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UNITS 2 & 8, ACRE ROAD, READING PHASE I ENVIRONMENTAL SITE ASSESSMENT

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Approved by **Andy Mcvey**
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1. ADDRESS AND SITE DETAILS			
Address	Units 2 & 8, Acre Road, Reading, RG2 OSU		
NGR	471399, 170095	Area	2.75 hectares (ha)
Site use	The site comprises two neighbouring units, both of which are distribution warehouses with ancillary office space and associated car parking. Unit 2 is occupied by Waitrose for the storage and distribution of food and Unit 8 is occupied by Smiths News (newspaper distributor) and operates at night.		
Date	Mid-1990s		
2. CURRENT SETTING			
The site is located approximately 4.7km south of Reading town centre within Acre Business Park. Arnold Laver, a timber merchant borders the site directly to the east. An unspecified works or factory, and International Copiers Ltd, a copier and printer supplier, borders the site to the west. Acre Road borders the site directly to the south, and beyond there are units of a light industrial appearance, including Richmond Industries UK Ltd, a load cell supplier. Office accommodation borders the site directly to the north which are occupied by Ultimate Impact, Select Environmental Services, Black Box and Daisy Group Plc.			
3. ASSESSMENT BASIS			
☒	Site Inspection	☒	Environmental Health Information
☒	Map History	☒	Environment Agency
☒	Environmental Database Review	☒	Petroleum Information
☒	Planning History	☒	Geological and Hydrogeological Review
☐	Review of Previous Reports	☐	Mining Records Search
4. SUMMARY			
4a Ground Contamination Summary The site was previously occupied by warehouses, tanks, electric works (1960s – 1990s/2000s) and was redeveloped at that time to the current use. The site was previously identified by Reading Borough Council for contaminated land assessment, although as a low priority.			Low to Moderate Risk
4b Flood Risk Summary According to the Environment Agency (EA) website, the site lies in Flood Zone 1 (low probability). This zone comprises land assessed as having a less than 1 in 1000 annual probability of river sea flooding in any year (<0.1%).			Flood Zone 1
5. ASSESSMENT			
5a Ground Contamination Assessment Historically, the site remained undeveloped until 1966 when two warehouses and an electronic works were developed. No significant changes were noted until the site was comprehensively re-developed with the current industrial buildings by the 1990s and early 2000s, including a fire hydrant system and above ground storage tanks. The site is currently occupied by two light industrial units comprising distribution warehouses and ancillary office space operated by Waitrose (Unit 2) and Smiths News (Unit 8). No significantly contaminative activities were observed on site during the walkover. A number of above ground diesel storage tanks, back-up diesel generators and two electricity substations are present on site. A previous Phase I assessment (2002) indicates that Unit 2 previously had a fuel pump island with underground pipes connecting to above ground fuel tanks (removed 2010-2014). The site was previously identified (2016 – updated awaited) by Reading Borough Council for further contaminated land assessment (under Part 2A of The Environmental Protection Act 1990), although with no specific plans for further assessment, given the current use of the site.			

The surrounds remained largely undeveloped until the late 1950s/early 1960s, when the surrounding areas to the north and east were occupied by works, warehouses, depots, factories, tanks and a timber yard. By the early 1970s, a sewage purification works, refuse heap and sludge bed and sewage farm were present in the wider area. Additional works, warehouses and depots were developed 120m north of the site, and beyond in the mid-1970s. Acre Road was also developed in the mid-1960s, directly south of the site. By the mid-1980s, a garage was located 15m to the east of the site, with further buildings of light industrial appearance developed 30m north and 25m south of the site and beyond.

The site is considered to be located in a low-moderate sensitivity setting with regard to groundwater resources. Approximately 70% of the site is directly underlain by solid geology comprising London Clay Formation (Unproductive Strata) and 30% is underlain by Lambeth Group (a Secondary A Aquifer). The London Clay is further underlain by Lambeth Group, and at depth the Upper Chalk Formation (Principal Aquifer). Superficial deposits of Alluvium (a Secondary A Aquifer) are recorded only in the north-western tip of the site (approximately 2% of the total area). The site is not situated within a groundwater Source Protection Zone (SPZ). There are no sensitive groundwater abstraction locations (for potable water supply) located within 1km of the site.

The site is considered to be located in a low-moderate sensitivity setting with regard to surface water resources. The nearest surface water body to the site is an inland river located approximately 66m south.

In conclusion, there is potential for ground contamination associated with the previous uses (electronics works, warehouses, electricity substation and potential above ground storage tanks). However, the site was cleared and redeveloped in the 1990s/2000 and is now predominantly covered by buildings and hard cover and residual ground contamination associated with these activities (if present) would be expected to be isolated from human contact and environmental receptors. The current Unit 2 warehouse previously had a fuelling station with underground pipe connections to above ground tanks (removed 2010-2014). Reading Borough Council has previously identified the site for future inspection under its contaminated land strategy in 2016, although the site was classified as low risk with no schedule set for the investigation at the time. Overall, therefore, based on the currently available information and given its setting and use the site is considered to be of **low-moderate risk** in respect of ground contamination being identified as a source of harm to current use or environmental receptors.

5b Other Issues Assessment

According to the EA website, the site lies in Flood Zone 1 (low probability). This zone comprises land assessed as having a less than 1 in 1000 annual probability of river or sea flooding in any year (<0.1%).

6. SITE INSPECTION

The following information was derived from a site inspection undertaken on 14th September 2021 by Catherine Cooper and George Black of Ramboll UK Limited ("Ramboll"). Discussions were held with Mick Corey, Site Manager at GXO Logistics (a branch of XPO Logistics), who has been present at Unit 2 since 2015, and with Sam Canido, Site Administrator of Smiths News at Unit 8.

The Site

The site is an approximately rectangular parcel of land with a total site area of 2.75 ha. The site comprises two adjacent units, which are separately functioning distribution warehouses occupied by Waitrose (Unit 2) and WHSmith (Unit 8). Both plots are accessed via Acre Road from the south.

Unit 8 (approximately 0.92 ha) occupies the eastern extent of the site and comprises a distribution warehouse and ancillary office space for the packaging of newspapers and magazines for WHSmith stores, supermarkets and newsagents. The site representative stated that the site was developed in the mid-1990s and Smiths News has been the sole occupier since that time. No information on previous occupiers was available.

Unit 2 (approximately 1.83 ha) occupies the western extent and comprises a distribution food warehouse and ancillary office space for Waitrose. According to the site representative, Unit 2 has been occupied by Waitrose for 6 years. No information on previous occupiers was available.

A change in ground elevation was observed between the two units, with Unit 8 being approximately 1m higher than Unit 2. Unit 2 is approximately 1m higher than the neighbouring property to the west.

Further details of each of the unit inspections have been reported separately as follows.

Unit 8

Unit 8 comprises offices in the south arranged over ground and first floor, and a single double-storey distribution warehouse in the north. The offices were observed to be largely vacant at the time of the visit. The warehouse is located in the centre of the eastern portion of the site and occupies approximately 40% of this area. A loading area is situated in the north of the building with four docking bays. Toilet and welfare facilities are located on the ground floor within the warehouse (in the south-east), as well as additional toilet and kitchen facilities present on the first-floor office accommodation.

The lift motor room, mains gas intake room, and electrical/communications room are present in three separate rooms in the south-east of the building, which are accessed externally.

Two diesel forklift trucks operate on-site and are used for the movement of newspapers and magazines from lorry vehicles to the recycling points. Two electrically operated bailers are present in the north-east of the warehouse and one electrically operated plastic packaging machine is located in the south. There are approximately three lorry deliveries a day and five deliveries at night, with no-refuelling of vehicles taking place on site.

External areas surround Unit 8 and include car parking to the south, access roads for delivery vehicles to the east and west of the warehouse, and a yard area including loading bays and a waste storage area to the north. External areas are surfaced in a combination of asphalt, concrete and mono-brick paving. Soft landscaping is present along the northern, eastern, southern and part of the western boundary of the site, and adjacent to the car parking area in the south of the site, occupying approximately 10% of total Unit 8 plot.

One above ground diesel storage tank is located externally in the north-east of the site, which serves the forklifts and a back-up generator located to the south-east of the building. To the east of the tank is a decommissioned fire hydrant sprinkler tank and associated building formerly housing a fuel pump isolator. This building is currently used for storage of redundant machinery, and small-scale storage of chemicals. An electricity substation is present in the south-west of the site, which is owned and maintained by SSE Networks (SSE).

The access road in the west of the site was observed to slope downhill gently to the north, the car parking area in the south of the site was observed to slope downhill towards the south-west, and the area to the north of the warehouse was noted to slope downhill to the south.

No environmental permits are held by the site.

Building Construction and Asbestos Containing Materials (ACMs)

The building is of high bay, steel frame construction, with steel frame cladding and a brick façade. The pitched roof was noted to be constructed of profiled steel sheet.

Due to the age of the building (c. mid-1990s), it is unlikely that substantive friable ACMs were used during the construction of the building. A Type II Asbestos Survey was carried out by ACMS UK Ltd on 22nd October 2007 (reference number 9362). This report was made available for review during the visit and revealed that no asbestos had been identified at the site. No materials labelled as containing asbestos were identified during the site visit.

Under the Control of Asbestos Regulations (2012), the dutyholder must manage the risk from asbestos on a premises and to develop and implement an ACM management plan, with review and updating as appropriate. The dutyholder is the party who has, by virtue of contract or tenancy, the main responsibility for maintenance or repair of the building.

Storage of Chemicals and Hazardous Substances

Underground Storage (USTs)

Site personnel had no knowledge of any USTs on the site. No indicators of USTs were observed by Ramboll personnel during the site inspection (such as unexplained manhole covers or vent pipes).

