARUN DISTRICT COUNCIL LU/133/14/WS

ARUN DISTRICT COUNCIL LU/133/14/WS

THE ENVIRONMENTAL LABORATORY LTD

Unit 4D, Windmill Road, Pensswood Industrial Estate, St Leonard's on Sea, East Sussex, TN38 9BY

Tel: [redacted] Fax: [redacted]

ANALYTICAL REPORT No. AR53096

Location: Camfield School, Littlehampton

Your Job No: GE9757
Your Order No: ---
Reporting Date: 10/03/14

2583

F.A.O. Anthony Potter
Geo-Environmental Services Limited
Unit 7 Danworth Farm
Duckfield Road, Hurstpierpoint
West Sussex, BN6 9SL

Soils

		Characteristic	Bh loam	Loamy sand	Bh loam
		TP/BH	WS1	WS2	WS3
		Depth (m)	0.20	0.50	0.20
		Our ref	11133	11134	11135
Stone Content	(%)		14	7	1
Arsenic**	(mg/kg)		10.8	<9	13.5
Cadmium**	(mg/kg)		<0.5	<0.5	<0.5
Chromium**	(mg/kg)		30	8	28
Lead**	(mg/kg)		69	32	27
Mercury**	(mg/kg)		<0.5	<0.5	<0.5
Nickel**	(mg/kg)		16	7	21
Copper**	(mg/kg)		13	5	18
Zinc**	(mg/kg)		50	44	77
Selenium**	(mg/kg)		<0.5	<0.5	0.5
Hexavalent Chromium	(mg/kg)		<2	<2	<2
Water Soluble Boron	(mg/kg)		0.8	0.5	1.0
Uranium**	(mg/kg)		94	99	93
Beryllium**	(mg/kg)		<1	<1	<1
Vanadium**	(mg/kg)		31	8	42
pH Value**	(units)		6.2	5.6	6.6
Total Sulphate	(% as SO_4)		<0.05	<0.05	<0.05
Water Soluble Sulphate**	(mg/l as SO_4)		11	47	<10
Water Soluble Chloride	(mg/l)		41	7	6
Total Cyanide**	(mg/kg)		<1	<1	<1
Sulphide	(mg/kg)		<2	0.8	<2
Elemental Sulphur**	(mg/kg)		<10	<10	<10
Total Monohydric Phenols**	(mg/kg)		<1	<1	<1
Total Organic Carbon	(%)		0.5	0.4	0.8
TPH ($>C_6$ - $<C_{40}$)**	(mg/kg)		<5	42	<5

dry weight basis
** - MCERTS accreditation held
* - UKAS accreditation held
i.s.v.

ARUN DISTRICT COUNCIL LU/133/14/WS

THE ENVIRONMENTAL LABORATORY LTD

Unit A2, Wingfield Road, Portsmouth Industrial Estate, St Leonard's on Sea, East Sussex, TN38 9BY

Tel: [redacted] Fax: [redacted]

ANALYTICAL REPORT No. AR53096

Location: Cranfield School, Littlehampton

ELAB

Your Job No: GE9757
Your Order No: ...
Reporting Date: 10/03/14

F.A.O. Anthony Potter
Geo-Environmental Services Limited
Unit 7 Danworth Farm
Cuckfield Road, Hurstpierpoint
West Sussex, BN6 9SL

Soils

		Characteristic	Silt loam	Loamy sand	Silt loam
		TP/BH	WS1	WS2	WS3
		Depth (m)	0.20	0.50	0.20
		Our ref	111330	111334	111335
Naphthalene**	(mg/kg)		<0.1	0.1	<0.1
Acenaphthylene**	(mg/kg)		<0.1	<0.1	<0.1
Acenaphthene**	(mg/kg)		<0.1	0.2	<0.1
Fluorene**	(mg/kg)		<0.1	0.1	<0.1
Phenanthrene**	(mg/kg)		<0.1	1.1	<0.1
Anthracene**	(mg/kg)		<0.1	0.4	<0.1
Fluoranthene**	(mg/kg)		<0.1	1.4	<0.1
Pyrene**	(mg/kg)		<0.1	1.3	<0.1
Benz(a)anthracene**	(mg/kg)		<0.1	0.8	<0.1
Chrysene**	(mg/kg)		<0.1	1.1	<0.1
Benzo(b)fluoranthene**	(mg/kg)		<0.1	1.0	<0.1
Benzo(k)fluoranthene**	(mg/kg)		<0.1	1.1	<0.1
Benzo(a)pyrene**	(mg/kg)		<0.1	1.0	<0.1
Indeno(1,2,3-cd)pyrene**	(mg/kg)		<0.1	0.8	<0.1
Dibenz(a,h)anthracene**	(mg/kg)		<0.1	0.2	<0.1
Benzo(g,h,i)perylene**	(mg/kg)		<0.1	1.4	<0.1
Total PAH**	(mg/kg)		<0.1	12.0	<0.1

