



# Stage 1: Desktop Study & Walkover Survey

**William Ellis School,  
Highgate Road,  
London,  
NW5 1RL**

For



Job No. 08. 5293  
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*Contents*

<b>1.0 INTRODUCTION.....</b>	<b>7</b>
<b>2.0 SITE CONDITIONS.....</b>	<b>8</b>
2.1 Site Description.....	8
2.2 Potential Sources of Contamination (Walkover Survey).....	10
2.3 Site History .....	11
2. 4 Potential Contamination Sources (Historical) .....	18
2. 5 Physical setting .....	18
2.6 Information on Public Record.....	19
<b>3.0 CONCEPTUAL MODEL &amp; RISK ASSESSMENT.....</b>	<b>21</b>
3.1 Potential Source – Pathway – Receptor Linkages .....	24
<b>4.0 CONCLUSIONS .....</b>	<b>26</b>
<b>5.0 RECOMMENDATIONS.....</b>	<b>27</b>
5.1 Statutory Consultees .....	27
5.2 Testing Regime .....	27
5.3 Site Works.....	27
5.4 Services .....	28
5.5 Further Research .....	28
5.6 Asbestos Survey.....	28
<b>6.0 LIMITATIONS .....</b>	<b>30</b>

*Appendix*

- Appendix A – Constructive Evaluation Limited’s Photographs with Photograph Identification Plan and Site Plan
- Appendix B – Historical Maps
- Appendix C – BGS borehole Records
- Appendix D – Landmark Report

#### **TRADING TERMS**

Unless specifically stated within the tender/quotation or unless identified within the introduction to this report it is confirmed that this report has been compiled wholly in accord with Constructive Evaluation Limited's terms of engagement.

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The following notes should be read in conjunction with the report. Any variation to the general procedures outlined below are indicated in the text.

#### **Foreword**

The recommendations made and opinions expressed in the report are based on the conditions revealed by the site works as indicated on the site record sheets, together with an assessment of the data from the insitu and laboratory testing or in respect of the desktop reports. No responsibility can be accepted for conditions that have not been revealed by the research, for example, due to inaccuracies in the data. While the report may offer opinions, these comments are for guidance only and no liability can be accepted for their accuracy.

#### **Routine Sampling**

During the site investigation, soil, water and leachate samples have been taken in accordance with recommendations within BS.5930: 1990, & BS.10175: 2001. All samples have been marked accordingly, and stored under suitable conditions to prevent any deterioration of the specimen (e.g. volatilisation of hydrocarbons). All samples have been placed in suitably labelled sealed plastic containers and sampling equipment cleaned between sample locations to prevent possible cross contamination.

During the compilation of desktop studies a number of sources have been contacted in order to provide any relevant information regarding the site in question. The sources contacted provide their own Terms & Conditions with regard to the data provided. As such, each source, e.g. Sitescope, Council Websites, etc. must be considered only in relation to these individual Terms & Conditions. All research has been carried out in accordance with recommendations within BS.10175: 2001.

The method of construction employed to form trial pits is entered on their records. In general, it is not possible to extend machine excavated trial pits to depths significantly below the local water table, especially in predominantly granular soils. Except for manually excavated pits, and unless otherwise stated, the trial pits have not been provided with temporary side support during their construction, hence personnel have not entered them and examined the strata or any construction details so exposed.

#### **Laboratory Testing**

Unless stated otherwise within the text, all laboratory tests have been performed in accordance with the requirements detailed in British Standards 1881:1990 or other standards or specifications that may be appropriate.

#### **Regulatory Bodies**

After the compilation of desktop study and walkover survey or site investigation works all parties must communicate with regulatory bodies including the Local Authority (both Planning & Environmental Health) and the Environment Agency. It must be accepted that further requirements may develop. It is possible that aspects of desktop study may need to be altered to conform to the requirements of the regulatory bodies.

#### **Definitions**

Reference to the word "contamination" in this report does not relate to the statutory definition of contaminated land under 1990 Environmental Protection Act unless otherwise stated. The definition used in this report is: "Land that contains substances that, when present in sufficient quantities or concentrations, are likely to cause harm, directly or indirectly, to man, to the environment, or on occasion to other targets" (NATO CCMS, 1985).

#### **Walkover Survey**

It should be noted that a walkover survey is designed as a brief inspection of the site in question, however every reasonable effort has been made to access all areas of the site, areas where this has not proved possible will be referenced in the text. The site reconnaissance is undertaken with permission of the client after the document search is completed with the aim of recording any further aspects of the site not revealed by the desktop study however this does not in itself guarantee that every possible risk has been seen.

#### **Conceptual Model/Risk Assessment/ Sampling Regime**

The conceptual model, Risk assessment and sampling regime has been formulated in accordance with BS10175:2001 and CLR 8 based upon the relevant information gained from the desktop and walkover survey. While the model and assessment offer opinions and interpretations of these guidelines, the comments made are for guidance only and no liability can be accepted for their accuracy.

#### **Restrictions**

In some instances a site investigation must be separated into two stages, depending on the access to the sub soils at the time of the initial site attendance. It must also be noted that in many instances the access afforded is restricted due to continuing activity on the site. In such instances all reasonable effort were to achieve maximum sampling coverage. This does not imply a guarantee that inaccessible areas are similar.

## SUMMARY

<i>Context and purpose</i>	This assessment is part of an evaluation of environmental liability associated with contamination issues at the site.
<i>Current site use</i>	The site is currently occupied by a school complex, playing fields and sport courts.
<i>Surrounding Area</i>	The site is flanked to the southeast by Parliament Hill School and by open space, including playing fields and tennis courts to all other sides.
<i>Physical setting</i>	<p>The site is underlain by London Clay.</p> <p>The site is located on a non aquifer, which has unclassified soils.</p> <p>The nearest surface water feature is manmade, namely the school swimming pool. There are also natural water bodies (Highgate Ponds and Hampstead Pond) near to the site, located in the 1000m periphery.</p>
<i>Environmental sensitivity</i>	<p>Due to the nature of the underlying geology, the site is not located in a source protection zone.</p> <p>Kentish Town Sports Centre has three groundwater abstraction licences to remove water for several public uses. This is situated 1408m south of the site.</p> <p>There are two recycling centres located 963m to the southeast and 982m to the southeast of the site. These accept acid and lead batteries and fluorescent lamps and household wastes respectively.</p>
<i>Site history</i>	The site was formerly occupied by Grove Farm and open space. The site overlapped the site of an infilled reservoir. Over time this area was developed so that further dwellings existed on it. Eventually, the area was given over to a school site, which remains the existing land use today.
<i>Surrounding History</i>	There has been considerable urban expansion in the surrounding environs which has resulted in a relatively complex and potentially contaminating industry profile.
<i>Previous investigations</i>	We have no knowledge of any previous site investigations being undertaken at this site.
<i>Conceptual Model</i>	<p>The conceptual site model has identified that the major sources, pathways and receptors of contamination in accordance with BS10175:2001 are as follow:</p> <p><u>Source</u></p> <ul style="list-style-type: none"> <li>• Unknown contaminants potentially filled into the reservoir on site.</li> <li>• Hydrocarbons of varying forms and heavy metals from industries such as petrol filling stations and dry cleaners.</li> <li>• Poly Chlorinated Biphenols from off site sub station associated with the neighbouring school (Parliament Hill).</li> <li>• Potential ACMs due to the age of the building</li> </ul> <p><u>Pathway</u></p> <ul style="list-style-type: none"> <li>• Inhalation, ingestion &amp; dermal contact.</li> <li>• Migration via groundwater.</li> <li>• Services and or drain runs.</li> </ul>

	<p><u>Receptor</u></p> <ul style="list-style-type: none"> <li>• Site workers.</li> <li>• End users.</li> <li>• Soils.</li> <li>• BGS boreholes.</li> <li>• Groundwater.</li> </ul>
<p><i>Recommendations</i></p>	<p>The site and its surrounding environs are considered to have a low to negligible risk with respect to both current and historical land uses with regards to contamination to the wider environment. . In areas of hard standing the risk of contamination linkages will be broken, however, in areas proposed for soft landscaping exposure to potential contaminants may still be possible.</p> <p>As part of any future site investigation we would recommend that some precautionary contamination testing, including a general screen of contaminants including heavy metals, pH, Poly Aromatic Hydrocarbons, and Total Petroleum Hydrocarbons is completed.</p> <p>This would be implemented as a precautionary measure to ensure that there was no contamination present on site.</p> <p>Any site investigation would be dependant upon the exact nature of the redevelopment works at the site and would need to be structured accordingly.</p> <p>If during the excavation and construction phases any visual or olfactory signs of contamination are noted we would recommend that a suitable geo-environmental consultant be contacted.</p> <p>If any landscaping materials are to be imported on site they should be tested to check that they are suitable for the intended use.</p> <p>We would expect site workers to be made aware of any risks during site inductions. We would recommend as part of good practice that all site workers wear appropriate PPE and have access to adequate wash mess facilities.</p> <p>We would strongly recommend that this report be forwarded to the relevant authorities including local authority planning and environmental health departments as well as the Environment Agency prior to commencing with any site works for their subsequent comments and acceptance.</p>

**Note:** This assessment relates solely to contamination issues.

## 1.0 INTRODUCTION

Constructive Evaluation (CE) Limited was instructed by Robert West Consulting (EQ4455, dated October 16<sup>th</sup> 2007) to carry out a Phase 1: Desktop study and walkover survey at William Ellis School, Highgate Road, London, NW5 1RL. This work has been undertaken in relation to the redevelopment of the school.

The client has instructed CE to undertake an environmental risk assessment to enable determination to the potential source – pathway – receptor (S-P-R) linkages associated with the site and surrounding environs historical and current context. This would help to formulate in the future a suitable targeted site investigation should areas of the school be redeveloped.

The purpose of the desktop study was to provide information on:

- The expected geology & hydrogeology.
- The development history and most recent use.
- Potential sources of contamination.
- Potential for on site migration of contamination and nearby sensitive receptors that may be at risk from any potential contamination from the site.
- To enable the development of a site conceptual model (SCM) and risk assessment.

This report presents results of the assessment, including historical Ordnance Survey maps and published geological & hydrogeological maps, as well as information from various other sources including Landmark Information Group Limited. Reference has also been made to information received from the client, the Environment Agency and the local authority.

The report has been formulated in accordance with BS10175:2001 *Investigations into Potentially Contaminated Sites – Code of Practice* and CLR11 – *Model Procedures for the Management of Land Contamination* and from *Planning Policy Statement 23 – Planning & Pollution Control*.

## 2.0 SITE CONDITIONS

### 2.1 *Site Description*

#### On Site

The site is located to the south east of the Parliament Hill, on a National Grid Reference (NGR) 528300, 186020. The area of the proposed development occupies a plot which formerly comprised farm buildings and open land. The land was then turned over to school buildings and playing fields.

The site is accessed from Highgate Road to the east, which runs south. The school is at the site's southeastern corner, via a relatively new macadam-surfaced road, with electronic steel double gate.

The site predominantly comprises a broadly triangular main building, which is party two and three storeys high. To the northern part of the site are two macadam and partly all-weather surfaced football pitches. To the south is a newly macadam-surfaced car park and a small area to the southeast of the main building which is partially landscaped. To the east, beyond the main building, is a small two storey brick built house called The Cottage, which is noted to be the caretakers.