Above Ground Storage (ASTs)

A 4,312 litre single skinned above ground diesel storage tank with secondary containment is located externally in the north-east of the site. The tank is situated on a mixture of soft landscaping and gravel, with partial vegetative cover. Ramboll personnel were not able to access the tank itself to assess the current capacity. There was no evidence of leakage at the time of the 2021 site inspection, although this was reported by Ramboll in a previous inspection in 2016, the site contact was not aware of any previous leaks or maintenance issues. The tank structure visually appeared to be rusted in places. The tank is used for the re-fuelling of two diesel operated forklifts and a back-up generator

located to the south-east of the building. According to the site contact, the tank is of similar age to the building (1990s). The site contact was unaware of how often the tank was re-filled.

It was not possible to gain access to the self-contained bunded diesel fired back-up generator in the south-east of the site. The back-up generator has been on site for the past thirteen years and is reportedly serviced on a bi-annual basis. The site contact was unable to provide any further information in relation to the back-up generator. The back-up generator appeared to be in good condition, with no evidence of staining observed on the surrounding concrete hardstanding surface in the vicinity of the generator.

A now disused cylindrical sprinkler tank (capacity not given) and associated fire pump building is present in the north-east of the site. The external dial of the cylindrical tank indicated that it was empty at the time of the visit. The tank was observed to be connected to overhead piping to the adjacent brick building structure, which previously held a pump with fuel supply, however no remaining evidence of fuel storage was observed inside the brick building. According to the site representative, this was decommissioned approximately fifteen to seventeen years ago.

Other Storage

Small scale chemical storage was observed within the redundant sprinkler building in the north-east of site. The following chemicals were observed:

- Four metal containers (up to 20 litres) of delux paint
- One metal container (30 litres) of antifreeze
- One plastic tub (10kg) of concrex

The containers and the surrounding concrete hardstanding were noted to be in good condition, with no evidence of cracks or staining.

Emissions to Air

A mains natural gas fired Ideal Concord boiler (used to supply hot water to the office central heating system) is located in the mains gas intake room situated on a concrete plinth located in the south-east of the building. It was not possible to confirm the output of the boiler in kW. A label on the side of the boiler indicates that it was last serviced in October 2020.

Two Nor-Ray-Vac gas fired continuous radiant tube heating systems were noted to be suspended from the ceiling across the warehouse providing uniform heat coverage to this area. It was not possible to confirm the radiant tube heating systems output in kW.

No significant sources of air emissions are present on-site and it is considered unlikely that the site would require emissions authorisation from the regulatory authorities.

Water, Wastewater and Drainage

A site drainage plan was not available for review however, it is understood that site foul drainage is pumped to the main foul sewer on Acre Road to the south of the site and that the site is fed by mains potable water. Surface water strip drainage is present across the site external areas, although the site representative was not aware of the final discharge location of the site surface water drainage.

During a previous inspection undertaken in 2016, the site contact reported that CCTV drainage surveys were carried out at the site once every five years.

Two manhole covers were present approximately 5m south of the above ground diesel storage tank and dispenser, reported to be an oil/water interceptor. It therefore appears that the surface drainage from this area may pass through an interceptor. However, no further information has been made available.

It is unknown as to whether a legionella risk assessment has been carried out for the site.

Under the Health and Safety at Work Act 1974 and subsequent regulations, the dutyholder is required to assess the risk of Legionella exposure and put in place any necessary measures. The dutyholder may be the employer, or a person in control of the premises.

No current issues in relation to flooding were reported by the site contact during the site visit.

Waste Storage and Disposal

Wastes generated on-site comprise general waste and recyclables (paper and cardboard).

Two general waste skips and one recycling waste skip are located in a waste storage area to the north of the warehouse. No evidence of leachate was observed on the surrounding concrete surface in the vicinity of the skips.

An electrically operated cardboard bailer is present in the north-east of the warehouse. Cardboard boxes are collapsed and compacted before being bailed, stacked together for collection and placed into the external recycling skip. No evidence of staining was observed in the vicinity of the skips on the surrounding concrete surface.

The removal of wastes from the site requires compliance with the Waste (England and Wales) Regulations 2011 (as amended). Compliance with the Regulations is the responsibility of the waste producer (and outside the scope of this assessment).

Polychlorinated Biphenyls (PCB)

A fenced off electricity substation is present in the south-west of the site adjacent to the vehicular entrance. The substation is the responsibility of SSE. The site contact stated that the electricity substation has been present on-site for at least 20 years, however the exact age of the substation could not be determined.

SSE has primary responsibility for assessing and maintaining the equipment, including coolant oils. According to the site representative, SSE check the unit on a frequent basis. No evidence of staining was observed on the surrounding gravel surface in the vicinity of the electricity substation.

One hydraulic passenger lift is located in the buildings south-eastern foyer, adjacent to the stairwell. The lift motor room is situated in a separate room, on the external eastern wall of the building. No evidence of significant staining was observed on the surrounding concrete hardstanding in the vicinity of the hydraulic oil tank.

No other equipment was observed during the inspection that would be expected to potentially contain PCBs oils (i.e. electrical sub-stations).

Ozone Depleting Substances

A series of three air conditioning units were observed externally to the east of the unit situated at height, although the refrigerant gases within these units could not be confirmed. An F-gas register has been provided to Ramboll for review which states there are eight Mitsubishi air condition units in total, each using 32.2 kg of R407c refrigerant, a non-ozone depleting substance. The units are noted to serve the ground and first floor offices.

Ramboll observed four units externally to the west of the building during the visit. The overhead pipework confirmed that they serve both the ground and first floor office areas.

Under the Fluorinated Greenhouse Gases (F-gas) Regulations 2015 (SI 2015/310) and Ozone-Depleting Substances (ODS) Regulations 2015 (SI 2015/168), ODS (including R22) are to be phased out and must be recovered during servicing, maintenance and decommissioning. F-gas systems require leak testing and good record keeping. It is good practice to make sure that all equipment containing refrigerant gases is labelled with the type and amount of gas contained.

Responsibility for compliance with legislation regarding refrigerant gases would be expected to rest with the tenant as user/operator. Refrigerant gases are not generally considered to pose a ground contamination risk.

Other Issues

According to the site representative, there is no known history of complaints, enforcements or other regulatory actions regarding the site or immediate surrounding properties related to environmental conditions. No fire or spill events were reported. No flooding of the site is known to have occurred historically.

Facility personnel were not aware of any environmental ground investigations or monitoring having taken place on site; and no visual evidence of environmental sampling or monitoring boreholes was identified by Ramboll during the site visit.

No suspected invasive species were observed to be present on-site or reported by the site contact.

Unit 2

Unit 2 comprises a large single-storey food distribution warehouse (approximately 60% of the plot) and a two-storey ancillary office space in the south-west of the building including a staff canteen and kitchen, locker room, toilet/shower facilities, pilot COVID-19 testing facility and various plant rooms. The warehouse is used for frozen food storage. An ammonia plantroom is present at ground floor level in the south-west of the building associated with the refrigeration of the warehouse which, according to the site representative, is regulated at -22 °C. A battery charging room for forklifts and other electrically operated warehouse vehicles is present in the east of the warehouse.

Further plant including cooling towers, chillers and air conditioning units are present at roof level above the ammonia plant room. Air conditioning units were also observed external to the south-east and south-west of the building. The lift motor room and electrical communications room are accessed from within the ground floor plant room. There is one lift present on-site, which according to the site representative, has been out of service for the past six weeks. According to the site representative, all maintenance on site is regularly managed by CBRE.

A boiler room containing two natural gas-fired boilers and an electricity substation room are located in the south-west of the building, accessed externally from the car park.

External areas occupy approximately 40% of the Unit 2 plot and comprise car parking in the south-west, surfaced with mono-brick paving, and a yard area comprising 16 dock leveller loading bays and a waste storage area in the south-east, surfaced with concrete hardstanding. There are two vehicular entrances to Unit 2, one in the south-east for heavy goods vehicles (HGVs) only, and one to the south-west for cars including a security sign-in unit and barriers.

Three back-up generators, two above ground diesel storage tanks and a back-up water supply tank are located externally to the building.

According to the site representative, there is very small-scale vehicle refuelling on-site, albeit no dedicated refuelling area. No vehicle wash is reported on-site.

A decommissioned sprinkler tank and associated pump building (which was not accessible at the time of inspection) are situated adjacent to the diesel tank in the south-east corner.

A paved pathway borders the building to the east, north and west, and soft landscaping (approximately 5% of the total site area) is present along the northern site boundary. The area to the south of the car park appears to slope downhill towards Acre Road, and an embankment is present along the northern site boundary which slopes downhill to the north.

A disused metal pole with exposed frayed wiring is present on the soft landscaping to the south-west of the building, the previous use of which is not clear.

No environmental permits are held by the site.

Building Construction and Asbestos Containing Materials (ACMs)

The building has a steel structural frame, with reinforced concrete columns and steel rafters that form a shallow pitched roof overlaid with metal cladding. The walls are cavity brick with composite insulated profiled metal cladding above.

Due to the age of the building (c. mid-1990s), it is unlikely that substantive friable ACMs were used during the construction of the building. No asbestos reports were made available during site inspection. The site contract did not report the presence of asbestos and no materials labelled as containing asbestos were identified during the site visit.

Under the Control of Asbestos Regulations (2012), the dutyholder must manage the risk from asbestos on a premises and to develop and implement an ACM management plan, with review and updating as appropriate. The dutyholder is the party who has, by virtue of contract or tenancy, the main responsibility for maintenance or repair of the building.

Storage of Chemicals and Hazardous Substances

Underground Storage (USTs)

Site personnel had no knowledge of any USTs on the site. No indicators of USTs were observed by Ramboll personnel during the site inspection (such as unexplained manhole covers or vent pipes).