All results expressed on dry weight basis

** = MCERTS accredited test

- = None

THE ENVIRONMENTAL LABORATORY LTD

Unit 62, Worthing Road, Horsham Enterprise Centre, St Leonard's on Sea, East Sussex, TN38 9PP
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ELAB

ANALYTICAL REPORT No. AR53096

Location: Corrbeld School, Littlehampton

F.A.O. Anthony Potter
Geo-Environmental Services Limited
Unit 7 Danworth Farm
Quickfield Road, Horsham
West Sussex, RH6 9GL

Your Job No: GES/787
Your Order No: ...
Reporting Date: 10/03/14

Asbestos Identification

Sample ref:	WS1
Depth (m)	0.20
Our ref:	11133
#Description of Sample Matrix:	Soil stone
Result	No asbestos identified

Sample ref:	WS2
Depth (m)	0.50
Our ref:	11134
#Description of Sample Matrix:	Loamy sand
Result	No asbestos identified

Sample ref:	WS3
Depth (m)	0.20
Our ref:	11135
#Description of Sample Matrix:	Soil stone
Result	No asbestos identified

* = UKAS accredited
Opinions and interpretations expressed herein are outside the scope of our UKAS accreditation.
Any comments, opinions or interpretations expressed herein are outside the scope of our accreditation. Results apply to the sample as received.
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Waste Acceptance Criteria ANALYTICAL RESULTS							
Report No:	ANALYTICAL REPORT No: 11/03/2047				Page 1 of 4		
					CLIENT: [redacted]		
Project Name:	Chapman Cardinal Drive, Littlehampton.						
					Inert Waste Acceptance Criteria		
Lab Reference:	11/03				Limits		
Sampling Date:					Inert Waste Landfill	Stable Non-Reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Sample ID:	TP1						
Depth:	0.50						
Lab Sample Number:							
pH (1:2)*	7.6				6x	10x	6x
Total Sulphur (1:2)**	0.2					1	0.2%
W/S Cyanide**	<0.01				0.5	-	-
Loss on ignition**	10.0%				3	-	-
Mineral Oil (mg/kg)**	<5				500	-	-
Total PAH (mg/kg)**	<0.5				100	-	-
Phenol Index**	7.4				-	-	-
Total Organic Carbon (mg/kg)	45.5				-	To be confirmed	To be confirmed
Arsenic Analysis	201	303		Specification 1	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg for use		
	mg/l	mg/l		mg/kg			
Aluminium	<0.005	<0.005		<0.1	0.5	1	50
Barium*	0.018	0.021		<0.1	20	100	300
Cadmium*	<0.001	<0.001		<0.01	0.04	1	5
Chromium*	<0.005	<0.005		<0.1	0.5	10	70
Copper*	<0.005	<0.005		<0.1	2	50	100
Mercury*	<0.0001	<0.0001		<0.001	0.01	0.2	2
Manganese**	<0.005	<0.005		<0.1	0.5	50	70
Molybdenum*	<0.005	<0.005		<0.1	0.5	10	30
Nickel*	<0.005	<0.005		<0.1	0.4	10	40
Lead*	<0.005	<0.005		<0.1	0.5	10	50
Antimony*	<0.005	<0.005		<0.1	0.06	0.7	5
Selenium*	<0.005	<0.005		<0.1	0.1	0.5	7
Zinc*	0.008	0.008		<0.1	4	50	200
Chloride*	6	5		37	800	15000	25000
Fluoride*	1	<1		<2	10	150	500
Sulphate*	6	5		37	1000	20000	50000
TDS	478	116		812	4000	60000	100000
Phenol Index	<0.5	<0.5		<0.5	1	-	-
DOC	45.0	12.7		85	500	800	1000
Leach Test Information							
pH	8.1	8.0					
EC	202	311					
Sample Mass (kg)	0.214						
Dry Matter (%)	82						
Moisture (%)	18						
Stage 1							
Volume Eluate 1 (litres)	0.075						
Volume Eluate VS1 (litres)	0.200						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.
Uncertainty data for all accredited tests is held and will be made available for any determination for which an uncertainty is required.