The site is bounded by predominantly low brick walls and wire meshed fencing to all elevations apart from the southern perimeter where the site adjoins Parliament Hill School.

For the purpose of this walkover survey and for ease of description of the site, we will split the site into three distinct areas, being the School and associated quadrangles and boiler house, the football pitches and the caretakers house.

#### School & Associated Quads and Boiler House

Access to all internal areas was not afforded, however, we can assume that these areas predominately comprised traditional school facilities and a boiler house.

During the walkover survey information regarding the age of the structures was noted. It is understood the main building was built in 1862, reconstructed in 1889 and rebuilt in 1957.

The school is predominately laid out over two and three floors. The reception and the maths block to the central and western elevation are over two floors, apart from the small gas boiler house to the west of the main reception, which is within a small basement. The design & technology, RE and physics block are noted to the eastern elevation over three storeys. This area does not, to our knowledge, include a basement.



The gas boiler house is located within a small basement to the west of the main reception; access is gained via concrete steps, which are noted to be part of a retained structure. Anecdotal evidence suggests the basement is subject to some partial flooding. The site manager mentioned that this may be associated with the nearby river which may flow beneath the area. It is understood that the gas boilers have been recently replaced within the last 2-3 years. It is believed the site has been supplied with gas for approximately 60+ years. However it might be that previous to this the site was fuelled by above ground storage Tanks (AST's) i.e. heating fuel oils.

Within the basement to the east and western sides were two small metal double doors which were noted to contain a set of service tunnels/corridors which we were informed ran beneath the site to each of the classrooms.

There are two distinctive areas which are of newer construction, including the sports hall and a section to the western central area (between the two smaller quads). The newer builds were built approximately 3-5 years ago. Within the older part of the school, to the central northern section of the building, was a chemical store; its contents are unknown. In addition to the southeastern corner of the three storey building (RE/physics and design & technology) was a hazardous chemical sign, we are not aware of the type of chemicals stored within.

The three quads that were noted to the central areas are surrounded by the school buildings on all sides. Two smaller quads were noted to the west part separated by the newer build. A larger quad was noted to the eastern section, this was accessed via a steel gate to the north, by the chemical store.

### *Football Pitches*

The two football pitches located to the north of the site are accessed via a small macadam-surfaced road to the east elevation. Two vent pipes are attached to the main building and the refuse bins. The football pitches are elevated above the ground level of the school, therefore several retaining structures are present. A small grassed area is present to the northeastern corner, which is also slightly raised above the ground level of the football pitches. To the western elevation, within the football pitches, are bike sheds and a small single storey brick building with a presumed asbestos profiled roof. The two pitches are surrounded by wire mesh fencing to all flanks. Within part of the retained structures are several stores assumed to contain PE equipment, however access was not gained to confirm this.

### *The Caretakers House*

The caretaker's house is a two storey brick built, pitched roof structure with associated garden space. The house is located to the southeastern corner.

### *Surrounding area*

Parliament Hill School borders the southeast perimeter of the site and open space borders all other sides of the site. This open space includes playing fields and a car park as well as tennis courts. Additionally, it is worth noting that part of the open space is located on a hill noted to slope north to south. Noted off site, within the Parliament Hill grounds, is an electrical sub station and a large vent pipe, presumably associated with the catering facilities in this location. A small brick built lodge is also noted within the open space.

## 2.2 *Potential Sources of Contamination (Walkover Survey)*

The following potential sources of contamination have been identified by the site walkover survey:

### On Site

- Boiler Houses.
- Potential for AST's.
- Presumed asbestos containing materials (ACM's).
- Storage of unknown chemicals.

### Off Site

- Electrical Sub-Station.

### 2.3 Site History

The following observations are made based on the available historic map extracts, presented in Appendix B.

<i>Date</i>	<i>Scale</i>	<i>On Site</i>	<i>Surrounding Area</i>	<i>Potential Risks</i>
1873	1:2,500	The site was formerly a farm, namely Grove Farm, which comprised a farmhouse, outbuildings and fields. The northern flank of the site borders the edge of a disused reservoir.	<p>The surrounding environs largely comprise fields.</p> <p>A main road is noted approximately 60m to the east and runs from the southeast to the northeast. These roads are flanked by fields and dwellings. There is also a railway line approximately 400m to the southwest.</p> <p>The most notable feature is the disused reservoir.</p> <p>Beyond the road to the northeast approximately 120m away is La Sainte Union.</p>	<p>Potential off site risks from the infilled reservoir. This may create ground stability as well as contamination issues.</p> <p>Potential off site risks from the railway land.</p>
1873-1882	1:10,560	The site remains unchanged.	<p>The surrounding environs have been developed significantly especially to the north and northwest, where there are significantly more dwellings, for example Croft Lodge.</p> <p>A number of water features can be observed from this map. For example, Highgate Pond (450m) Hampstead Pond (980m) to the west and reservoirs to the east at approximately 800m distance from site.</p> <p>There are two brickfields to the northeast (approximately 1300m).</p>	It is likely that a contamination potential could be created if these brickfields are later infilled.

<i>Date</i>	<i>Scale</i>	<i>On Site</i>	<i>Surrounding Area</i>	<i>Potential Risks</i>
1896	1:2,500	Some vegetation had been cleared from the fields, perhaps if it has been turned over to pasture or crop land.	<p>The surrounding environs appear to have been developed with residential and commercial dwellings, especially to the east.</p> <p>There is a fire station (145m north), a nursery (290m southeast) and a fountain (150m southeast) from the site.</p> <p>The reservoir now forms a square plot to the northeast.</p> <p>The La Sainte Union is now a convent and has further expanded.</p> <p>The road to the east is now noted to have a tramway upon it.</p>	<p>Potential on site risks depending on the activities on the farm.</p> <p>Potential off site risks from the fire station and nurseries.</p>
1896	1:10,560	The site remains unchanged.	<p>There has been significant development of the surrounding environs. The infrastructure appears much more complex, which is a result of an increase in urban dwellings. For example, there are many more railway lines and stations (Highgate Road Station- 250m southeast).</p> <p>A number of other schools and additional amenities have been constructed in the area, including a Small Pox Hospital approximately 1200m from the site to the northeast.</p> <p>The aforementioned reservoir to the east of the site has now been filled in, again with unknown material.</p> <p>There is also an additional brick works which is located 600m from site to the south.</p>	<p>Potential off site risks from the railway land, the infilled reservoir and also the brick works.</p>

<i>Date</i>	<i>Scale</i>	<i>On Site</i>	<i>Surrounding Area</i>	<i>Potential Risks</i>
1915	1:2,500	The site has changed significantly so that there is no longer a farm present however there are several outbuildings still noted on site.	<p>There appears to be little change to the surrounding environs, however, a nursery is noted to the north approximately 330m away.</p> <p>A school building is noted to the immediate south, most likely to be Parliament Hill.</p> <p>A tramway is also noted 150m to the east of the site.</p> <p>The Reservoir to the northeast is now noted to be marshland.</p> <p>A refreshment room is noted to the northwest approximately 150m away.</p>	Potential off site risks identified from the nursery.
1920	1:10,560	The site remains largely unchanged, with the exception of some new pathways.	<p>There appears to be little change to the surrounding environs, however, the map is incomplete so it is unclear whether the surroundings to the south of the site have changed.</p> <p>Reservoirs are noted 750m to the north east of the site.</p>	No new risks identified.
1936	1:2,500	The site remains unchanged with the exception of some soft landscaping and the removal of the outbuildings.	<p>The area to the east of the site is now developed to capacity and to the north there are tennis courts and a bowling green.</p> <p>The reservoir is noted to be overgrown with trees which may indicate natural succession from a marshland.</p>	Potential off site risks from the tramway.

<i>Date</i>	<i>Scale</i>	<i>On Site</i>	<i>Surrounding Area</i>	<i>Potential Risks</i>
1946	1:10,560	The school indicates a similar layout as is found on site today, in the form of a broadly triangular layout.	<p>There has been some redevelopment to the surrounding areas, however, the map is incomplete.</p> <p>The brickworks that was previously noted, 600m away from site to the south, no longer appear to be present.</p> <p>Residential dwelling to the north between 500-1000m are indicating a more formal layout.</p>	Potential risks from unknown fill of the brickworks.
1951	1:2,500	The new school building that was being developed on site has been completed.	<p>There have been some changes in industry in the surrounding areas.</p> <p>There are two allotment gardens at 250m and 300m from the site to the southeast.</p> <p>There is a coal depot and a tram depot on the 1000m periphery to the south-southeast.</p> <p>The tramway is no longer noted to the east along Highgate Road.</p>	Off site risk from the tram and coal depots.

<i>Date</i>	<i>Scale</i>	<i>On Site</i>	<i>Surrounding Area</i>	<i>Potential Risks</i>
1952-1954	1:1,250	<p>The site appears to have undergone some modification of soft landscaping to incorporate playing fields in the school design.</p> <p>The school is marked as William Ellis and is noted to contain courtyards within the central portions of the eastern and western flanks.</p> <p>To the north of the school are two presumed football pitches/playgrounds.</p>	<p>There has been some significant development in the surrounding environs, especially to the south and southeast.</p> <p>An open air swimming pool has been constructed approximately 90m from the site to the south. There is also a wallpaper factory and a vacuum flask factory located 110m southeast and 130m southeast. There are also some garages, with the closest being located to approximately 120m away to the southeast.</p> <p>The reservoir, formerly the copse, has now been removed to the north and further beyond are a set of tennis courts.</p> <p>An electricity sub-station is also noted 130m southeast of the site.</p> <p>To the northeast the former convent has been renamed as La Sainte Union Des Sacres Coeurs.</p> <p>The school to the south is called Parliament Hill and is noted to contain a pavilion and sports ground, with an additional two small square plots (presumed tennis courts).</p>	<p>Possible off site risks from factories, garages, pool and electricity sub-station.</p>
1953-1954	1: 2,500	<p>The site indicates a few new outbuildings one to the northeastern elevation and the other to the western elevation.</p>	<p>The school to the south has further expanded in size with several additional buildings.</p>	<p>No new risks identified.</p>
1957-1958	1:10,560	<p>The site remains unchanged.</p>	<p>There has been some development to the rail infrastructure in the area. More lines have been added especially towards the Kentish Town station in the southeast of the area.</p> <p>The former brickworks site to the south has been developed over by Gospel Oak.</p>	<p>Potential off site risks from the increase in railway land.</p> <p>Potential off site risks from brickworks infill.</p>

<i>Date</i>	<i>Scale</i>	<i>On Site</i>	<i>Surrounding Area</i>	<i>Potential Risks</i>
1962-1979	1:1,250	The site remains unchanged.	There is little change to the surrounding environment.  However, the flask factory that was noted previously has now been converted to a garage (180m south).	Off site risks from the garage.
1968	1: 10,560	The site remains unchanged	The surrounding environs have been developed so that the urban areas appear to be at capacity. Parliament Hill has remained as open space and landscaped with footpaths.  There are a number of depots which are likely to have been associated with the increase in rail infrastructure. There are two depots at 1100m (south southeast) and two more at 550m (south) and 400m (south southeast). The latter is understood to have been used for dismantling railway.	Off site risks from depot.
1970	1:2,500	The site remains unchanged.	There are no apparent changes to the surrounding environs.	No new risks identified.
1974-1976	1:10,000	The site remains unchanged.	Parliament Hill School appears to have been modified so that its layout forms a square shaped plot.  The surrounding environs have changed slightly, in that the arrangement of the depots has altered. There is no longer a small depot at 400m (south-southeast); there is now a larger one at 550m south of the site.  A works was observed at 1200m south of the site  The reservoirs to the northeast have been covered.	Off site risks from the new depot and works and unknown fill in the reservoir.