Above Ground Storage (ASTs)

Two above ground diesel storage tanks with secondary containment are located externally to the building. A 9,000 litre diesel tank is located to the south-east, which is reportedly used to refuel the shunt unit and diesel balance unit for small-scale vehicle refuelling on-site. The site representative stated that it contained no more than 3000 litres of diesel at a time. No evidence of spillage or staining was noted on the surrounding concrete hardstanding. The fill point is located at the back of the tank along with a plastic container, which appeared to be for decanting small quantities of fuel.

A 15,000 litre diesel tank is present to the south-west, which serves three adjacent back-up generators (pipework between the units was visible above ground). It was also not possible to gain access to the tank to read the gauge. According to the site representative, the generators are tested monthly and have only been used on one occasion in the past six years.

A back-up water supply tank (capacity unknown) associated with the refrigerant unit is also located to the south-west of the building. No evidence of leakage was observed on the surrounding hardstanding.

An ammonia tank is present in the ammonia plantroom in the south-west of the building along with various other plant including compressors, condensers and cooling towers located on the roof directly above. The ammonia plant is reportedly serviced every three months by Surevent Environmental Compliance, involving cleaning and chlorination. A chlorine odour was prevalent throughout the roof area during the visit. The floor of the plantroom directly beneath the ammonia tank appeared to be partially flooded at the time of the visit.

Other Storage

Chemicals associated with the ammonia plant were observed to be stored upon plastic bunds within the ammonia plantroom. The chemicals were identified as follows:

- Five to ten plastic containers (20kg) of bromine tablets
- Five to ten plastic containers (20kg) of PR-OLE C-MH68A Premium Mineral Oil
- Twelve plastic containers (20 litres) of Perkins coolant
- Two metal drums (250 litres) of unknown substance (no labels available).

Two cardboard boxes each containing 10 litre plastic containers of sodium metasilicate (associated with the evaporative cooling system) were observed to be stored directly on the flooded plant room floor. The boxes had evidently been damaged by the liquid, but it did not appear that any leakage occurred from the plastic containers themselves.

A plastic IBC of 1,000 litre capacity was observed to be stored within the boiler room in the south-west of the building. The IBC was noted to contain a minor amount (approximately 25 to 50 litres) of pink liquid, although no further information was available.

Emissions to Air

Two mains natural gas-fired boilers are located within the boiler room in the south-west of the building, which is accessed externally from the car park. No evidence of leakage was observed on the hardstanding associated with the boiler.

No significant sources of air emissions are present on-site and it is considered unlikely that the site would require emissions authorisation from the regulatory authorities.

Water, Wastewater and Drainage

A site drainage plan was made available on site, which indicated that site foul drainage is pumped to the south of the building, into the foul water public sewer which runs parallel to Acre Road. All foul drainage is located in the southern half of the site, largely around the offices and canteen in the south-west, and to the immediate west of the sprinkler tank etc. in the south-east. The storm water drainage outfall is in the north-west corner of the site and is fed from the surface water drainage present across site external areas in the south throughout the loading yard and car park, before being fed along a drainage channel parallel to the western edge of the building. Rainwater downpipes also collect storm water from the roof of the building and feed it to the north-west. Seven storm water manholes, and eleven foul water manholes are observed on the drainage plan. Two interceptors are present on-site, one for stormwater (within the carpark) and one associated with foul water (in the loading yard). An above ground pumping chamber was observed to the rear of the warehouse with visible evidence of water overflow onto the surrounding soft landscaping.

The site contact stated legionella management exercises take place weekly. There has been one isolated incident in the past 6 years, whereby trace legionella was recorded and treated.

Under the Health and Safety at Work Act 1974 and subsequent regulations, the dutyholder is required to assess the risk of Legionella exposure and put in place any necessary measures. The dutyholder may be the employer, or a person in control of the premises.

No current issues in relation to flooding were reported by the site contacts during the site visit.

Waste Storage and Disposal

A dedicated waste storage area is located within the yard area in the south-east, for general waste and recycling, and there are two electrically operated bailers and compactors. During the visit, an additional volume of recycling waste was being stored upon wooden pallets across the yard area due to a recent change in waste contractors having caused a temporary delay in collections.

No hazardous waste was observed to be stored outside.

Two yellow plastic bins labelled as containing hazardous waste were observed within the plant room, one located upon the concrete hardstanding and the other upon a plastic bund. According to the site representative, hazardous waste generated on site is limited and includes waste oil from the kitchen and industrial batteries. The site representative stated that there has been one incident in six years relating to an acid leakage from a battery, which was removed from site as hazardous waste.

Polychlorinated Biphenyls (PCB)

An electricity substation is present within a secured room in the south-west of the building, accessed from the car park. The substation is operated and regularly maintained by SSE Power Networks. It is assumed that the substation is a similar age to the building (c. 1990s). No evidence of staining on the surrounding hardstanding.

One passenger lift is located in the buildings south-western foyer and the lift motor room is accessed from the plantroom at ground floor level. Inspection of the lift motor room revealed that this is hydraulically operated. No evidence of significant staining was observed on the surrounding concrete hardstanding in the vicinity of the hydraulic oil tank.

No other equipment was observed during the inspection that would be expected to potentially contain PCBs oils (i.e. electrical sub-stations).

Ozone Depleting Substances

Four air conditioning units were observed at roof level above the ammonia plantroom and a number were located at ground level internal and external to the south-west of the building, all noted as containing R410a, a non-ozone depleting substance. The air conditioning units reportedly serve the ground and first floor ancillary office space. An F-gas register was not available for review.

The food refrigeration system on-site utilises ammonia as a refrigerant, also a non-ozone depleting substance.

Under the Fluorinated Greenhouse Gases (F-gas) Regulations 2015 (SI 2015/310) and Ozone-Depleting Substances (ODS) Regulations 2015 (SI 2015/168), ODS (including R22) are to be phased out and must be recovered during servicing, maintenance and decommissioning. F-gas systems require leak testing and good record keeping. It is good practice to make sure that all equipment containing refrigerant gases is labelled with the type and amount of gas contained.

Responsibility for compliance with legislation regarding refrigerant gases would be expected to rest with the tenant as user/operator. Refrigerant gases are not generally considered to pose a ground contamination risk.

Other Issues

According to the site representatives, there is no known history of complaints, enforcements or other regulatory actions regarding the site or immediate surrounding properties related to environmental conditions. No fire or spill events were reported. No flooding of the site is known to have occurred historically, according to site representatives.

Facility personnel were not aware of any environmental ground investigations or monitoring having taken place on site; and no visual evidence of environmental sampling or monitoring boreholes was identified by Ramboll during the site visit.

No suspected invasive species were observed to be present on-site or reported by the site contact.

7. HISTORY OF THE SITE AND SURROUNDING AREA

Ramboll has undertaken a review of historical mapping and aerial imagery obtained from a commercial environmental regulatory database provider, the findings of which are summarised below. Selected historical maps are presented in Appendix 2.

The Site

The earliest historical record of 1872 showed the site to be undeveloped and in agricultural use, with the 1877 map showing a track intersecting the site from SW to NE.

No further significant changes were identified until 1966 when the site was developed with two adjacent warehouses including a food warehouse in the eastern extent along with a small building of an unknown use (small building no longer identified by 1974) and an electronic works with tanks in the western extent. An electricity substation was present to the south-west of the electronic works by 1974 and at that time the eastern unit was all identified as a food warehouse. By 1987 the electronic works had expanded to the west (identified as works) with a second access to the south-west in Acre Road.

According to historical mapping dated 1995, the western area of the site was comprehensively re-developed between 1994 and 1995 with a building of industrial appearance occupying approximately 50% of the total site area. This was followed by re-development in the eastern portion of the site, between 2001 and 2003 as shown by historical map and Google Earth™ imagery, dated 31st December 2003, with a building of a light industrial appearance occupying approximately 20% of the total site area.

No further significant changes were identified on the most recent historical map of 2021.

The Surrounds

The earliest historical map of 1877 showed the surrounds to be largely in agricultural use. A drainage ditch was present 50m north of the site. By 1899, a drainage ditch was situated 210m south of the site.

By 1911, a tank was present approximately 120m north-east of the site and an Isolation Hospital was present 250m south-west (no longer identified by 1961).

Sprinkler beds and filtration beds were situated approximately 150m north-west of the site by 1936 (identified as a sewage purification works by 1961 and identified as disused by 1974). Tanks were present approximately 210m north and 150m north-east of the site.

By 1962, a bus depot was present immediately north of the site (identified as a gas depot by 1974 and re-developed by 1987). Works, warehouses and a depot were located 120m north of the site and beyond. Drainage ditches were present 40m to the north and 60m to the south of the site at this stage.

Food warehouses and an electricity substation were present 15m east of the site and beyond by 1962. The building of a light industrial appearance 70m east of the site was identified as a food products factory and a tank was present directly to the north. Further works and warehouses were developed approximately 110m north of the site and beyond, with a pumping station situated adjacent to the described sewage purification works (120m north). A timber yard and a tank were situated 150m north of the site. A clothing factory and a tank were identified 200m north of the site.

By 1967, a depot with a travelling crane was identified 50m north of the site (noted as a corporation transport repair depot with tanks by 1974). By 1969, a cable works was identified 50m north, and a GPO depot immediately to the north-west. Further works and warehouses were developed at this stage.

In the wider surrounds, a sewage purification works was present approximately 360m north of the site and beyond by 1971. A refuse heap was situated 394m to the north-west, being no longer identified by 1979 and re-developed as a stadium). A disused sludge bed was identified 625m north-west of the site, adjacent to a sewage farm at 750m north-west (became disused sludge beds by 1988).

Acre Road was present directly south of the site by 1974. The 1974 gas depot also included tanks identified at 21m and 146m north of the site, and an electricity substation 56m north. The works, warehouses and depots located 120m north of the site were identified as electrical works, warehouses, a furniture factory. A transport repair factory is immediately north. A clothing factory was identified 60m north of the site.