** UKAS accredited

*** MCERTS accredited test

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2683

THE ENVIRONMENTAL LABORATORY LTD

SAMPLE RECEIPT AND TEST DATES

Our Analytical Report Number:	AR53086
Your Job No:	G6975/
Sample Receipt Date:	25/02/14
Reporting Date:	10/03/14
Registered:	25/02/14
Prepared:	26/02/14
Analysis complete:	10/03/14

TEST METHOD SUMMARY

PARAMETER	Analysis Undertaken on	Date Tested	Method Number	Technique
Arsenic**	Air dried sample	03/03/14	118	ICPMS
Cadmium**	Air dried sample	03/03/14	118	ICPMS
Chromium**	Air dried sample	03/03/14	118	ICPMS
Lead**	Air dried sample	03/03/14	118	ICPMS
Mercury**	Air dried sample	03/03/14	118	ICPMS
Nickel**	Air dried sample	03/03/14	118	ICPMS
Copper**	Air dried sample	03/03/14	118	ICPMS
Zinc**	Air dried sample	03/03/14	118	ICPMS
Selenium**	Air dried sample	03/03/14	118	ICPMS
Hexavalent Chromium	As submitted sample	27/02/14	110	Colorimetry
Water Soluble Boron	Air dried sample	28/02/14	202	Colorimetry
Barium*	Air dried sample	03/03/14	118	ICPMS
Beryllium*	Air dried sample	03/03/14	118	ICPMS
Vanadium**	Air dried sample	03/03/14	118	ICPMS
pH Value**	Air dried sample	26/02/14	113	Probe
Total Sulphate	Air dried sample	26/02/14	208	Colorimetry
Water Soluble Sulphate**	Air dried sample	04/03/14	172	Ion Chromatography
Water Soluble Chloride	Air dried sample	04/03/14	172	Ion Chromatography
Total Cyanide**	As submitted sample	26/02/14	204	Colorimetry
Sulphide	As submitted sample	05/03/14	109	Colorimetry
Elemental Sulphur**	Air dried sample	28/02/14	122	HPLC
Total Monohydric Phenols**	As submitted sample	03/03/14	121	HPLC
Total Organic Carbon	Air dried sample	07/03/14	213	Automated IR Absorption
TPH (> C8 - < C40)**	As submitted sample	03/03/14	117	Gas Chromatography
Speciated PAH**	As submitted sample	28/02/14	123	Gas Chromatography
Asbestos*	As submitted sample	07/03/14	179	see note

Asbestos analysis quantitative only

Note: Determined in-house procedure based on HSG 248 2005

* = UKAS Accredited test

** = MCERTS Accredited test

Determinands not marked with * or ** are not accredited

MCERTS accreditation covers samples which are predominantly sand, clay, loam or combinations of these three soil types

All results have been expressed on a dry weight basis and where appropriate have been corrected for moisture and stone content accordingly

Any opinions, comments, or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)

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2883

THE ENVIRONMENTAL LABORATORY LTD

SAMPLE RECEIPT AND TEST DATES

Our Analytical Report Number:	AR5530/98
Your Job No:	GE9757
Sample Receipt Date:	25/02/14
Reporting Date:	30/03/14
Registered:	25/02/14
Prepared:	26/02/14
Analysis complete:	30/03/14

TEST METHOD SUMMARY

PARAMETER		Date Tested	Method Number	Technique
	Undertaken on			
pH Value**	As dried sample	27/02/14	138	Electrometric
Total Organic Carbon	As dried sample	28/02/14	210	Automated IR Absorption
Loss on Ignition**	As dried sample	27/02/14	129	Gravimetric
Neutralisation Capacity to pH 7	As dried sample	27/02/14	*	BA
Benzene**	As submitted sample	28/02/14	181	GCMS
Toluene**	As submitted sample	28/02/14	181	GCMS
Ethyl Benzene**	As submitted sample	28/02/14	181	GCMS
Xylenes**	As submitted sample	28/02/14	181	GCMS
Mineral Oil**	As submitted sample	03/03/14	117	GCFID
PCB 28**	As dried sample	05/03/14	120	GCMS
PCB 52**	As dried sample	05/03/14	120	GCMS
PCB 101**	As dried sample	05/03/14	120	GCMS
PCB 118**	As dried sample	05/03/14	120	GCMS
PCB 138**	As dried sample	05/03/14	120	GCMS
PCB 153**	As dried sample	05/03/14	120	GCMS
PCB 180**	As dried sample	05/03/14	120	GCMS
Speciated PAH**	As submitted sample	26/02/14	135	GCMS