<i>Date</i>	<i>Scale</i>	<i>On Site</i>	<i>Surrounding Area</i>	<i>Potential Risks</i>
1991	1:1,250	The site indicates a very similar layout as is found on site today.	There is little change to the surroundings except that the wall paper factory and the garage, to the southeast, no longer appear to be present.  La Sainte School has expanded considerably to the north.	No new risks identified.
1991 - 1996	1:2,500	The site remains unchanged.	There are no apparent changes to the surrounding environs.	No new risks identified.
1992 - 1995	1:2,500	The site remains unchanged.	The industrial area to the south east of the site, comprising factories and garages, appears to have been redeveloped into residential properties.  The school to the south has further expanded in size.	No new risks identified.
1999	1: 10,000	The site remains unchanged.	The surrounding environs remain unchanged.	No new risks identified
2007	1: 10,000	The site remains unchanged	There have been no significant changes to the surrounding environs.	No new risks identified.

## 2.4 *Potential Contamination Sources (Historical)*

### On Site

- Infilled Reservoir.
- Potential on site risks depending on previous farming activities.
- Possible AST's associated with fuel oils

### Surroundings

- Railway Land and Depots.
- Works/ factories.
- Brickfields and Reservoirs (depending on fill).
- Garages.

Please note most of the on site sources are unlikely to have a significant effect on the site due to the underlying geology and hydrogeology and owing to the distances from the site.

## 2.5 *Physical setting*

The following observations are taken from published maps.

Geology – The 1:625,000 BGS Solid Geology map indicates the site to be underlain by London Clay.

London Clay – This formation generally consists of brown and orange brown sand, laminated clays and clayey, laminated sands.

The BGS borehole (NGR 2834, 8602) located on the Parliament Hill School Site, in proximity to William Ellis School, indicates the geological succession on site to be as follows, which can be reviewed in Appendix C:

<b>Strata</b>	<b>Depth</b>
Topsoil and fill	0.69m
Soft brown-blue mottled, friable, silty clay	1.60m
Firm brown clay	1.82m

Hydrogeology – The Environment Agency 1:100,000 scale Groundwater Vulnerability Map (Sheet 39, West London) indicates that the site is situated on a non aquifer, due to the presence of the London Clay. There may be lateral flow of water so this should be considered in assessing risk associated with persistent pollutants.

The map also indicates that the Parliament Hill area is situated over a minor aquifer of variable permeability with intermediate soil classes. There is also an area to the northwest of Dartmouth Park which is also situated on the minor aquifer but with the soils classed (H). These areas both exist within the 1000m periphery.

Hydrology – The nearest surface water feature is 196m to the southwest which is noted to be the school swimming pool. There are also natural surface water features which are Hampstead and Highgate Ponds.

Topography – The site is situated at approximately 54mAOD. The site is noted to slope slightly north to south.

## **2.6 Information on Public Record**

The following information has been obtained from public archive via the data supplier Landmark or by direct application. The full Envirocheck report is presented in Appendix D.

Discharge Consent – There was one discharge consent which has since been revoked, 771m to the northeast for the disposal of trade effluent to a freshwater stream/river.

Local Authority Pollution and Prevention Controls – There are thirteen authorised controls in the area local to the site. The closest of these are a dry cleaner situated 368m to the southeast and a petrol filling station located 393m to the southeast of the site. There are also permits for the respraying of road vehicles.

Pollution Incidents to Controlled Waters – There was one event that was recorded as a category 3 or minor incident at approximately 929m to the northeast of the site. The event involved oils as the pollutant.

Substantiated Pollution Incident Register – There was one major incident at 699m from the site to the northwest. The incident involved general biodegradable materials and waste algae. The event was recorded to have no impact to land or air but was considered a significant incident to the water environment.

Abstractions – There is one registered establishment permitted to abstract groundwater. The Kentish Town Sports Centre, at 1408m (south) distance from the site, has three abstraction licences to abstract water for laundry use, drinking, cooking, and washing uses and as process water.

Source Protection Zones (SPZ) – Due the site being positioned over a non aquifer, it is not within a source protection zone.

Licensed Waste Management Facilities – There is a recycling centre 963m to the southeast of the site, which accepts a variety of wastes, acid and lead batteries and fluorescent lamps. There is also a recycling centre located 982m to the southeast which accepts household waste.

Geological Hazards – The BGS records indicate that there is a very low potential on site for landslide ground stability hazards. There is a moderate ground stability risk from shrinking or swelling of clay as a result of the underlying geology.

The presence of underlying tunnels has not been determined and, as such, must be considered a potential hazard.

Radon Affected Areas – This site is not in a radon affected area, therefore, no radon protective measures are necessary in the construction of new dwellings or extensions.

Contemporary Trade Directory Entries – There are several trade directory entries recorded in the area, which have the potential for contaminating. There are several dry cleaners in the area with the closest being 368m southeast of the site. There are several motor repair garages local to the site; the closest is 392m from the site to the southeast.

There are several manufacturers in the area, which produce goods including food, clothing and cosmetics. The latter has two factories at 288m (SE) and 959m (S). There are also two printers in the area which are located 575m (SE) and 865m (E) of the site.

Fuel Station Entries – There are two petrol stations which have closed down in the area, however, there is one active petrol station located 392m southeast of the site.

Sensitive Land Use – The site does not fall into any sensitive land use areas. There is a site of special scientific interest (SSSI) to the northwest of the area and also a local nature reserve (LNR) to the northeast. However, these protected areas are at considerable distance from the site and will not affect, or be affected by, any development plans.

Floodplains – The site is not located on a floodplain based upon information received from the attached Envirocheck report.

### 3.0 CONCEPTUAL MODEL & RISK ASSESSMENT

The site conceptual model has been formulated in accordance with BS10175:2001 to provide information regarding the possible sources of contamination on site, the pathway in which the contamination can migrate and a vulnerable receptor to the contamination, all of which need to be present for there to be a risk. This is in relation to the proposed redevelopment of the school site. The following source – pathway – receptor relationships have been identified:

<i>Source</i>	<i>Pathway</i>	<i>Receptor</i>	<i>Potential Risk</i>
Unknown contaminants possibly coal, glass or asbestos infilled in the reservoir and brickfields.	Ingestion or dermal contact via groundwater contamination.	End users.	Negligible owing to the nature of the underlying geology
	Ingestion, inhalation or dermal contact via soil contamination.	Site workers.	Low risk as the infilled reservoir only borders the site and may not be disturbed.
Landfill gases (carbon dioxide, methane, oxygen and hydrogen sulphide) potential from infill of former brick works and reservoirs.	Migration of gases through the soils and groundwater.	End user/properties and site workers.	Negligible to low risk owing to the underlying strata and distances from these types of sources.
Heavy metals, Poly Aromatic Hydrocarbons, and Poly Chlorinated Biphenols from the railway land and associated depots and dry cleaning industry.	Inhalation, ingestion and dermal contact.	End users.	Negligible risk to site owing to the distance of it from the depot (nearest 400m) and railway land.
Poly aromatic hydrocarbons (PAH) from solvent use in dry cleaning processes.	Ingestion or dermal contact via groundwater and soil contamination.	End users.	Negligible owing to the nature of the underlying geology.
PAHs and acetone use at cosmetic manufacturers.	Inhalation, ingestion & dermal contact.	End users.	Although the manufacturer is in close proximity to the school the risk is negligible as factory contaminants are likely to be contained and disposed off-site.

<i>Source</i>	<i>Pathway</i>	<i>Receptor</i>	<i>Potential Risk</i>
Unknown contaminants contained within the chemicals store that was identified on the walkover survey. Potential from imported soil in mounded areas, unless certified. Of course this would also be dependant on whether it was imported.	Pathways dependant on what is contained.	End users. Site workers.	Moderate to low risk depending on what and how the chemicals are stored.
Poly chlorinated biphenols (PCB's) associated with the electrical sub-station off site.	Dissolution to groundwater.	End users.	Negligible owing to the nature of the underlying geology.
	Impacted soils beneath the sub station.	Endusers/site workers	Negligible depending upon the age of the off site electrical sub station and due to the underlying geology.
Asbestos potential from building materials, particularly within older buildings. Also presumed ACH roof to one of the outbuildings.	Inhalation.	End users.	Low potential risk, this should be further determined by undertaking an Asbestos Survey.
	Inhalation.	Site workers.	Low potential risk, this should be further determined by undertaking an Asbestos Survey.
Inorganic contaminants including sulphates within made ground and potentially the embankments/ mounds.	Leaching of contaminants through the soil.	Buildings and foundations.	Low risk.

<i>Source</i>	<i>Pathway</i>	<i>Receptor</i>	<i>Potential Risk</i>
Heavy metals and TPH, PAH from potential location (historically) from on site AST's and vehicular spillages in car park areas.	Surface soil particulate inhalation, ingestion and/ or dermal contact.	Site workers.	Low to moderate risk, slightly greater risk during construction works.
	Migration of dissolved phase compounds to the groundwater.	End users/services.	Low risk owing to the local geology and non aquifer status. Greater risk in areas where soils have been impacted i.e. beneath buildings or where proposed landscaped areas are located.
	Leaching of contaminants through the soil.	Non aquifer.	Negligible owing to the site's geological and hydrogeological setting. Likely to be minimal risk since potable water supplies are some distance from the site and most likely at some depth beneath the clay.
	Impacted soils.	Non Aquifer.	Negligible to low owing to the underlying geology and hydrogeology.
	Volatilisation from impacted soils and groundwater.	Properties, end user, site workers.	Low owing to the underlying geology but dependant on whether the soils have been affected. Also dependant upon the hydrocarbon fraction identified if impacted.
<b>Negligible Risk</b>	Surface soil particulate inhalation, ingestion and/ or dermal contact.		
<b>Low Risk</b>	Defined as the site should be considered suitable for the present or future use and environmental setting. Contaminants may be present but unlikely to have unacceptable impact on key targets.		
<b>Moderate Risk</b>	Defined as the site may not be suitable for the present or future use and environmental setting. Contaminants are probably present and might have unacceptable impact on key targets.		
<b>High Risk</b>	Defined as the site is probably or certainly not suitable for the present or future use and environmental setting. Contaminants are probably or certainly present and likely to have unacceptable impact on key targets.		