By 1985, a garage was present 20m to the east of the site, while buildings of light industrial appearance were present 30m north and 25m south and beyond by 1983.

No further significant changes were identified on the most recent available historical map dated 2021.

8. REGULATORY AUTHORITY INFORMATION

Environmental Database

Information from an independent, third party environmental database is reported below.

Data Type	Distance				Relevant Records within 250 m of the Site
	On Site	0-50m	50-250m	250-500m	
Contaminated Land Register enquiries	0	0	0	0	None
Pollution incidents	0	0	1	11	Lubricating Oils spillage occurred 229m west of site on 26 May 2003 and was classed by the EA as a Category 3 Minor Incident.

UNITS 2 & 8, Acre Road, Reading

Recorded landfill sites		0	0	0	1	None
Historical landfill sites		0	0	2	10	239m west of site, refuse tip identified by 1974 mapping. 241m west of site, refuse tip identified by 1974 mapping.
Licensed waste management facilities		0	0	5	3	A clinical waste transfer station is located 132m north of site, operated by Select Environmental Services, licence status issued 21 st May 2009. A household, commercial and industrial transfer station is located 136m north of site, operated by Reading Borough Council, licence status issued 29 th June 1992, last modified 28 th September 2001. A clinical waste transfer station is located 195m north of site, operated by Daniels Corporation International Ltd, licence status issued 10 th January 2003, last modified 16 th November 2018. A clinical waste transfer station is located 201m north of site, operated by Select Environmental Services, licence status issued 21 st May 10 th January 2003. A clinical waste transfer station is located 225m north of site, operated by Reading Borough Council, licence status issued 19 th October 1998, last modified 30 th August 2008.
Environmental Permits	Part A(1)	0	0	0	5	None
	Part A(2)	0	0	0	0	None
	Part B	0	0	4	1	Renault Trucks South, 72m north of the site for respraying of road vehicles, status: revoked Harcros, 178m north-east of the site for timber manufacturing, status: revoked Clydebridge Chemicals Ltd, 216m north of the site for manufacturing of coating materials, status: permitted Reading Accident Repairs, 243m north-west of the site for respraying of road vehicles, status: permitted
EA Discharge consents		0	0	1	5	Release of sewage discharges from Pumping Station located 149m north of site to Foundry Brook (permit no. TEMP1774), date issued: 02/11/1989, revocation date: 27/01/1997
Control of Major Accident Hazards Sites (COMAH)		0	0	2	0	Historical Notification of Installations Handling Hazardous Substances (NIHHS) site, at Gillette UK Ltd, 102m north of site. Current COMAH site at Gillette UK Ltd, 244m north of site.
Current or recent petrol stations		0	0	0	1	None
Historical petrol stations		0	0	0	0	None
Electricity cables		0	0	0	0	None
Gas pipelines		0	0	0	0	None
Hazardous substance storage/usage		0	0	0	4	None
Registered radioactive substances		0	0	0	0	Information on certain radioactive substance authorisations is not publicly accessible

Radon affected area (Y/N)	Y	-	-	-	Located on site, less than 1% properties affected, no radon protection measures required.
Designated ecological sites	0	0	0	4	None

The site lies in a "Radon Affected Area" as defined by Public Health England (i.e. an area where less than 1% of residential properties are projected to contain radon above the residential action threshold). Under Health and Safety legislation, employers have a duty to manage workplace risks including the potential for radon exposure. Health and Safety Executive guidance recommends radon monitoring for workplaces located in radon Affected Areas. If the workplace radon threshold is exceeded, the Ionising Radiations Regulations 1999 require employers to take action to reduce risks. According to BRE Report BR211 (2015) Radon: Protective Measures for New Buildings, radon protection measures are not required under building regulations for new buildings at this location.

Planning Department

A review of the Reading Borough Council online planning portal has revealed the following applications of interest. Where conditional consent was granted, no decision notice has been made available for review.

Land relating to Unit 8

- 0000010606: Factory. Unconditional consent 21/06/1963.
- 0000014082: Machine shop. Unconditional consent 21/10/1966.
- 0000014372: Storage building. Unconditional consent 10/02/1967.
- 0000016072: Factory extension. Unconditional consent 08/11/1968.
- 0000016404: Factory extension. Unconditional consent 18/04/1969.
- 0000017184: Extensions. Unconditional consent 30/01/1970.
- 0000017574: Extensions. Unconditional consent 12/06/1970.
- 0000020272: Office. Unconditional consent 21/07/1972.
- 0000021950: Extension to factory to house office area maintenance and store. Application approved unconditionally 17/08/1973.
- 0000022185: Temporary Wessex single storey cabin. Unconditional consent 05/10/1973.
- 0000023844: Wessex single storey cabin. Unconditional consent 08/11/1974.
- 0000940767: 8,546.8 sq metres B2 industrial units with 10% office space. Determination made 28/07/1994. No decision notice has been made available.
- 0000940141: B8 unit with office space. Determination made 28/11/1974/ No decision notice has been made available.
- 0000950685: Sprinkler tank and pumproom, diesel storage tank and pumps, vehicle wash-down bay, emergency extract flues. Determination made 30/06/1995. No decision notice has been made available.
- 0000091161: External steel frame shelter with cladding to match existing building to house a new conveyor for paper recycling. Conditional consent 20/08/2009. No decision notice has been made available.

Land relating to Unit 2:

- 0000142023: Drivers' cabin, security cabin, 3 no. barriers, 30 no. 500 kva back-up generators, and 20,000 litre capacity diesel tank. Unconditional consent 18/05/2015.
- 0000031022: Change of use from a light industrial unit, office accommodation to storage and distribution. Determination made 29/05/2003. No decision notice has been made available.
- 0000030573: Dual flexible use as a light industrial unit, or a storage and distribution unit, with office accommodation. Determination made 14/05/2003. No decision notice has been made available.
- 0000990388: Repaint metal cladding panels of existing building from chocolate brown to metallic silver/blue. Determination made 07/04/2000. No decision notice has been made available.
- 0000980039: Alterations to elevations, new claddings, new external A/C plant area, new roof lining overlay, new glazed canopy and entrance. Determination made 05/05/1998. No decision notice has been made available.

- 0000970106: Deck car park, re-organisation of car parking and site loads, landscaping, reception building. Determination made 18/12/1997. No decision notice has been made available.
- 0000950551: Demolition of existing warehouse, and proposed warehouse with offices. Determination made 03/01/1996. No decision notice has been made available.
- 0000910349. Construction of concrete plinth and metal cage to house 20 A/C condensers. Determination made 23/12/1991. No decision notice has been made available.
- 0000891327. Change of use from open plan office to creche. Determination made 13/10/1989. No decision notice has been made available.

Environmental Health Department

Ramboll requested information from the Environmental Health Department of Reading Borough Council. The following information was received in October 2021:

- The site has been identified by the Council as being potentially contaminated due to its former use as a Food Warehouse and Electronics Works and has been identified for future investigation under its contaminated land inspection strategy (implementing Part IIA of the Environmental Protection Act 1990). However, in its current use the site was classified as low risk and there is no schedule set for the investigation of the site.
- The Council holds no records of historic pollution incidents at the site.
- There are no records of any landfill sites within 250m of the site.
- No elevated gas radon levels had been identified in the area.
- The Council holds no records of current or former nuisance issues associated the site or adjoining properties.
- The Council holds no records of any private water supplies within a 2km radius of the site.
- There are no Part A(2) or Part B Environmental Permits issued at the site or to adjoining properties.

Petroleum Enforcement Authority

The Petroleum Enforcement Authority at Reading Borough Council confirmed (on 4th October 2021) that there are no disused tanks present on site, or in the immediate vicinity according to their premise database and disused tank record.

Underground Pipelines

According to the LinesearchbeforeUdig database, there are no records of underground pipelines on the site or within 250 m. The LinesearchbeforeUdig database lists pipelines distributing crude oil and refined hydrocarbon products owned and/or operated by a number of UK pipeline operators, including BPA, BP, ConocoPhillips, Esso, Government Pipelines and Storage System, Sabic, Shell and Total. According to the LinesearchbeforeUdig database, there may be assets owned by Neos Networks, SSEN and SGN on the site or within a 250 m radius.

9. ENVIRONMENTAL SETTING

Geology and Hydrogeology

The solid geology BGS map (Sheet 268, Reading) and BGS online geology viewer indicates that the north-western tip of the site (approximately 2% of the total area) is underlain by superficial deposits comprising Alluvium (clay, silt, sand and gravel). No superficial deposits are recorded across the remainder of the site.

Approximately 70% of the site (the south-eastern extent) is directly underlain by the London Clay Formation (clay, silt and sand), whilst approximately 30% of the site (north-west) is directly underlain by the Lambeth Group (clay, silt and sand). The London Clay Formation is further underlain by the Lambeth Group and at depth lies the Upper Chalk Formation.

There are records of six BGS trial pits and three boreholes present on-site (e.g., reference SU77SW877) between November 1995 and March 1996 (potentially from the development of the property). The trial pits were excavated to a maximum depth of 2.95m below ground level (bgl). The three boreholes were developed to a maximum depth of 10m bgl.

According to the EA website, the superficial geology relating to the Alluvium in the north-western corner and the underlying solid geology relating to the Lambeth Group are classified as Secondary A aquifers, described as permeable layers capable of supporting water supplies at a local rather than a strategic scale and in some cases forming an important source of base flow to rivers. The London Clay Formation is classified as Unproductive Strata and these are described as rock layers or drift deposits

with low permeability that have negligible significance for water supply or river base flow. The Upper Chalk Formation present at depth contains 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 base river flow on a strategic scale.

According to the Coal Authority, the site is not located in a Coal Mining Affected Area. The BGS has stated that the site is located in an area where other (non-coal) mining activities relating to Chalk may have occurred.