The analysts' guide for sampling, analysis and preparation procedures.
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** = MCERTS Accredited test.
Determinands not marked with a * or ** are not accredited.
MCERTS accreditation covers samples which are predominantly sand, clay, loam or combinations of these three soil types.

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ARUN DISTRICT COUNCIL LU/133/14/WS

ELAB

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THE ENVIRONMENTAL LABORATORY LTD

LEACHATE SAMPLE RECEIPT AND TEST DATES

Our Analytical Report Number:	AR53096
Your Job No:	GE8757
Sample Receipt Date:	25/02/14
Reporting Date:	10/03/14
Registered:	25/02/14
Prepared:	26/02/14
Analysis complete:	10/03/14

LEACHATE TEST METHOD SUMMARY

PARAMETER	Method Number	Technique
Arsenic*	101	ICPMS
Cadmium*	101	ICPMS
Chromium*	101	ICPMS
Lead*	101	ICPMS
Nickel*	101	ICPMS
Copper*	101	ICPMS
Zinc*	101	ICPMS
Mercury*	101	ICPMS
Selenium*	101	ICPMS
Antimony	101	ICPMS
Barium*	101	ICPMS
Molybdenum*	101	ICPMS
pH Value *	133	Potentiometric
Electrical Conductivity*	136	Probe
Dissolved Organic Carbon	102	TOC analyser
Chloride*	131	Ion Chromatography
Fluoride*	131	Ion Chromatography
Sulphate*	131	Ion Chromatography
Total Dissolved Solids	144	Gravimetric
Phenol Index	121	HPLC

* = UKAS Accredited test
Determinands not marked with * are not accredited

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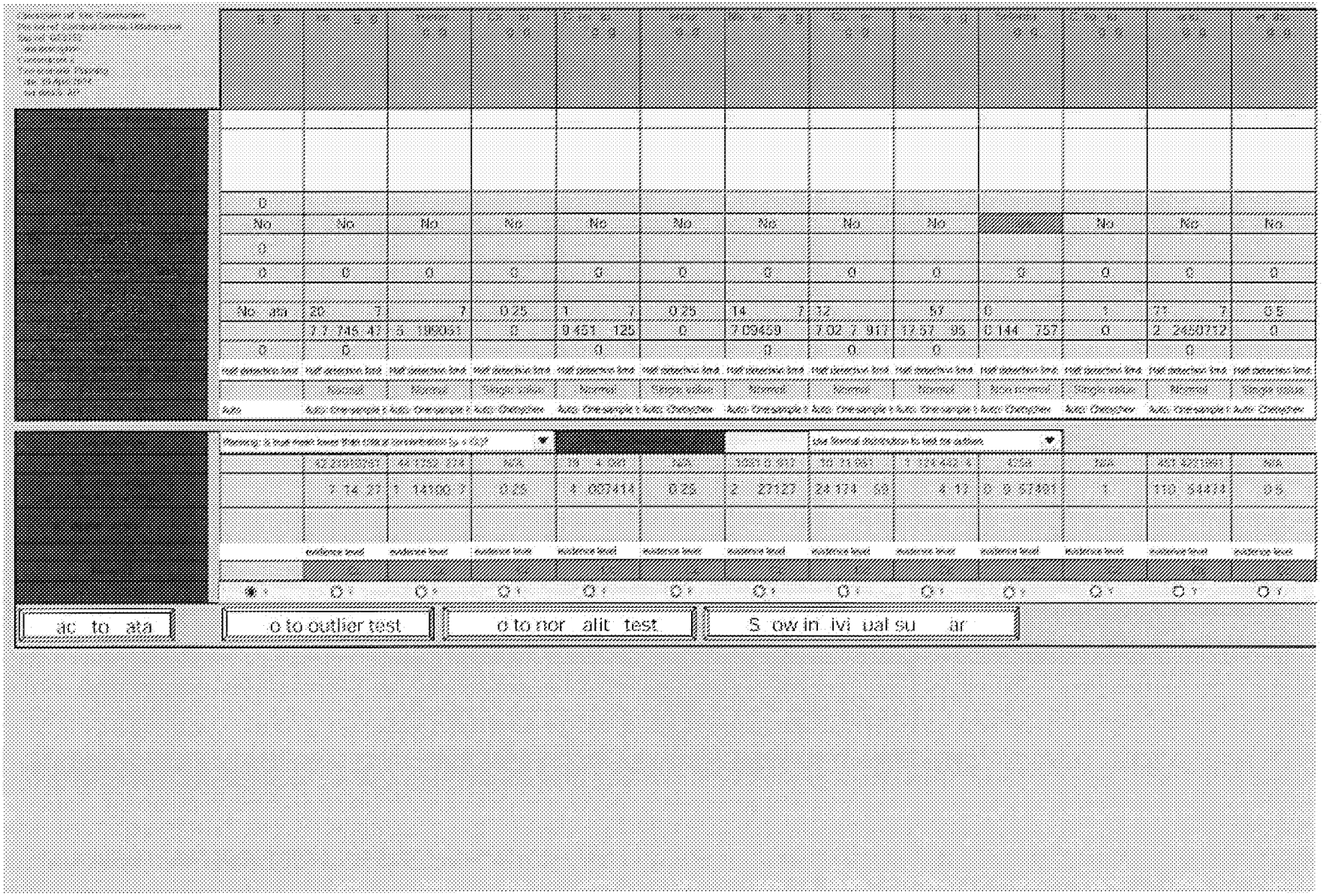
Environment Agency