### ***3.1 Potential Source – Pathway – Receptor Linkages***

A source – pathway – receptor risk assessment, in accordance with Part IIA of the Environmental Protection Act 1990, has revealed the following potential pollution links at the site:

- Potential exposure from contaminants in the infilled reservoir or brickfields depending on their content.
- Potential exposure to hydrocarbons of various forms from dry cleaning industry and heavy metals and TPH from petrol filling stations potential AST's and vehicular spillages.
- Potential exposure to PCBs from the electrical sub station off site, dependant on its age. Negligible risk owing to it being off site and the underlying geology.
- Potential of exposure to contaminants that could be stored in the chemical room observed on the walkover survey.
- Although there are a number of potentially contaminating industries (past and present) in the area surrounding the site, it is unlikely that these will affect the end users at the site.
- The proximity of the site from these potentially contaminating sources means that possible pathways are negligible as they are unlikely to affect receptors on the site in question. Therefore, there is no significant S-P-R linkage.
- The distance of potential sources of air borne contaminants from the site means that inhalation pathways to the site users is negligible.
- Exposure to hydrocarbon vapours from soils to workers, occupants and off-site receptors via inhalation of indoor and/or outdoor air, thought to be possible if the soils have been impacted. A greater risk to the build up of hydrocarbon vapours in the buildings would be expected, dependant upon the hydrocarbon fractions identified. If soils are impacted outside the area of the proposed build natural dilution will occur in outside air.



- Exposure to asbestos containing materials (ACM's) from the sites historical construction. Further information should be sought regarding the presence of ACM's. Due to the change in land use there may be a significant thickness of made ground across the site therefore asbestos, heavy metals and hydrocarbons may be present.

Generally, the site is considered to present a **NEGLIGIBLE** risk to groundwater and a **LOW** risk to human health from the site's past and current use. The level of risk presented by sources examined in the conceptual model will vary according to the nature of works that are intended for the school site. In areas proposed for hard standing, the source-pathway-receptor linkage will be broken and so contamination risks are negligible. However, if site works should break the surface and create a linkage, then levels of contamination risk may be heightened. In areas of soft landscaping, it may be precautionary for a general screening of contaminants to be carried out to ensure that there is no contamination legacy from the site, its surrounding areas and past land uses.

## 4.0 CONCLUSIONS

Records show from the earliest map in 1873 the site comprised farm buildings and land. The surrounding land largely comprised other smaller dwellings and undeveloped, open land. There were small industries also situated in the surrounding environs, including brickfields. Over time the surrounding environs became more developed and the industry profile began to appear more complex, especially as the rail infrastructure began to expand. The site itself became more developed with a number of other dwellings appearing on site. In 1915, the first school was developed on site and in 1946 more school buildings were built on site. The surrounding area has been developed to capacity, however, it is clear that there have been alterations to the commercial and residential developments. William Ellis School was first marked on the map in 1954.

The existing layout contains a triangular building with three quads, two football pitches and the caretaker's house. Within the main building is a gas boiler house.

The site is noted to be underlain by the London Clay and as a result the site is situated on a non aquifer with un-classified soils out of any SPZs.

There are three abstraction licences in the area, however, these are for one establishment - Kentish Town Sports Centre located 1408m south of the site. The licence permits the sports centre to abstract ground water for commercial and public use.

There is a registered waste recycling centre 963m to the southeast of the site and another located 982m to the southeast which accepts household waste.

The site is not located within a sensitive land use area, however, there is an SSSI to the northwest and also a LNR to the northeast of the area. These areas should not affect any development plans at the school site.

Due to the proposed end use of the site and the fact it will predominantly be covered in hardstanding the potential dermal, inhalation and ingestion pathways to the end user will be broken. If the infilled reservoir site is disturbed during redevelopment, then a greater risk to site workers may be present. Areas proposed for playing fields or soft landscaping may be at greater risk to the end user, which is why analysis is necessary to ensure that the soil is fit for this purpose.

## **5.0 RECOMMENDATIONS**

From the information contained within this report the following recommendations have been formulated:

### **5.1 *Statutory Consultees***

We would recommend that this report be forwarded to the relevant environmental consultees including the Environment Agency (EA) and local council's environmental health and planning department prior to any future site works commencing in order to seek their comments and subsequent approval. If you are requiring NHBC approval the reports will also need to be sent to them for consideration.

The statutory consultees should review this information prior to commencement of the site investigation works.

We would recommend that liaisons are held with the local Environment Agency office to determine the potential threats to the aquifer beneath. We believe the risk to be negligible, however local EA offices have further information about the underlying groundwater. This would enable determination to whether any bores should be installed for gas and/or groundwater analysis.

### **5.2 *Testing Regime***

As a precautionary principle we would recommend that a screen of testing be completed due to the significant changes in landuse on the site and the potential for on site AST's for heating the school before it was switched to mains gas. The testing should include heavy metals, Total Petroleum Hydrocarbons (TPH), Poly Aromatic Hydrocarbons (PAH), pH, sulphates. It is unlikely that PCB analysis will be required as no sub stations have been identified on the site.

Any future site investigation proposals should be put in writing to the relevant statutory consultees to enable approval to be sought, before the works commence.

### **5.3 *Site Works***

During construction works visual and olfactory appraisal of the underlying soils should be made. If during construction works any material is noted to show visual and/or olfactory sign of contamination a suitable geo-environmental consultant should be contacted to supervise/ guide further works. This material should be stockpiled separately and tested prior to its appropriate removal of site or re-use as necessary.

If any landscaping materials are to be imported on site they should be tested to check that they are suitable for the intended use. Clean, uncontaminated rock, subsoil, brick rubble, crushed concrete, ceramics and topsoil only shall be permitted as infill material.

All construction workers should be made aware of the risks during a site induction. All site workers would be expected to be protected as part of the standard protocol, by use of the appropriate PPE e.g. gloves, overalls and wash facilities.

#### **5.4 Services**

Soakaways are for the disposal of clean uncontaminated surface water only and must not be constructed in contaminated land.

If the soils have been impacted by hydrocarbons existing and/or new water supply pipework may need to be made of suitable materials.

#### **5.5 Further Research**

Further research in to the following pertinent items would be recommended before any future site investigative works are completed:

Due to a significant number of ordnance landings in the London area during the Second World War, it may be in the client's interest to carry out a supplementary desk top, in order to identify any unexploded ordnance that may be present on site.

It may be in the client's interest to undertake an Archaeological desk study in order to identify any additional risks or sensitive areas that may affect the site. It would be worth checking if this is a pre-requisite of any planning conditions for the site.

Due to the historical nature of London and the location of several underground tunnels and London Underground tunnels we would recommend that a search is undertaken to determine the location of any below ground networks including tunnels and basements etc.

In addition we would recommend that a full utility search is completed for the site prior to any site investigation due to the number of boiler houses, schools and sub station.

Since the site was historically covered in houses it might be expected that during any site investigations old footings, basements etc might be found.

We would recommend that further information is obtained with regard to the location of any former AST's associated with the former school buildings. In addition information regarding the age of the electrical sub station would also be beneficial, as this might be able to be eliminated as a potential source or contamination depending upon its age.

#### **5.6 Asbestos Survey**

We would recommend, based on the findings of the walkover survey and the age of the existing buildings on site, that a Type 2 or a Type 3 Survey is completed for the site/schools.

It is a pre-requisite to complete a Type 3 Asbestos Survey prior to major refurbishment or demolition.

## 6.0 LIMITATIONS

Should the currently proposed layout of the development change, or additional areas of soft landscaping be subsequently included, then the risks will need to be re-assessed and additional investigations, remedial works and/or building design modifications may be required.

Advice and recommendations given in this report are provided for information purposes; they are not conclusive and do not constitute a specification for further investigation / remediation or other works.

The advice given in this report with respect to contaminated land, groundwater and gas is based on current guidelines available at the time of writing.

The Client is advised that the conditions observed on site by Constructive Evaluation Limited at the time of the investigation are subject to change. Certain indicators the presence of hazardous substances may have been latent at the time of the most recent site reconnaissance or investigation and they may subsequently have become noticeable.

Comments made relating to soil gas or groundwater conditions are based on observations made at the time of an investigation unless otherwise stated. Soil gas or groundwater conditions may vary as a result of seasonal fluctuations or other effects.

Ground contamination often exists as small discrete areas of contamination and there can be no certainty that any or all such areas have been located, sampled and/or identified. This is particularly significant for an investigation by window sampler as a relatively small sample of soil is extracted, which may not be entirely representative of the surrounding ground conditions.

This assessment is preliminary in its nature and may be subject to amendment in light of additional information becoming available or statutory consultee review, including the Environment Agency, Local Council and NHBC etc.

The findings and opinions conveyed in this report are based on information obtained from a variety of sources, including that from previous Site Investigations and chemical testing laboratories, and which Constructive Evaluation Limited has assumed that such information is correct. Nevertheless, Constructive Evaluation Limited cannot and does not guarantee the authenticity or reliability of the information it has relied upon. Constructive Evaluation Limited can accept no responsibility for inaccuracies within the data supplied by other parties.

This report is written in the context of an agreed scope of work between Constructive Evaluation Limited and the Client and should not be used in a different context. In light of additional information becoming available, improved practices and changes in legislation amendment or re-interpretation of the assessment or report in whole or part may be necessary after its original submission.

This report is provided for sole use by the Client and is confidential to them. No responsibility whatsoever for the contents of the report will be accepted to anyone other than the Client.

Constructive Evaluation Limited believes that providing information about limitations is essential to help the Client identify and thereby manage risks.

The copyright of written materials supplied shall remain the property of Constructive Evaluation Limited but with a royalty-free perpetual licence, granted to the Client on payment in full of any outstanding monies.

Constructive Evaluation Limited does not provide legal advice and the advice of the Client's legal advisors may also be required.

An ecological, topographical or asbestos survey was outside the scope of this report.

## **APPENDICES**

Their contents are listed below:

Appendix A – Site Plan & Photographs

Appendix B – Historical Maps

Appendix C – BGS Borehole Records

Appendix D – Envirocheck (Dataset)



# APPENDIX A

## Site Plan & Photographs



PHOTO 44: PRESUMED ACM'S



PHOTO 15: BOILER HOUSE



PHOTO 68: VIEW OF SOUTHERN ELEVATION



PHOTO 69: CARETAKERS LODGE



AERIAL VIEW



- NOTES**
1. Do not scale from this drawing except for planning purposes. Use figured dimensions only.
  2. All dimensions must be checked on site prior to commencement of work.
  3. Where applicable this drawing is to be read in conjunction with other consultants drawings.
  4. This drawing is the copyright of Constructive Evaluation Ltd.