The site is located in a region whose groundwater has not been classified under the Water Framework Directive (WFD); this is likely due to the fact that the geological conditions typically prevent the storage or transport of groundwater (i.e. due to the presence of the unproductive London Clay Formation).

There are currently thirty licensed groundwater abstractions within 2 km of the site. Ten abstractions are located within 1 km, as detailed in the table below.

Licence Holder	Distance/ Direction from Site	Abstraction Source	Purpose of Abstraction
Reading Football Club Plc	303m west	Madejski Stadium Wellpoints	General Use (Low Loss)
	350m south-west	Madejski Stadium Complex – 424 Wellpoints	General Use (Low Loss)
Clean Linen Services Ltd	333m north	Darwin Close, Whitley	Laundry use
	336m north	Darwin Close, Whitley	Laundry use
Heineken UK Ltd	346m south-west	Berkshire Brewery Point E	Process water
	902m south-west	Berkshire Brewery Point D	Process water
	933m south-west	Berkshire Brewery Point C	Process water
	975m south	Berkshire Brewery Point A	Process water
Scottish Courage Brewing Ltd	973m south-west	Berkshire Brewery Point C	General Use (Medium Loss)

The site is not situated within an EA Source Protection Zone (SPZ).

Reading Borough Council reported in October 2021 that it did not hold any records of private water supplies within 2km of the site.

Hydrology

The nearest surface watercourse is an inland river located approximately 66m south of the site at its nearest point. In the wider surrounds, the Kennet and Foudry Brook is located approximately 323m north-west of the site at its nearest point. The EA in 2019 classified the Kennet and Foudry Brook as being of 'poor' ecological quality and 'fail' chemical quality under the Water Framework Directive classification scheme.

There are currently no licensed surface water abstractions within 1 km of the site. There are four surface water abstractions located within 2 km of the site, as detailed in the table below

Licence Holder	Distance from Site	Abstraction Source	Purpose of Abstraction
Hewison Farms Ltd	1156 m south-west	Foudry Brook at Hartley Court Farm	Spray Irrigation – Direct
	1471 m south-west	Burghfield Brook at Hartley Court Farm	Spray Irrigation - Direct
Environment Agency	1245 m north-west	Fobney Fish Farm Intakes	Fish Farm/ Cress Pond Throughflow

Thames Water Utilities Ltd	1484 m north-west	Kennet and Avon Canal at Fobney Waterworks Intake	Potable Water Supply – Direct
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According to the EA, the site is located in Flood Zone 1 (low probability). This zone comprises land assessed as having a less than 1 in 1000 annual probability of river or sea flooding (<0.1% in any year).

According to the EA Flood Map for Surface Water which presents the theoretical potential for flooding from pluvial sources (i.e. flooding caused by rainwater exceeding capacity of drainage systems), the site is located in an area of Medium flooding probability. This zone comprises land assessed as having between a 1 in 100 and 1 in 30 probability of pluvial flooding (3.3% to 1% in any year).

Surface water drainage networks are typically designed to accommodate only a 1 in 30 (3.3%) annual probability rainfall event. Older drainage networks may have a lower capacity, especially if they have not been maintained adequately. Although not true of every situation, surface water flooding is typically relatively shallow and would be expected to subside following the storm event assuming drainage assets are maintained in an appropriate condition.

Ecology

Three statutory designated ecologically sensitive sites are located within 2 km of the site. Two of these sites are designated ancient woodland, namely Little Whitley Wood Coppice located 1.28 km south-east of the site, and Nores Hill located 1.34 km south-east. A local nature reserve (LNR) is located 1.95 km to the east of the site and is called Pearman's Copse.

10. REVIEW OF PREVIOUS REPORTS

The following report was provided by the Client:

- Pre-Acquisition Survey Report on Whitbread Unit, Acre Road, Reading (March 2002) for Prudential Property Investment Managers Limited by Tuffin Ferraby & Taylor.

The above report included the following environmental report:

- Phase I Environmental Audit on Whitbread Unit, Acre Road, Reading (March 2002) for Prudential Property Investment Managers Limited by WSP Environmental Limited on behalf of Tuffin Ferraby & Taylor.

The above Phase I Environmental Audit by WSP was required as part of the proposed purchase of freehold interests of the site. The assessment comprised a desk-based assessment and a site walkover. The assessment of the environmental setting of the site by WSP was consistent with what the findings of Ramboll.

It is important to note that this report relates only to Unit 2, which occupies the west of the overall site area.

Overall WSP Conclusions

WSP reported that no significant issues of environmental concern were identified in relation to the site use.

WSP concluded that the site was a Low/Medium risk for potential of significant on-site contamination. WSP provided a list of management recommendations to avoid future environmental liability: 1) advising for the use of secondary containment on all tanks, 2) ensuring above ground tanks were banded to contain 110% of the maximum contents of the tank in accordance with Control of Pollution (Oil Storage) (England) Regulations 2001, and 3) yearly testing of the underground pipework/ fuel delivery system.

Site Activities

At the time of assessment (2002) the site was largely in its present configuration as a food distribution warehouse, although with a vehicle refuelling pump station in the south-east of the site which was not observed during inspection by Ramboll personnel in 2021. A review of Google Earth imagery suggests that the refuelling pump station was removed from site between 2010 and 2014.

WSP reported that the above ground fuel storage tanks at the time were linked by underground pipework to two fuel pumps located approximately 15m to the west of the tanks. Localised hydrocarbon staining was reported by WSP around the tanks and fuel pumps but were not considered to represent a significant contamination risk due to the presence of concrete hardstanding.

All of the above ground storage tanks on site during WSP's 2002 assessment are no longer present, replaced by the 9,000 litre and 15,000 litre diesel tanks observed by Ramboll personnel.

WSP also reported that several 205 litre drums containing oil and waste oil were present within the plant room for equipment maintenance.

Overall, WSP concluded that the activities on site were generally well managed and were not considered to represent a risk of ground contamination.

Regulatory Discussion

WSP's inspection of the planning record for the site contained a consultation letter from the National Rivers Authority dated July 1995, which stated that the self-bunded diesel tank, refuelling area and washdown connections were satisfactory, and that the drainage of surface water via an interceptor to off-site drains was satisfactory.

WSP reported that the Building Control Officer from Reading Borough Council indicated that there are several areas of fill at varying depths in the general vicinity of Unit 2. They also reported that while no specific contamination concerns exist, ground contamination is likely to be present due to the long-term industrial use of the site.

WSP reported that the Environmental Health Department stated that although a former landfill was located approximately 500m west of the site, there were no concerns regarding gas migration to the subject site.

This report has been prepared by Ramboll exclusively for the intended use by the client in accordance with the instruction issued pursuant to Clause 2.1 of the Environmental Consultants' Term Consultancy Agreement dated 19 April 2017 for the provision of services described in Schedule 2 of that Agreement defining, among others, the purpose, the scope and the terms and conditions for the services. No other warranty, expressed or implied, is made as to the professional advice included in this report or in respect of any matters outside the agreed scope of the services or the purpose for which the report and the associated agreed scope were intended or any other services provided by Ramboll.

In preparation of the report and performance of any other services, Ramboll has relied upon publicly available information, information provided by the client and information provided by third parties. Accordingly, the conclusions in this report are valid only to the extent that the information provided to Ramboll was accurate, complete and available to Ramboll within the reporting schedule.

Ramboll's services are not intended as legal advice, nor an exhaustive review of site conditions and/or compliance. This report and accompanying documents are initial and intended solely for the use and benefit of the client for this purpose only and may not be used by or disclosed to, in whole or in part, any other person without the express written consent of Ramboll. Ramboll neither owes nor accepts any duty to any third party, unless formally agreed by Ramboll through that party entering into, at Ramboll's sole discretion, a written reliance agreement.

Unless otherwise stated in this report, the scope of services, assessment and conclusions made assume that the site will continue to be used for its current purpose and end-use without significant changes either on-site or off-site.

Ramboll's scope of services for this assignment did not include collecting samples of any environmental media. Ramboll cannot rule out the existence of conditions, including, but not limited to, contamination not identified and defined by the data and information available to and/or obtained by Ramboll. Specifically, this assessment must not be considered as an asbestos survey (whether in built structures, waste, soils, etc.), even though the subject of asbestos-containing materials may have been discussed in the report.