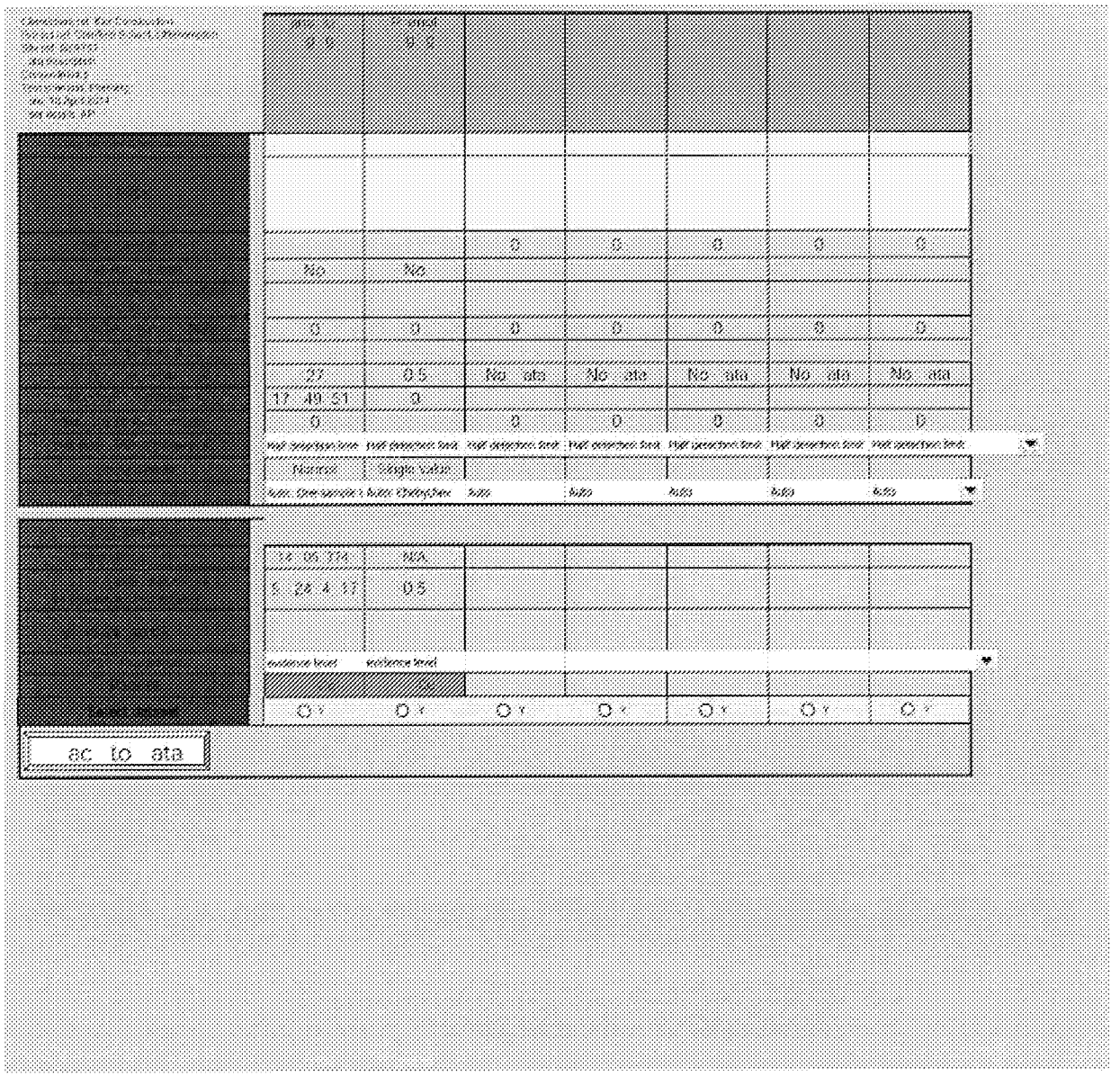
	Assessment Criteria (mg/kg)			Results (mg/kg)			Exceedance (mg/kg)	SD Data	
	Low	Medium	High	Low	Medium	High		Soil	Image
1 Arsenic	1.00E+02	1.00E+03	1.00E+04	1.00E+00	0.00E+00	0.00E+00	N	No	No
2 Cadmium	1.00E+02	8.00E+02	1.60E+03	0.00E+00	0.00E+00	0.00E+00	N	No	No
Chromium III	8.60E+04	8.60E+05	8.60E+06	0.00E+00	0.00E+00	0.00E+00	N	No	No
4 Mercury (inorganic)	1.40E+01	9.40E+01	7.60E+02	0.00E+00	0.00E+00	0.00E+00	N	No	No
5 Nickel	5.80E+03	9.20E+03	NL	0.00E+00	0.00E+00	0.00E+00	N	No	No
Copper	7.60E+04	1.90E+05	3.80E+05	0.00E+00	0.00E+00	0.00E+00	N	No	No
Zinc	1.40E+05	6.80E+05	1.40E+06	0.00E+00	0.00E+00	0.00E+00	N	No	No
Selenium	9.60E+03	NL	NL	0.00E+00	NL	NL	N	No	No
9 Chromium VI	2.50E+02	NL	NL	0.00E+00	NL	NL	N	No	No
10 Lead	2.20E+03	NL	NL	0.00E+00	NL	NL	N	No	No