- = PHOTO ID
- = SITE BOUNDARY
- ACM = ASBESTOS CONTAINING MATERIAL
- RE = RELIGIOUS EDUCATION
- DT = DESIGN TECHNOLOGY
- = ELECTRICAL SUB STATION
- = BOILER HOUSE
- = QUAD BOUNDARY
- = ACCESS

rev	date	amendment	check

**constructiveevaluation**  
 Building & Material Test Consultants  
 TEL-01243-533499 FAX-01243-531070  
 email-info@theconstructivegroup.com

Client: ROBERT WEST CONSULTING

Project: WILLIAM ELLIS SCHOOL

Drawing: PHOTO ID PLAN scale: NTS

date APR 08	drawn D.Y	checked
drawing number 08.5293	revision	





69. Cartakers lodge



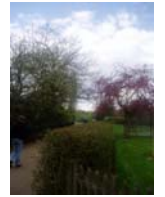
1. William Ellis School



2. View of school from eastern boundary



3. Public park



4. View of Park



6. View to south along Highgate Road



7. View to the north along Highgate Road



8. The Lodge to the east



9. View from entrance



10. Key dates



11. Boiler House



12. Void within boiler house



13. Void within boiler house



14. Boiler house



15. Boiler House



16. View of quad



17. View of quad



18. View of quad



19. View of quad



20. View of quad



21. View of quad



22. View of quad



23. View of quad



24. View quad



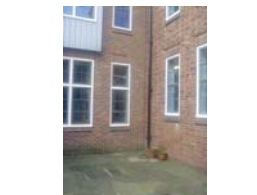
25. View of quad



26. View of quad



27. View of quad



28. View of quad



29. View of entrance way into one of the quads



30. View of stores



31. Bike sheds



32. View of sports hall



33. View of eastern flank



34. View of refuse store



35. View of eastern flank



36. View of entrance to football pitch



37. View of football pitch



38. View of football pitch



39. View of football pitch



40. View of playing fields to the west



41. football pitch to the north



42. Bie shed to western perimeter



43. view of shed to western perimeter



44. Presumed ACM's



45. View of sports hall and school



46. Sports hall



47. View towards bike sheds



48. View to the south



49. View of sports hall



50. View of entrance road to eastern elevation



51. View to the north (raised area)



52. View of pitch



52. View of pitch and sports hall



53. View of chemical store



54. View of sports hall



55. View of school building to eastern elevation



56. View of park to east



57. Stairs to boiler house



58. Southern elevation



59. Main entrance



60. Main entrance



62. View to western perimeter



63. View of park to western elevation



64. View to south elevation



65. Entrance to eastern elevation



66. Hazardous chem sign



67. Caretakers lodge



68. View southern elevation



# APPENDIX B

## Historical Maps

# Historical Mapping Legends

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

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

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

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

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

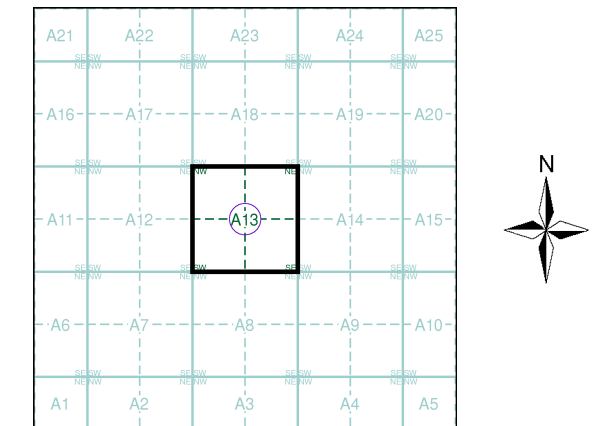
**Cliff**   **Slopes**   **Top**  
**Rock**   **Rock (scattered)**  
**Boulders**   **Boulders (scattered)**  
**Positioned Boulder**   **Scree**  
**Non-Coniferous Tree (surveyed)**   **Coniferous Tree (surveyed)**  
**Non-Coniferous Trees (not surveyed)**   **Coniferous Trees (not surveyed)**  
**Orchard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



## Ordnance Survey mapping included:

Mapping Type	Scale	Date	Pg
London	1:2,500	1873	2
London	1:2,500	1896	3
London	1:2,500	1915	4
London	1:2,500	1936	5
Ordnance Survey Plan	1:1,250	1952 - 1954	6
Additional SIMs	1:1,250	1952 - 1988	7
Ordnance Survey Plan	1:2,500	1953 - 1954	8
Ordnance Survey Plan	1:1,250	1962 - 1979	9
Ordnance Survey Plan	1:2,500	1970	10
Ordnance Survey Plan	1:1,250	1973 - 1980	11
Supply of Unpublished Survey Information	1:1,250	1974	12
Large-Scale National Grid Data	1:1,250	1991	13
Large-Scale National Grid Data	1:1,250	1992 - 1995	14

## Historical Map - Segment A13



## Order Details

Order Number: 24397698\_1\_1  
 Customer Ref: 08.5292  
 National Grid Reference: 528300, 186020  
 Slice: A  
 Site Area (Ha): 0.01  
 Search Buffer (m): 100

## Site Details

Parliament Hill School, Highgate Road, LONDON, NW5 1RL



Tel: 0870 850 6670  
 Fax: 0870 850 6671  
 Web: www.envirocheck.co.uk

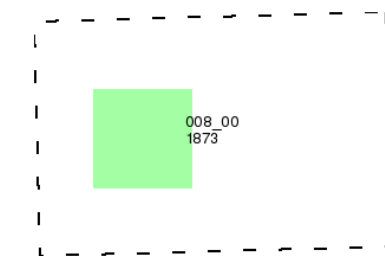
**London**

**Published 1873**

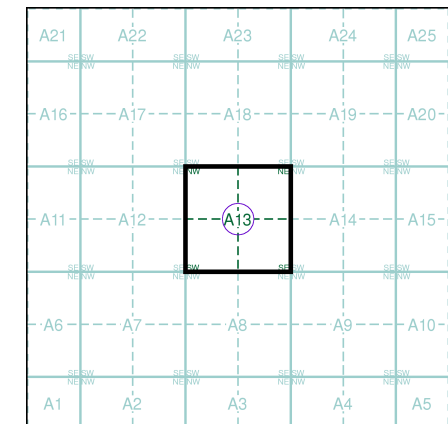
**Source map scale - 1:2,500**

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

**Map Name(s) and Date(s)**



**Historical Map - Segment A13**

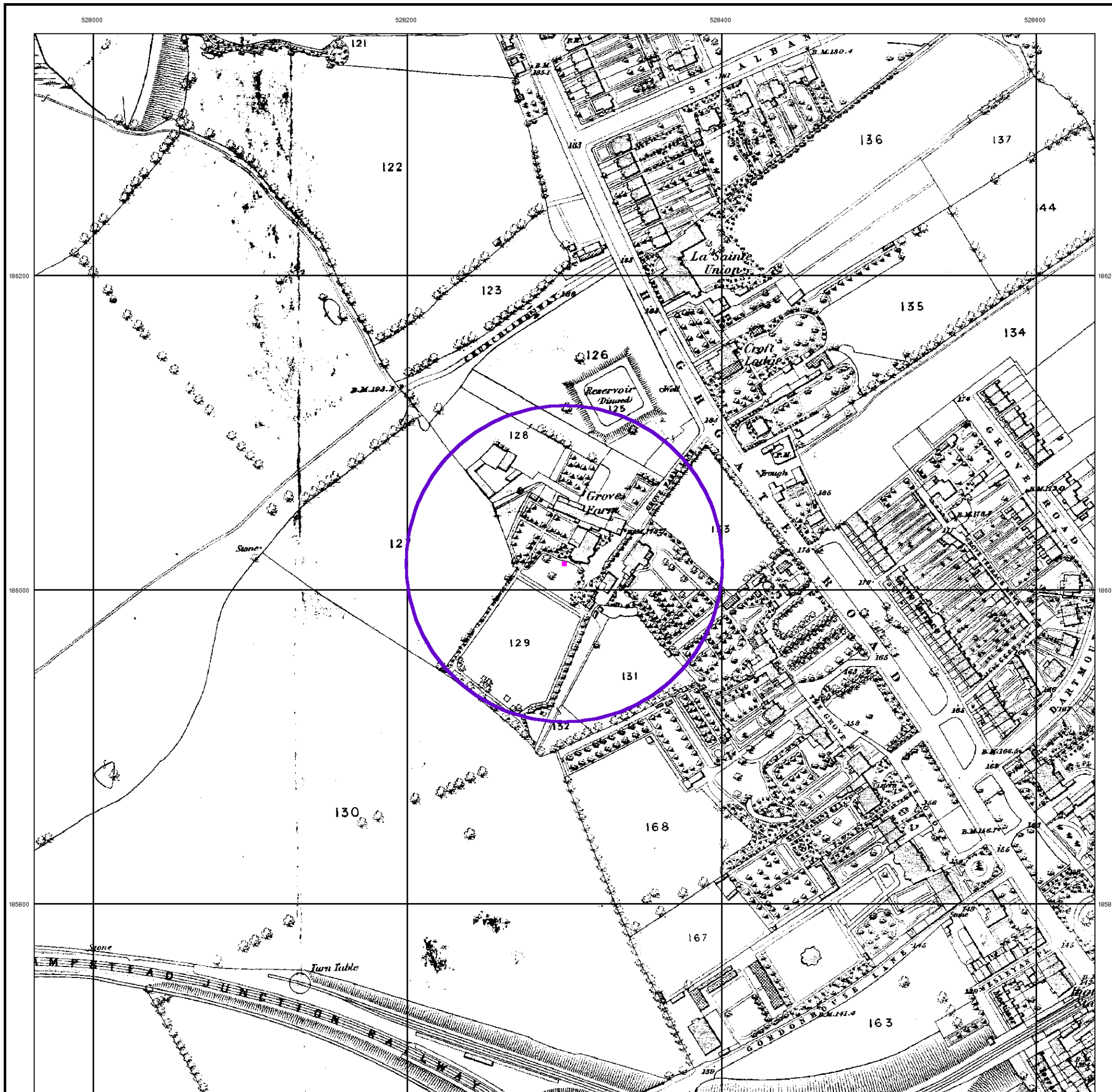


**Order Details**

Order Number: 24397698\_1\_1  
 Customer Ref: 08.5292  
 National Grid Reference: 528300, 186020  
 Slice: A  
 Site Area (Ha): 0.01  
 Search Buffer (m): 100