APPENDIX 1

BASE DATA ENTRY FORM

Site Identifiers

Site No:	N/A	ID	N/A
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Site Name:	Units 2 and 8, Acre Road, Reading, RG2 0SU
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Status:		✓ Active	× Sold
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Co-ordinates

Easting:	471387	Northing:	170052
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Site History and Previous Use (<i>refer Note 1</i>)

Pre-1900	1: Agriculture/ Farm
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1900 to 1950	1: Agriculture/ Farm
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1950 to 2000	84: Warehousing general, 25: Electrical Substations
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Most recent	84: Warehousing general, 25: Electrical Substations
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Details of Current Site Exposures

Potentially contaminative industrial uses (past land use) – ON SITE (1:2500)	Count of sites determined under Part IIA (EPA 1900) – 250 m (<i>number</i>)
Yes	3

Potentially contaminative industrial uses OFF SITE (past land use) – 250 m buffer (1:2500)	Current Industrial Sites – 250 m (<i>number</i>)
Yes	73

Tanks and Pipelines within 250 m (number)	Aquifer Status – at grid reference (<i>refer Note 2</i>)
3	Secondary A Aquifer (variably permeable) and Unproductive strata (negligibly permeable)

Landfill sites (EA, BGS and/or Local Authority recorded) – 250 m buffer (number)	Soil Vulnerability Classification – at grid reference (<i>refer Note 3</i>)
0	Not classified

Count of other Waste Sites (Treatment, Transfer) – 250 m (<i>number</i>)	Count of Current Water Abstractions – 2000 m buffer (<i>number</i>)
6	30 from twenty-four locations

Count of Fuel Stations – 250 m buffer (<i>number</i>)	Source Protection Zones with 500 m
0	On-site: Not within a Source Protection Zone 400m N: Not within a Source Protection Zone 600m N: Not within a Source Protection Zone 600m S: Not within a Source Protection Zone

Infilled Land (<i>number</i>)	Distance to nearest surface water feature – 2000 m buffer (<i>number</i>)
0	66m south – Inland river

Areas of ecological sensitivity/value to include SSSI, RAMSAR, SAC etc. – 1000 m
None

Note 1

Site Use ID	Site Use	Rating
1	Agriculture/farm	2
2	Airports	5
3	Animal and animal products processing works	5
4	Asbestos manufacturing works	6
5	Bulk storage of crude oil and petroleum products	6
6	Ceramics, cement and asphalt manufacturing works	6
7	Charcoal works	5
8	Chemical works: coatings (paints and printing inks) manufacturing works	6
9	Chemical works: cosmetics and toiletries manufacturing works	6
10	Chemical works: disinfectants manufacturing works	6
11	Chemical works: explosives, propellants and pyrotechnics manufacturing works	7
12	Chemical works: fertiliser manufacturing works	7
13	Chemical works: fine chemicals manufacturing works	7
14	Chemical works: inorganic chemicals manufacturing works	7
15	Chemical works: linoleum, vinyl and bitumen-based floor covering manufacturing works	7
16	Chemical works: mastics, sealants, adhesives and roofing felt manufacturing works	6
17	Chemical works: organic chemicals manufacturing works	7
18	Chemical works: pesticides manufacturing works	7
19	Chemical works: pharmaceuticals manufacturing works	7
20	Chemical works: rubber processing works (including manufacturing tyres and other rubber products) works	6
21	Chemical works: soap and detergent manufacturing works	5
22	Derelict land	3
23	Dockyards and dockland	5
24	Dry cleaners	6
25	Electricity substation	3
26	Engineering works: aircraft manufacturing works	5
27	Engineering works: electrical and electronic equipment manufacturing works including works manufacturing equipment containing PCBs	5
28	Engineering works: mechanical engineering and ordnance works	5
29	Engineering works: railway engineering works	5
30	Engineering works: shipbuilding repair and shipbreaking (including naval shipyards)	5
31	Engineering works: vehicle manufacturing works	5

Site Use ID	Site Use	Rating
32	Fibreglass and fibreglass resin manufacturing works	4
33	Food production	2
34	Gasworks, coke works and other coal carbonisation plants	7
35	General Chemical Works	7
36	General Engineering Works	5
37	Glass manufacturing works	5
38	Greenfield	1
39	High street commercial	1
40	Hospital	3
41	Hotel	2
42	Incineration	4
43	infilled land	4
44	Laboratories	3
45	Leather, tanning and finishing works	5
46	Light manufacturing: electric and electronic equipment	4
47	Light manufacturing: fabricated metal products, plating and coating, stamping	4
48	Light manufacturing: furniture	3
49	Light manufacturing: scientific, optical and precision instruments	4
50	Metal manufacturing, refining and finishing works: electroplating and other metal finishing works	6
51	Metal manufacturing, refining and finishing works: iron- and steelworks	7
52	Metal manufacturing, refining and finishing works: lead works	7
53	Metal manufacturing, refining and finishing works: non-ferrous metals (excluding lead works)	6
54	Metal manufacturing, refining and finishing works: precious metal recovery works	6
55	Mining	5
56	None identified	1
57	Oil and gas extraction (including pipelines)	7
58	Oil refineries	7
59	Out of town office	3
60	Out of town retail	3
61	Petrol filling stations	5
62	Photographic processing industry	4
63	Power stations (excluding nuclear power stations)	7
64	Printing and bookbinding works	4
65	Public buildings	2
66	Pulp and paper manufacturing works	5
67	Railway land	3
68	Recreation	2
69	Residential	1
70	Road vehicle servicing and repair: garages	4
71	Road vehicle servicing and repair: transport and haulage centres	4

Site Use ID	Site Use	Rating
72	Sewage works and sewage farms	3
73	Telephone exchange	2
74	Textile works and dye works	5
75	Timber products manufacturing works	4
76	Timber treatment works	5
77	Tobacco manufacture	3
78	Town office	1
79	Town retail	1
80	Underground (brine injection)	6
81	Unspecified factory	4
82	Unspecified works	4
83	Warehousing: chemical	4
84	Warehousing: general	2
85	Warehousing: unspecified	3
86	Waste recycling, treatment and disposal sites: drum and tank cleaning and recycling plants	6
87	Waste recycling, treatment and disposal sites: hazardous waste treatment plants	6
88	Waste recycling, treatment and disposal sites: landfills and other waste treatment or waste disposal sites	7
89	Waste recycling, treatment and disposal sites: metal recycling sites	5
90	Waste recycling, treatment and disposal sites: solvent recovery works	6
91	Waste transfer station	3
92	Wastewater treatment plant	3
93	Unspecified metal works	4
94	Garage	4
95	Unspecified depot	6
96	No coverage	5
97	Unspecified engineering works	6

Note 2*Aquifer status descriptors:*

- Secondary Aquifer (variably permeable)
- Principal Aquifer (highly permeable)
- Unproductive Strata (negligibly permeable)
- Minor or Moderately Permeable Aquifer
- Non or Weakly Permeable Aquifer

Note 3*Soil Vulnerability Classification:*

- Not Classified
- Low leaching
- High Leaching

APPENDIX 2

SELECTED HISTORICAL MAPS

Site Details:

W H SMITH LTD, 8, ACRE
ROAD, READING, RG2 0SU

Client Ref: 1620011452_Acre_Rd_Reading
Report Ref: HMD-33-8182056
Grid Ref: 471392, 170027

Map Name: County Series

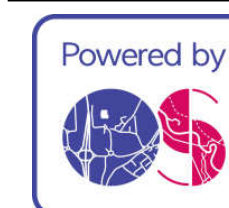
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Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1877
Revised 1877
Edition N/A
Copyright N/A
Levelled N/A

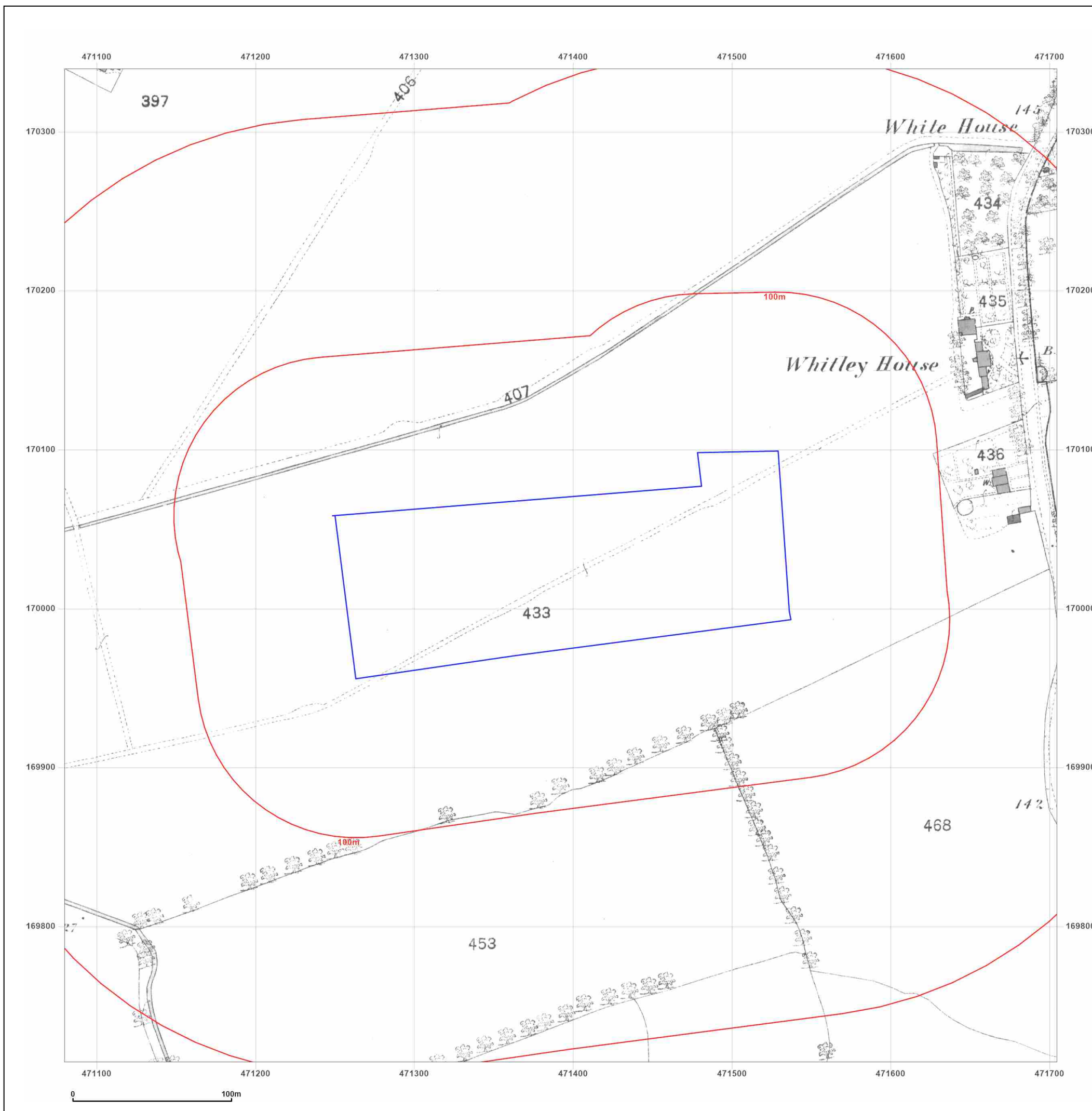


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W: www.groundsure.com

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Production date: 09 September 2021