11 Cobalt	1.00E+03	1.30E+03	1.60E+03	0.00E+00	0.00E+00	0.00E+00	N	No	No
12 Vanadium	1.40E+03	1.90E+03	2.40E+03	0.00E+00	0.00E+00	0.00E+00	N	No	No
1 Phenol	2.80E+04	1.90E+05	2.80E+06	0.00E+00	0.00E+00	0.00E+00	PE_04_Crop	No	No
14 Acenaphthylene	8.30E+03	8.30E+04	1.70E+05	0.00E+00	0.00E+00	0.00E+00	PE_01_Soil	No	No
15 Acenaphthene	8.30E+03	8.30E+04	1.70E+05	0.00E+00	0.00E+00	0.00E+00	PE_01_Soil	No	No
1 Fluorene	6.80E+03	6.80E+04	1.40E+05	0.00E+00	0.00E+00	0.00E+00	PE_01_Soil	No	No
17 Phenanthrene	4.00E+03	4.00E+04	8.00E+04	0.00E+00	0.00E+00	0.00E+00	PE_01_Soil	No	No
1 Anthracene	5.30E+04	5.30E+05	1.10E+06	0.00E+00	0.00E+00	0.00E+00	PE_01_Veg	No	No
19 Fluoranthene	1.60E+03	1.60E+04	3.20E+04	0.00E+00	0.00E+00	0.00E+00	PE_04_Veg	No	No
20 Pyrene	1.30E+03	1.30E+04	2.70E+04	0.00E+00	0.00E+00	0.00E+00	PE_04_Veg	No	No