**Site Details**

Parliament Hill School, Highgate Road, LONDON, NW5 1RL





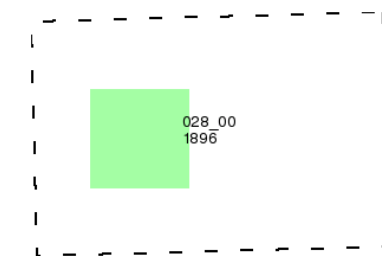
**London**

**Published 1896**

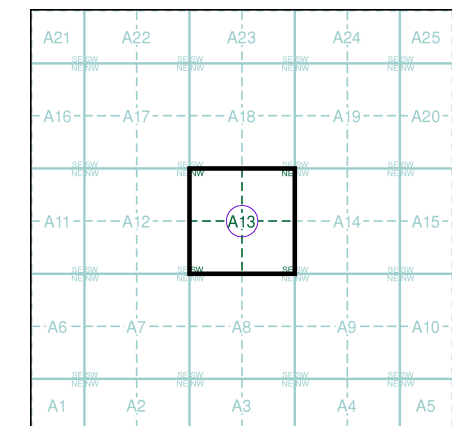
**Source map scale - 1:2,500**

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

**Map Name(s) and Date(s)**



**Historical Map - Segment A13**

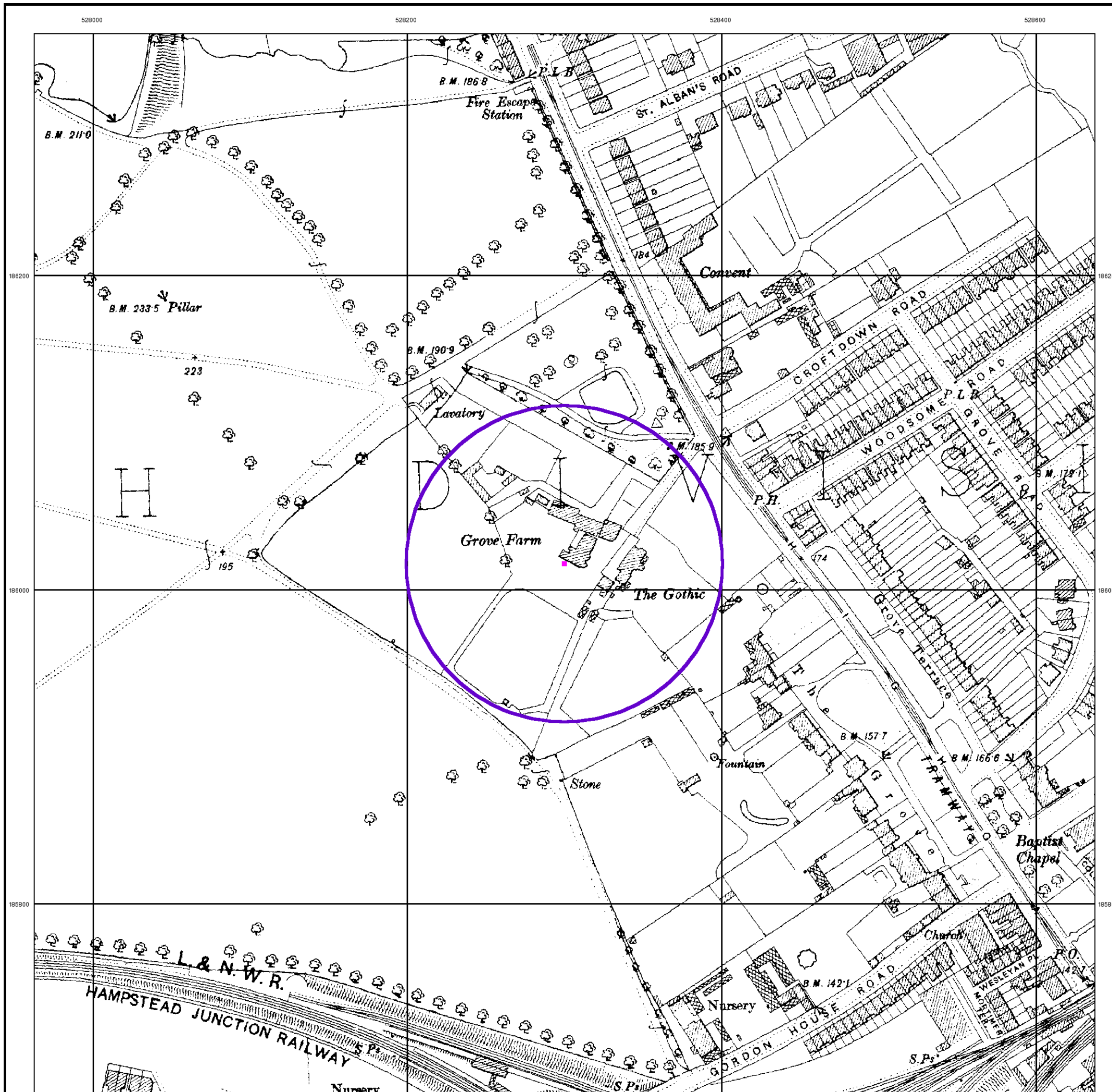


**Order Details**

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**Site Details**

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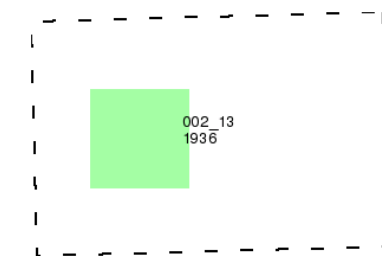
**London**

**Published 1936**

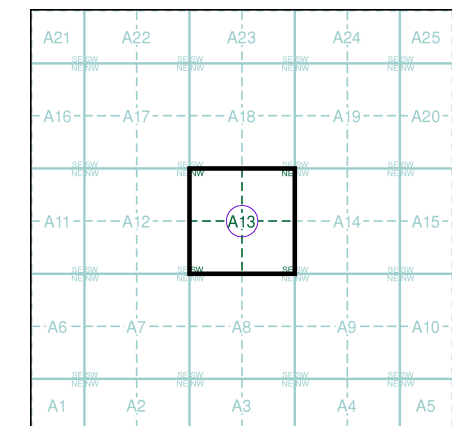
**Source map scale - 1:2,500**

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

**Map Name(s) and Date(s)**



**Historical Map - Segment A13**

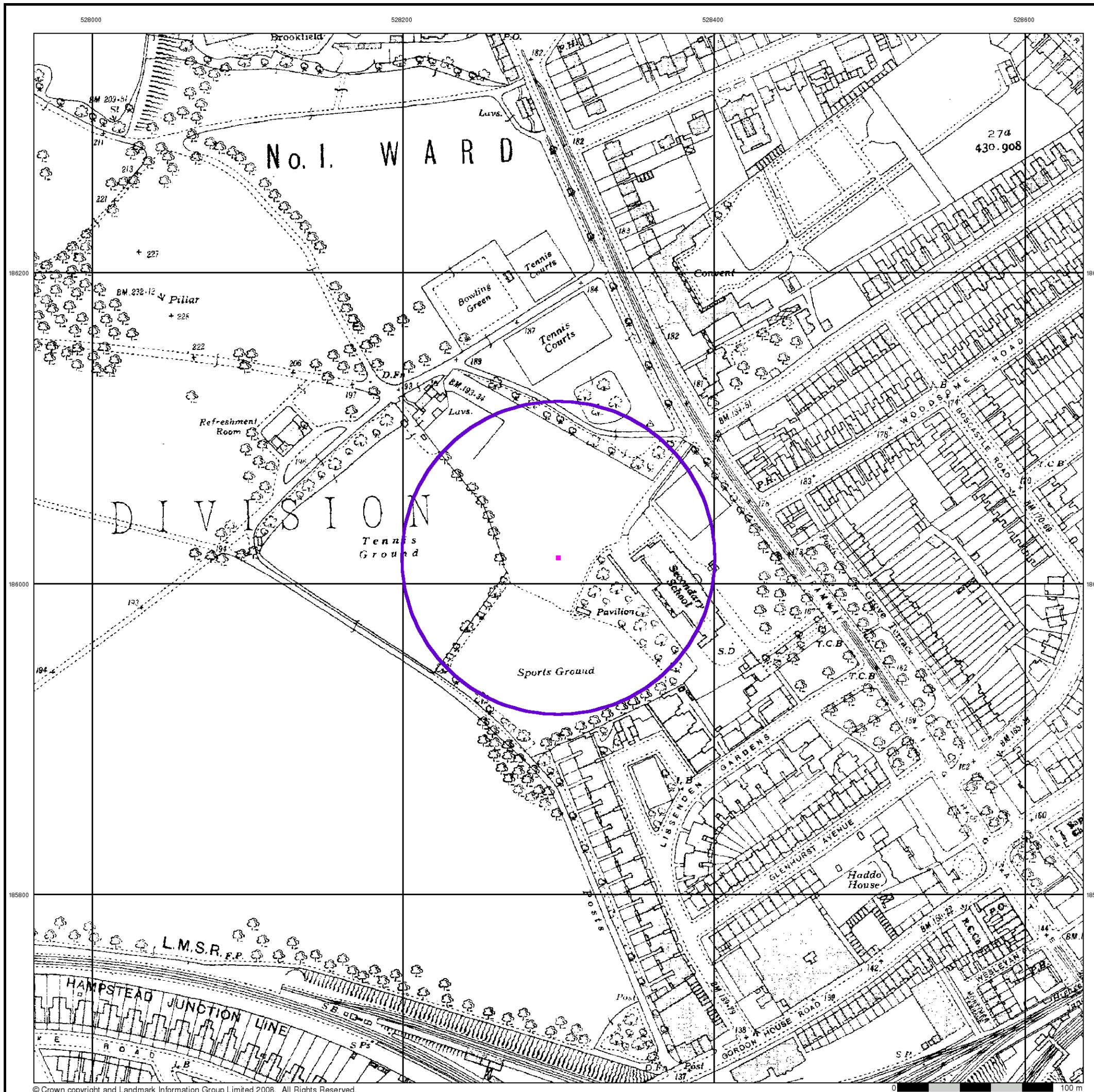


**Order Details**

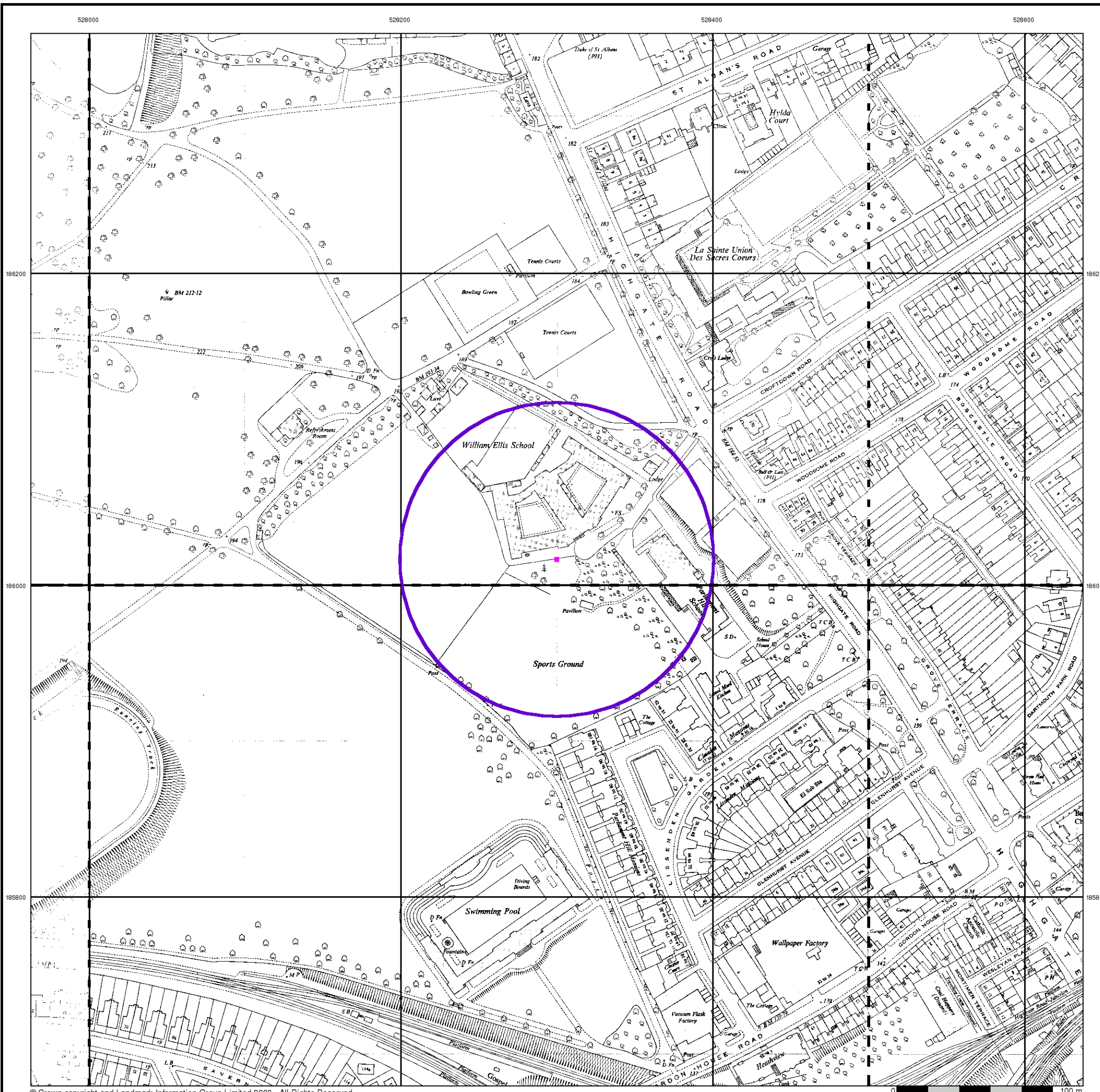
Order Number: 24397698\_1\_1  
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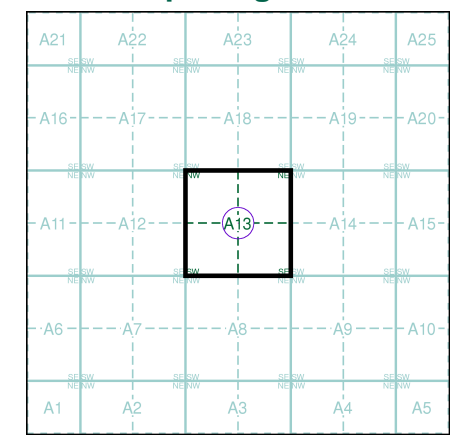
**Ordnance Survey Plan**  
**Published 1952 - 1954**  
**Source map scale - 1:1,250**