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



Site Details:

W H SMITH LTD, 8, ACRE
ROAD, READING, RG2 0SU

Client Ref: 1620011452_Acre_Rd_Reading
Report Ref: HMD-33-8182056
Grid Ref: 471392, 170027

Map Name: County Series

Map date: 1911

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1911
Revised 1911
Edition N/A
Copyright N/A
Levelled N/A

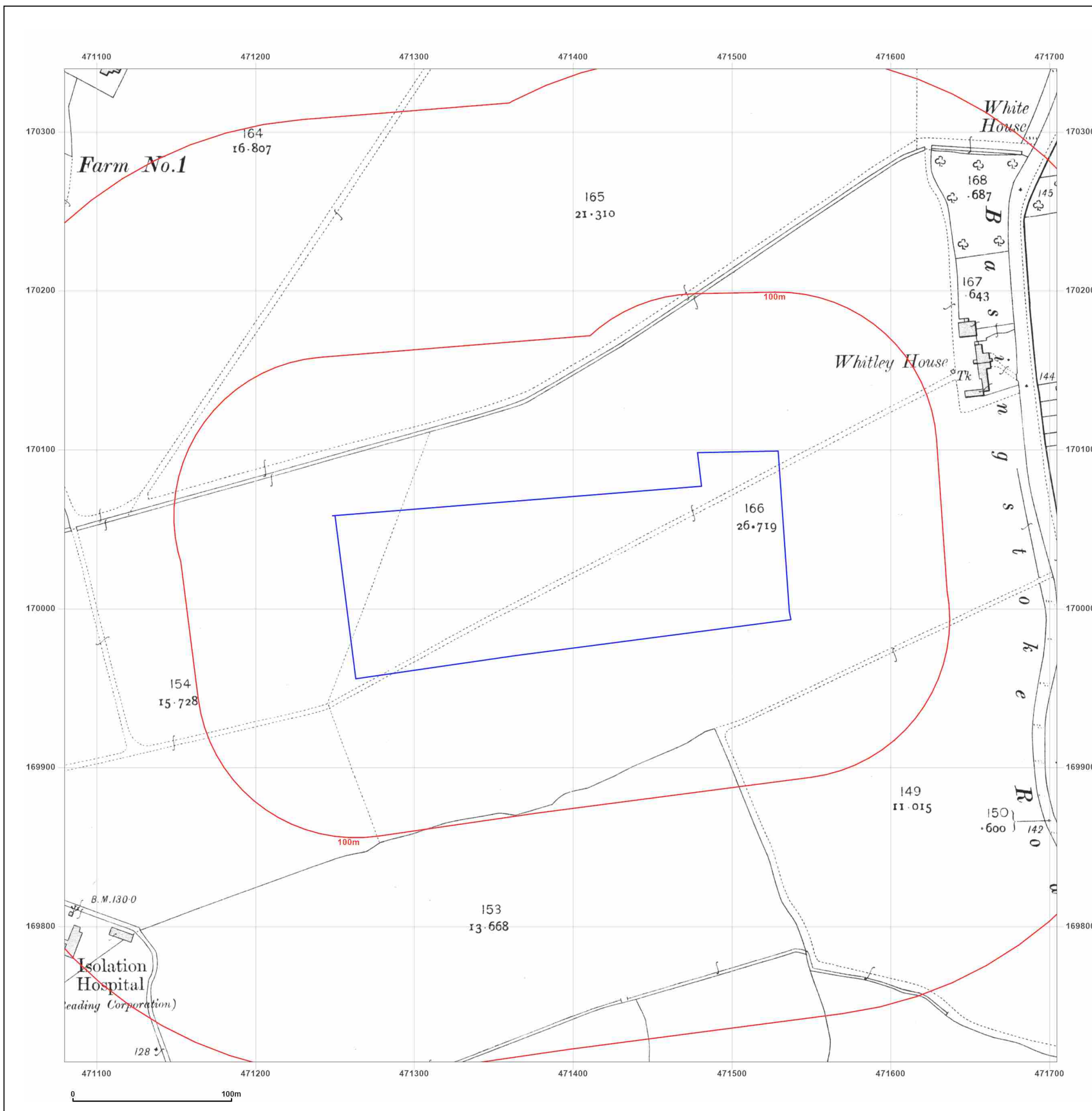


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Production date: 09 September 2021

Map legend available at:
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Site Details:

W H SMITH LTD, 8, ACRE
ROAD, READING, RG2 0SU

Client Ref: 1620011452_Acre_Rd_Reading
Report Ref: HMD-33-8182056
Grid Ref: 471392, 170027

Map Name: National Grid

Map date: 1957-1958

Scale: 1:1,250

Printed at: 1:2,000

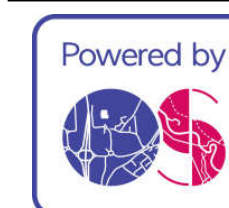


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Revised 1958
Edition N/A
Copyright N/A
Levelled 1951

Surveyed 1957
Revised 1957
Edition N/A
Copyright N/A
Levelled 1951

Surveyed 1958
Revised 1958
Edition N/A
Copyright N/A
Levelled 1951

Surveyed 1958
Revised 1958
Edition N/A
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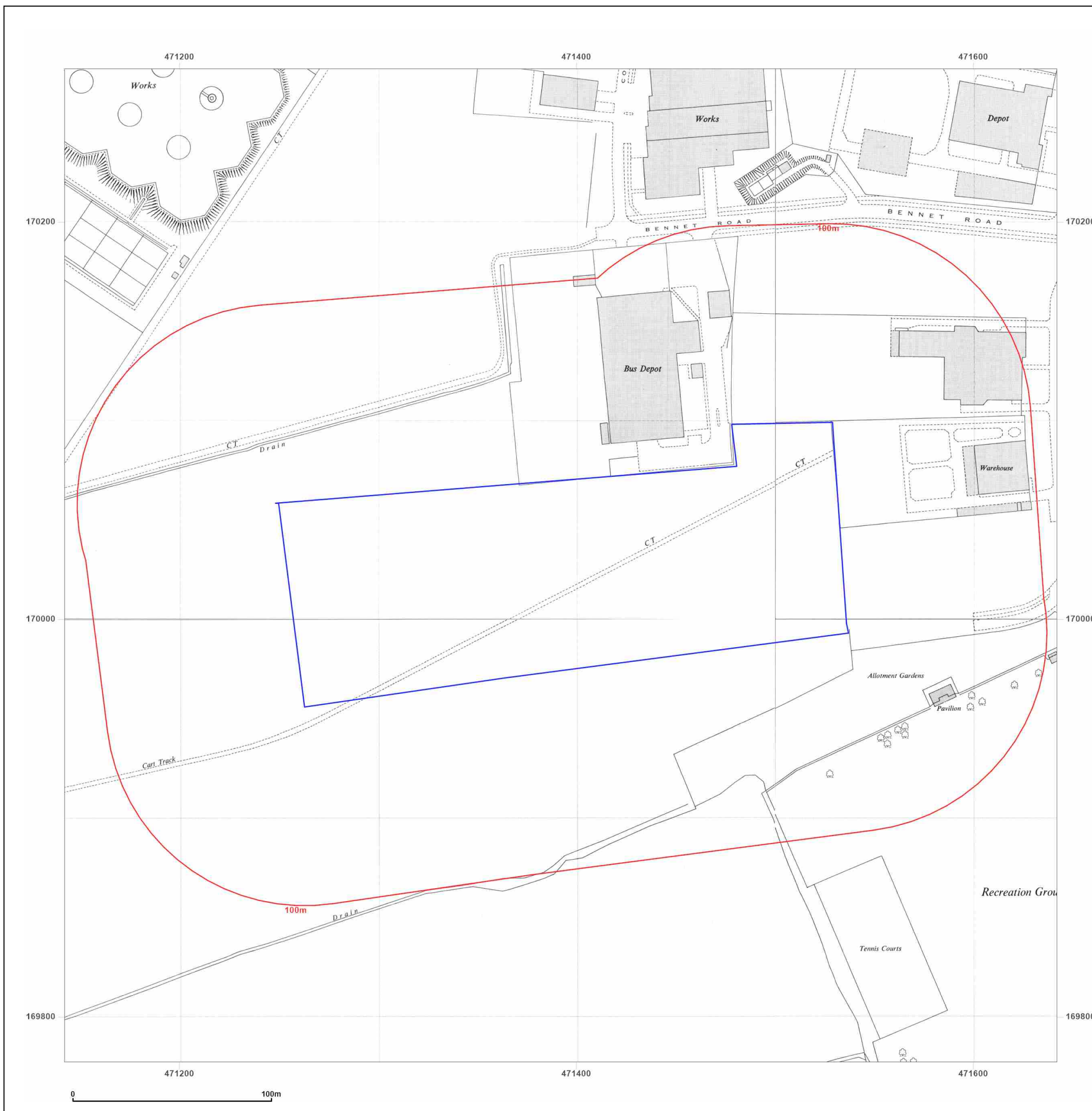


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Site Details:

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Client Ref: 1620011452_Acre_Rd_Reading
Report Ref: HMD-33-8182056
Grid Ref: 471392, 170027