ARUN DISTRICT COUNCIL LU/133/14/WS

	Concentration (mg kg⁻¹)			Units of Soil Guideline Value			Calculated risk (mg kg⁻¹)	Risk above SGV	
	Mean	Maximum	95% UCL	SGV	Residential	Commercial		Soil	Dermal
21	0.15	0.15	0.15	µg/kg	0.7	0.22	1.55	1.5E-06	No	No
22	0.15	0.15	0.15	µg/kg	0.3	0.12	1.55	2.4E-06	No	No
2	0.15	0.15	0.15	µg/kg	0.3	0.12	1.55	7.1E-07	No	No
24	0.15	0.15	0.15	µg/kg	0.3	0.12	1.55	4.1E-06	No	No
25	0.15	0.15	0.15	µg/kg	0.3	0.12	1.55	3.6E-06	No	No
2	0.15	0.15	0.15	µg/kg	0.7	0.1	1.55	9E-08	No	No
27	0.15	0.15	0.15	µg/kg	0.3	0.12	1.55	2E-06	No	No
2	0.15	0.15	0.15	µg/kg	0.3	0.11	1.55	9.2E-07	No	No
29										
3										

ARUN DISTRICT COUNCIL LU/133/14/WS

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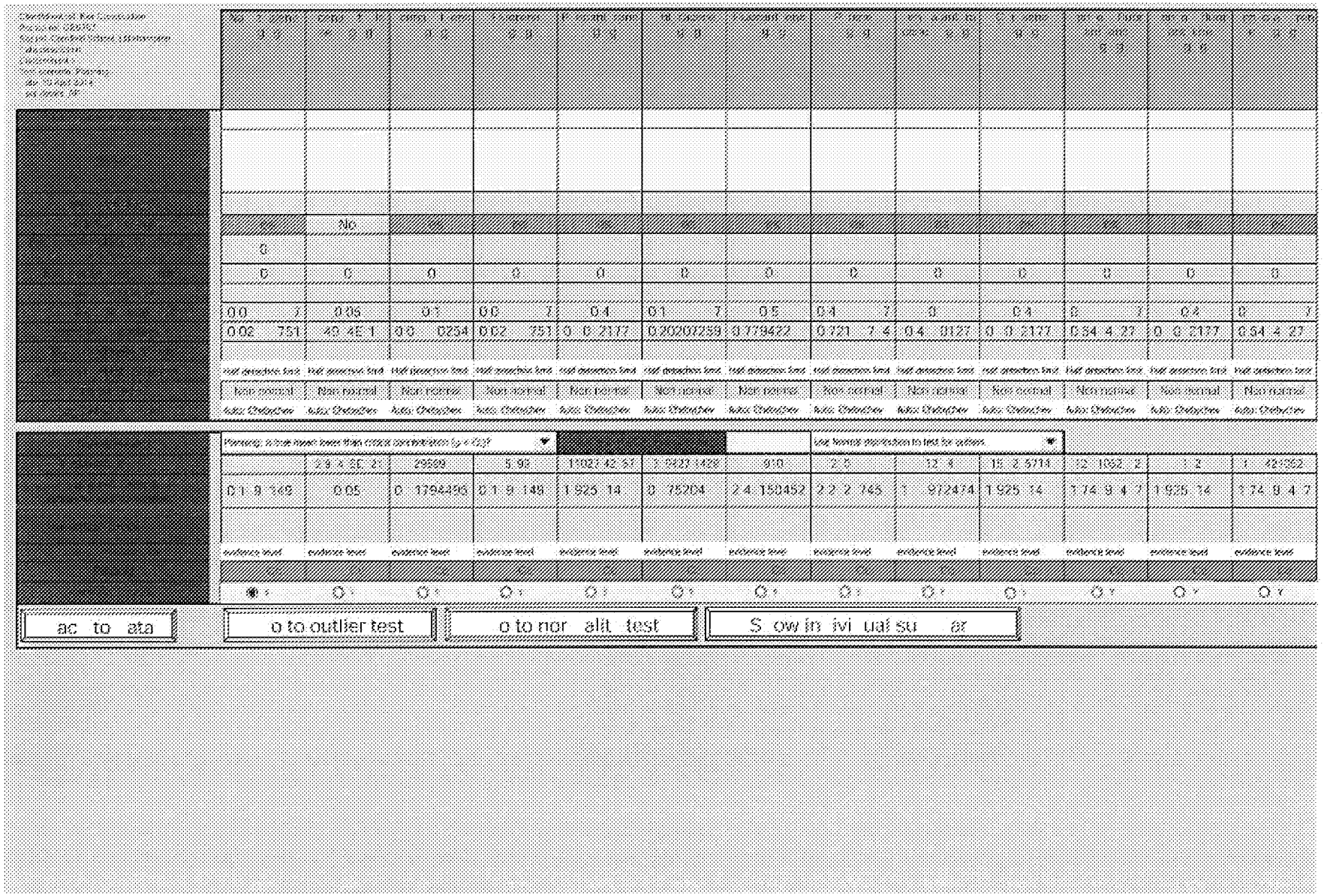
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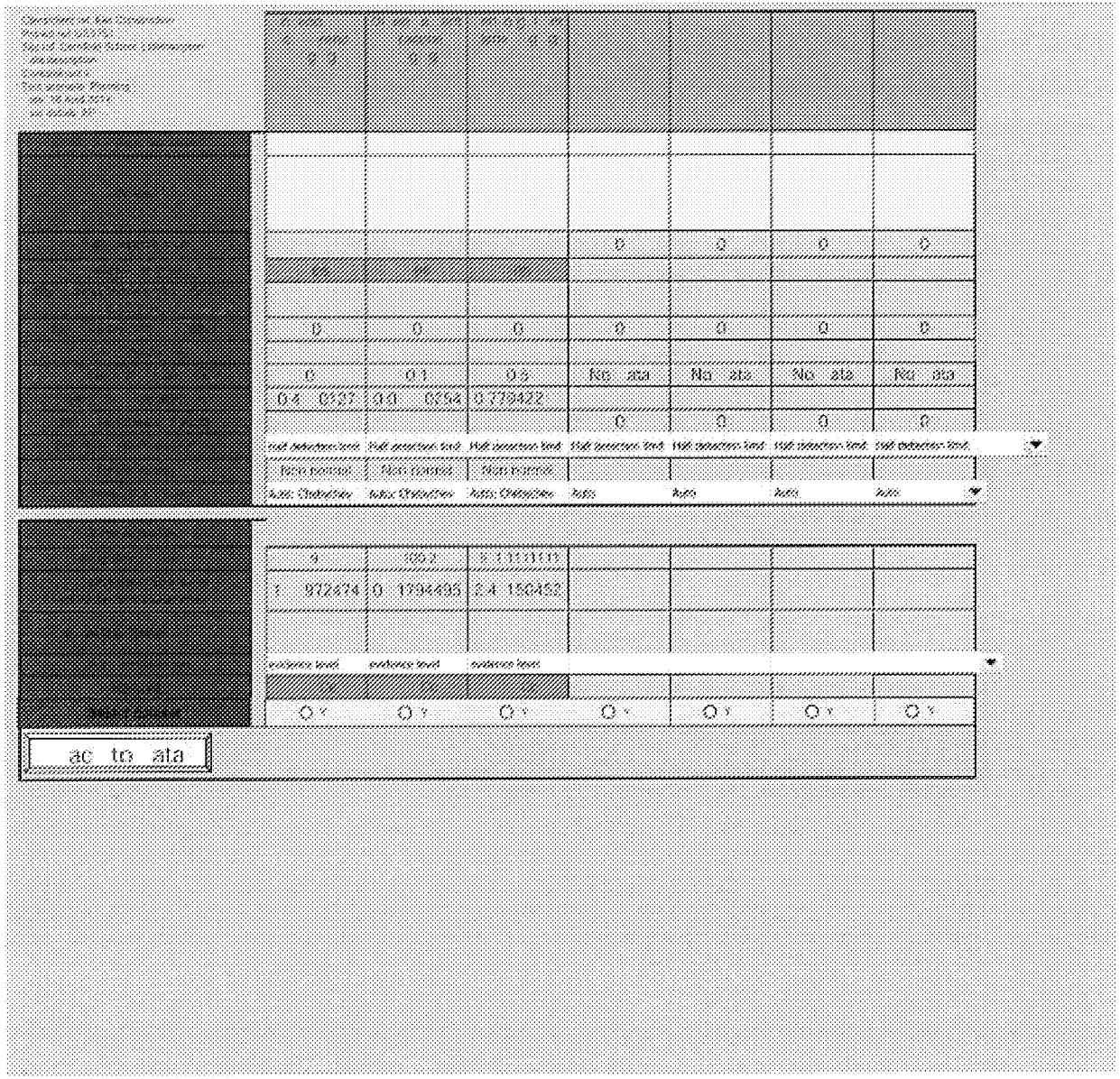
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