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

**Map Name(s) and Date(s)**

TQ2786SE 1952	TQ2886SW 1952	TQ2886SE 1952
TQ2785NE 1954	TQ2885NW 1953	TQ2885NE 1954

**Historical Map - Segment A13**



**Order Details**  
 Order Number: 24397698\_1\_1  
 Customer Ref: 08.5292  
 National Grid Reference: 528300, 186020  
 Slice: A  
 Site Area (Ha): 0.01  
 Search Buffer (m): 100

**Site Details**  
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### Additional SIMs

Published 1952 - 1988

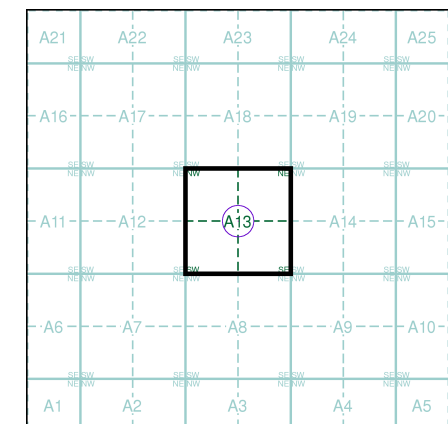
Source map scale - 1:1,250

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

### Map Name(s) and Date(s)

TQ2786SE 1952	TQ2886SW 1963
TQ2785NE 1988	TQ2885NE 1981

### Historical Map - Segment A13

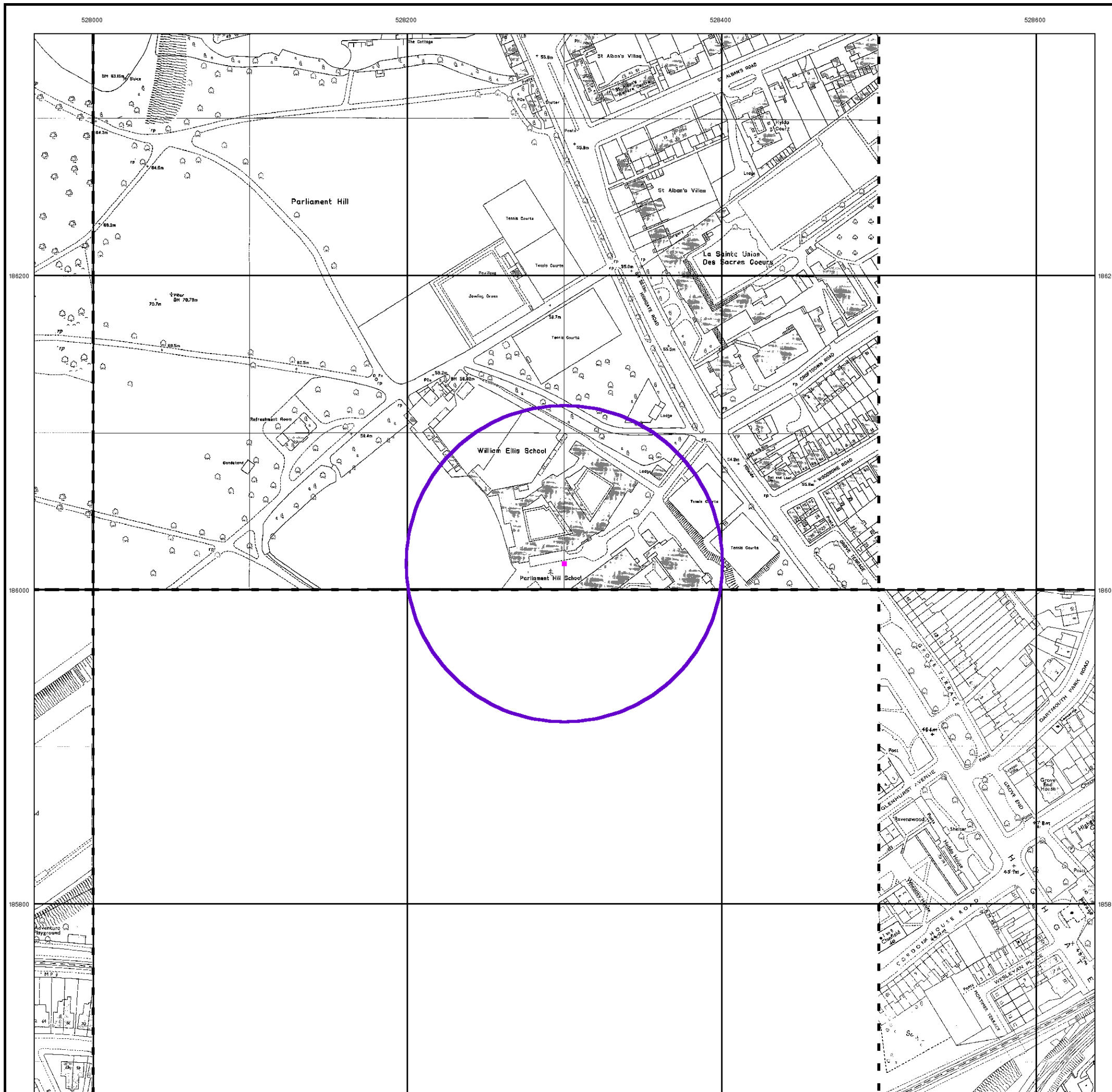


### Order Details

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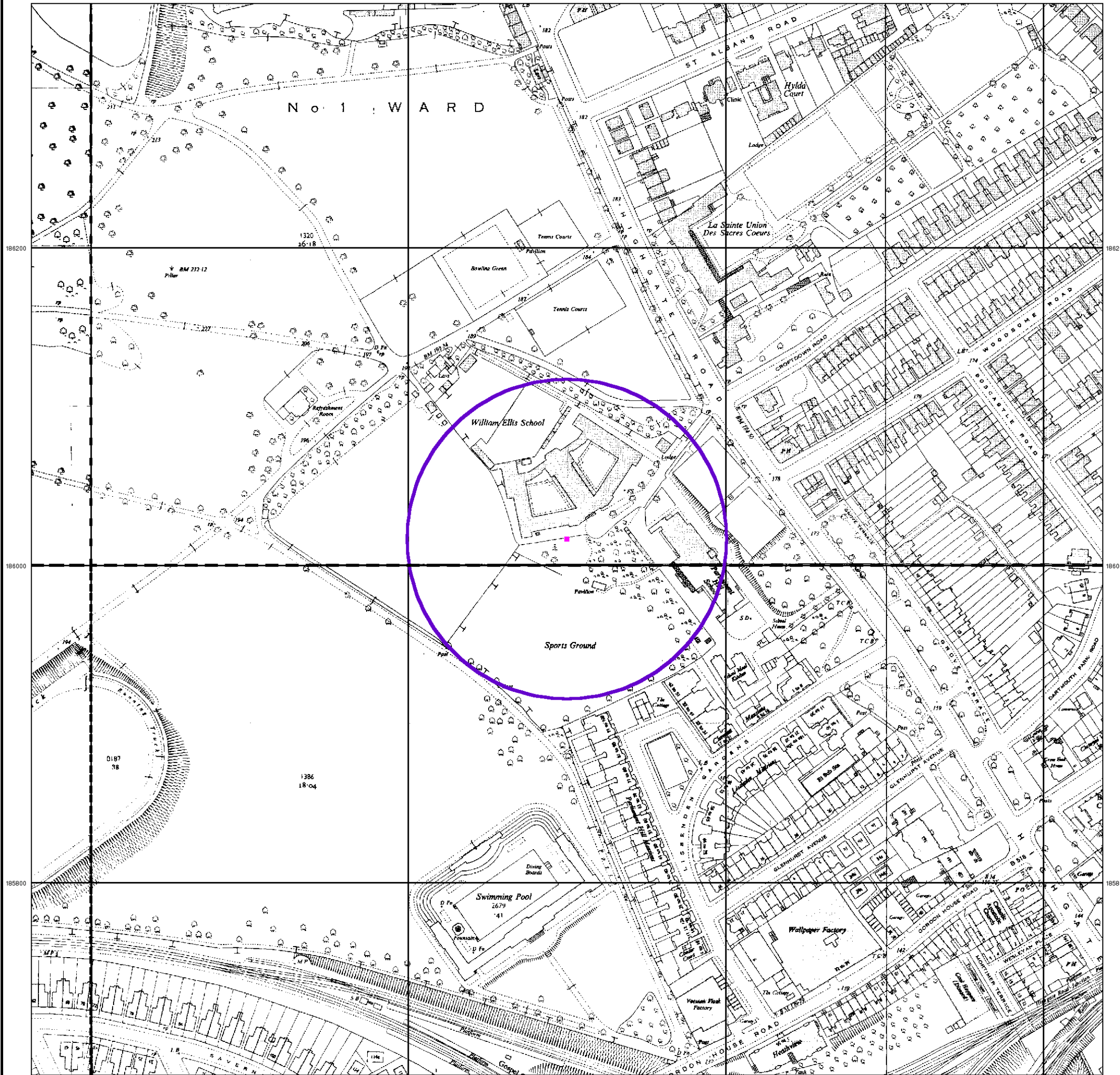


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### Ordnance Survey Plan

Published 1953 - 1954

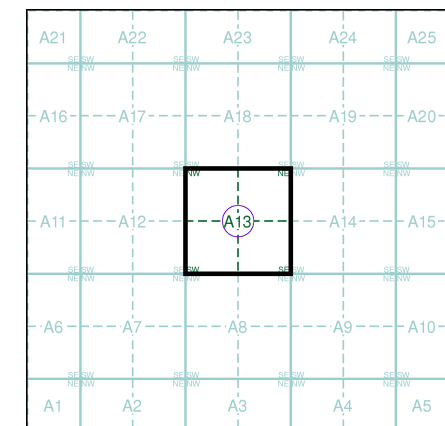
Source map scale - 1:2,500

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

### Map Name(s) and Date(s)

TQ2786 1953	TQ2886 1953
TQ2785 1954	TQ2885 1954

### Historical Map - Segment A13



### Order Details

Order Number: 24397698\_1\_1  
 Customer Ref: 08.5292  
 National Grid Reference: 528300, 186020  
 Slice: A  
 Site Area (Ha): 0.01  
 Search Buffer (m): 100