Map Name: National Grid

Map date: 1965-1966

Scale: 1:2,500

Printed at: 1:2,500



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Surveyed 1958
Revised 1965
Edition N/A
Copyright 1966
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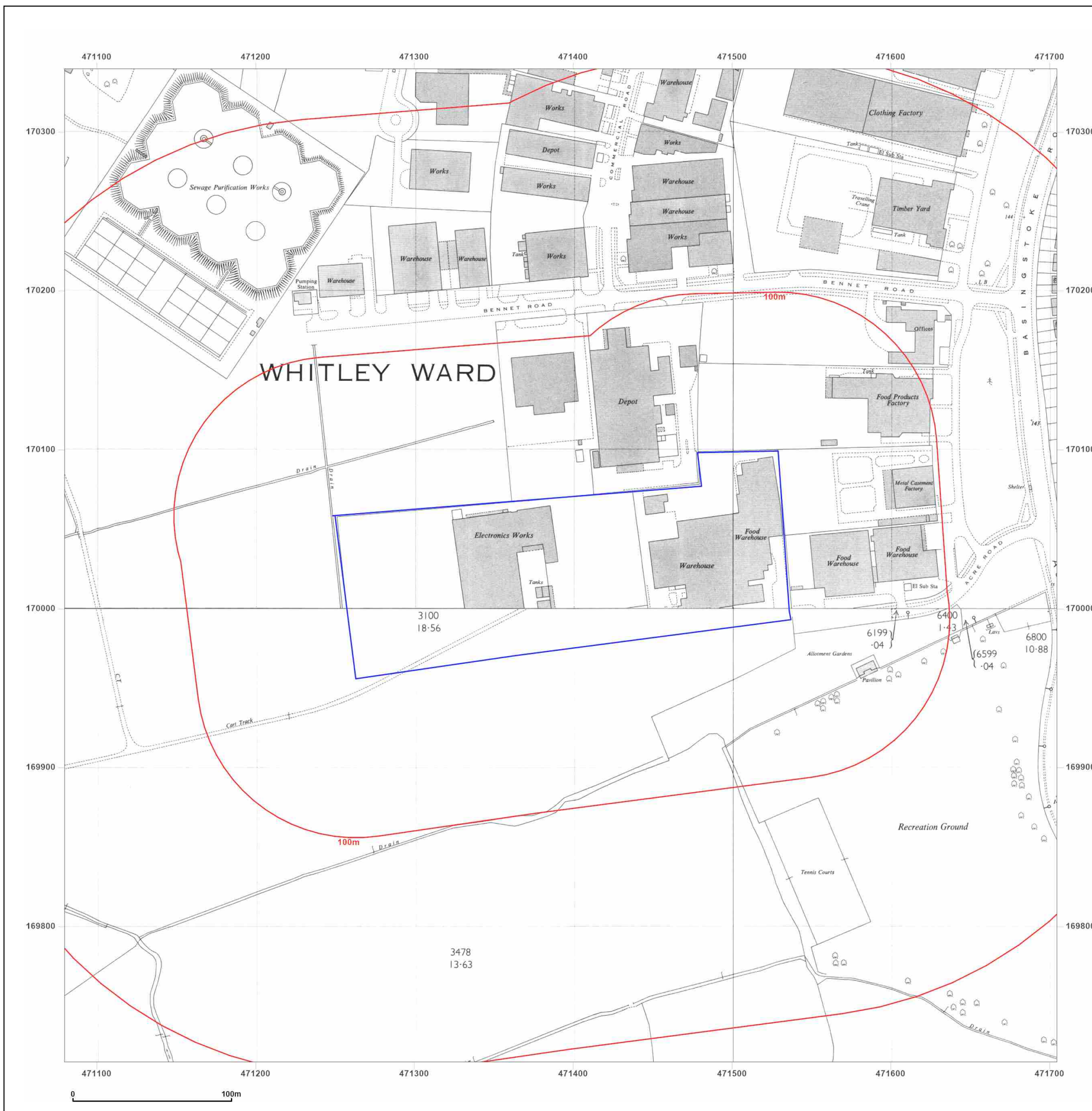


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Site Details:

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Client Ref: 1620011452_Acre_Rd_Reading
Report Ref: HMD-33-8182056
Grid Ref: 471392, 170027

Map Name: National Grid

Map date: 1974

Scale: 1:1,250

Printed at: 1:2,000



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Client Ref: 1620011452_Acre_Rd_Reading
Report Ref: HMD-33-8182056
Grid Ref: 471392, 170027

Map Name: National Grid

Map date: 1989-1994

Scale: 1:1,250

Printed at: 1:2,000



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 Edition N/A
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Surveyed 1993
 Revised N/A
 Edition N/A
 Copyright 1993
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Surveyed N/A
 Revised N/A
 Edition N/A
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Surveyed 1994
 Revised N/A
 Edition N/A
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Site Details:

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Client Ref: 1620011452_Acre_Rd_Reading
Report Ref: HMD-33-8182056
Grid Ref: 471392, 170027

Map Name: National Grid

Map date: 1995

Scale: 1:1,250

Printed at: 1:2,000



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Site Details:

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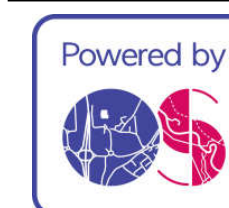
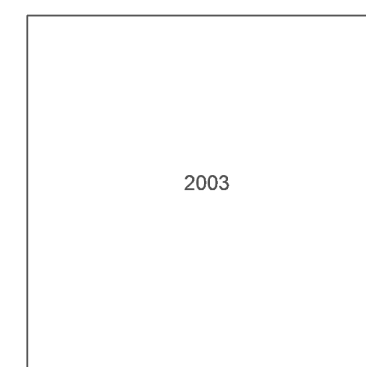
Client Ref: 1620011452_Acre_Rd_Reading
Report Ref: HMD-33-8182056
Grid Ref: 471392, 170027

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



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Site Details:

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Client Ref: 1620011452_Acre_Rd_Reading
Report Ref: HMD-33-8182056
Grid Ref: 471392, 170027

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



2010

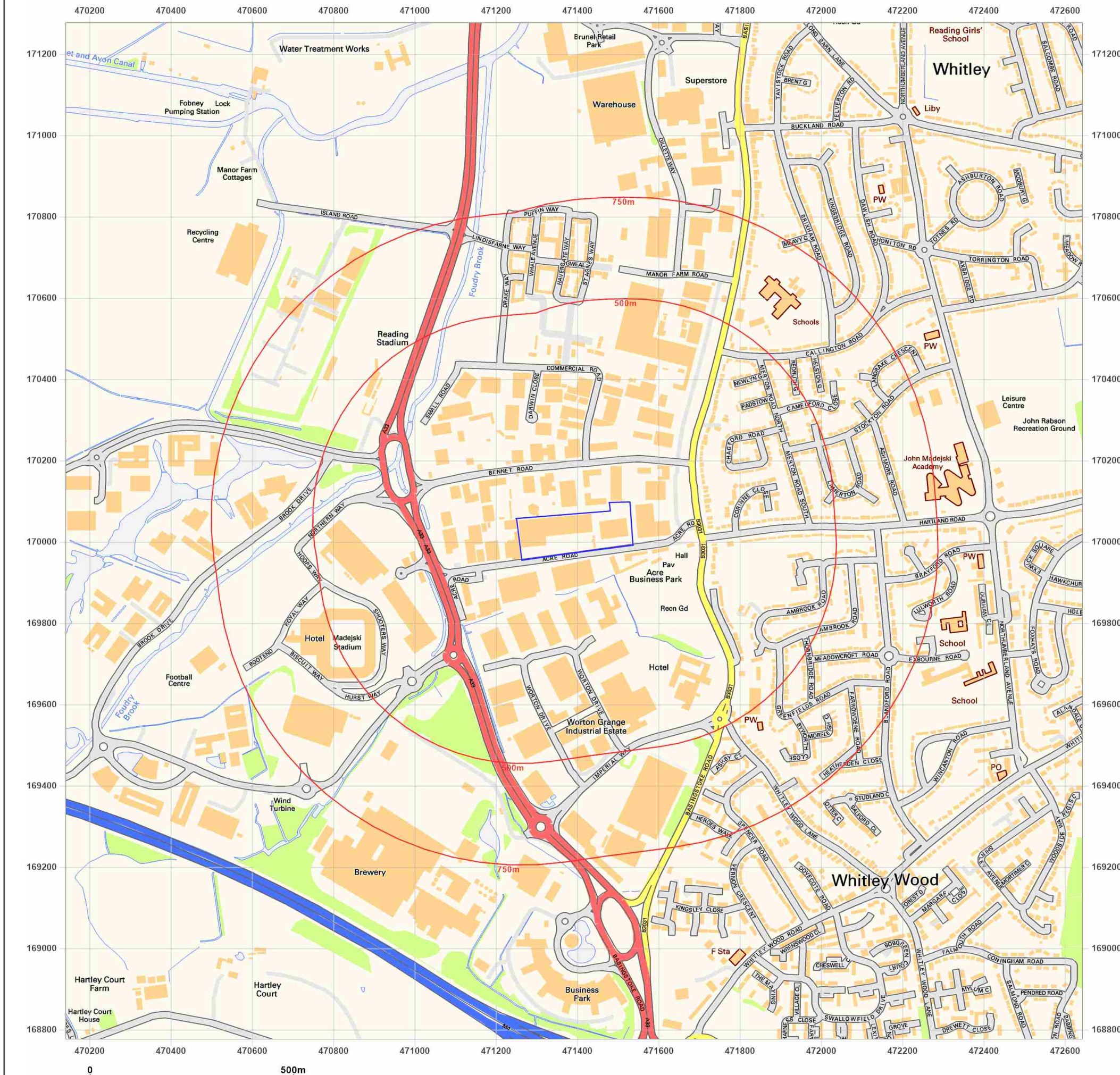


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Site Details:

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Client Ref: 1620011452_Acre_Rd_Reading
Report Ref: HMD-33-8182056
Grid Ref: 471392, 170027

Map Name: National Grid

Map date: 2021

Scale: 1:10,000

Printed at: 1:10,000



2021



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