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 Web: www.envirocheck.co.uk



## Ordnance Survey Plan

Published 1962 - 1979

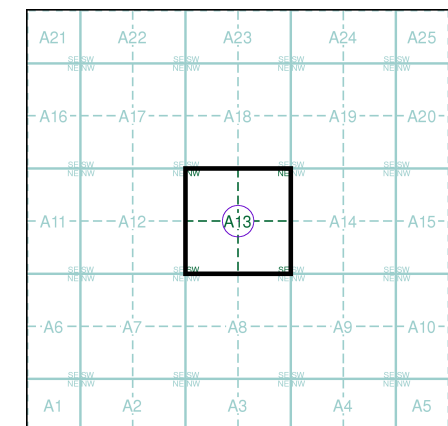
Source map scale - 1:1,250

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

### Map Name(s) and Date(s)

TQ2786SE 1979	TQ2886SW 1963	TQ2886SE 1962
TQ2785NE 1974	TQ2885NW 1966	TQ2885NE 1966

### Historical Map - Segment A13

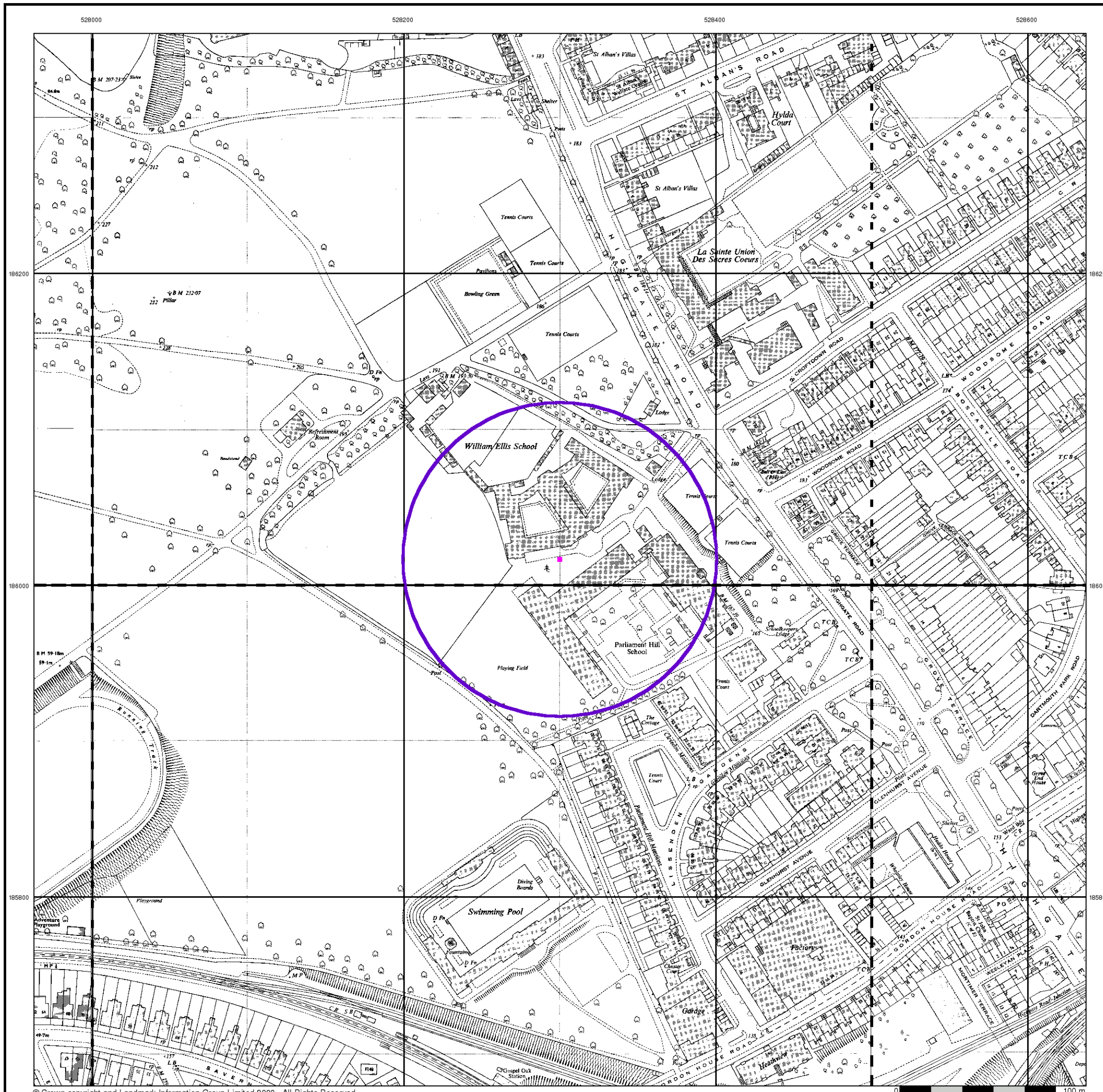


### Order Details

Order Number: 24397698\_1\_1  
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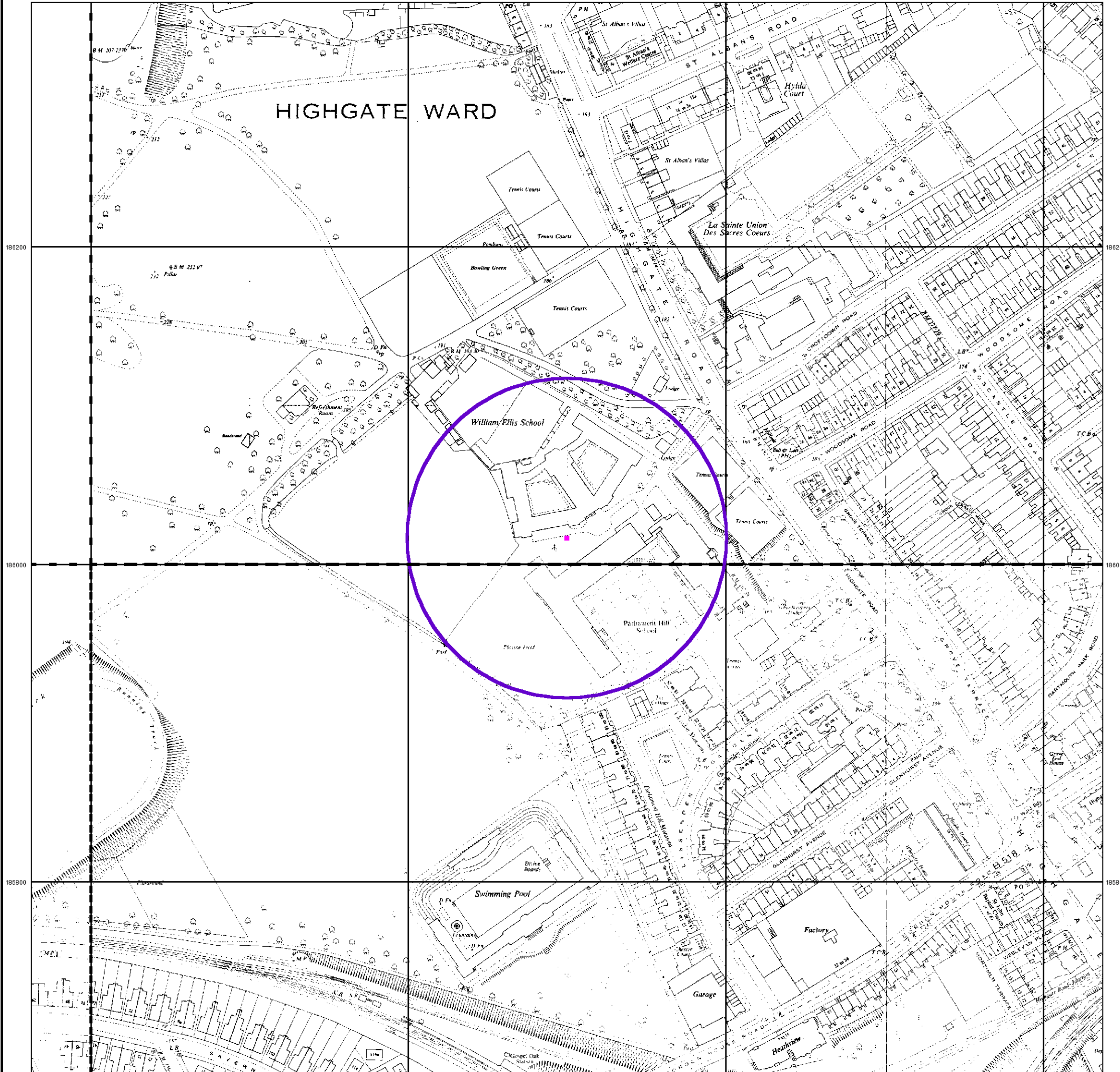


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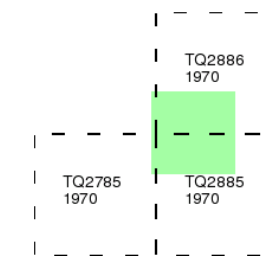
### Ordnance Survey Plan

Published 1970

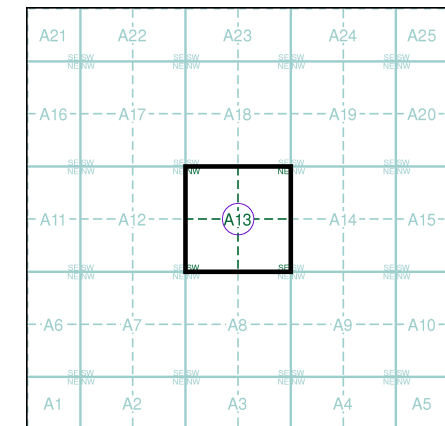
Source map scale - 1:2,500

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

### Map Name(s) and Date(s)



### Historical Map - Segment A13



### Order Details

Order Number: 24397698\_1\_1  
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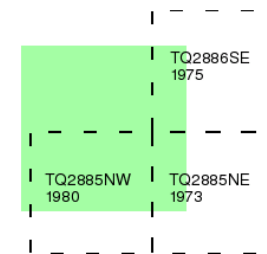
### Ordnance Survey Plan

Published 1973 - 1980

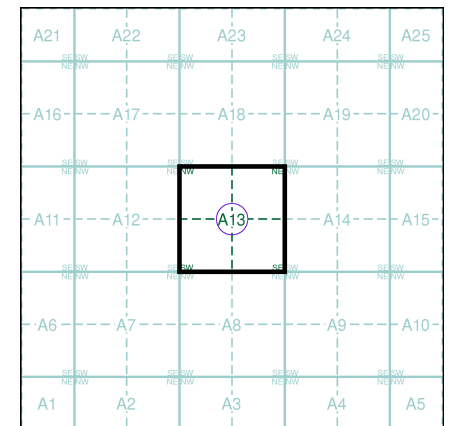
Source map scale - 1:1,250

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

### Map Name(s) and Date(s)



### Historical Map - Segment A13



### Order Details

Order Number: 24397698\_1\_1  
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