Borough Council of
King's Lynn &
West Norfolk

Contaminated Land Inspection Report

Dobby Drive &
St Nicholas Retail Park
King's Lynn

December 2017

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Executive Summary

The Borough Council of King's Lynn and West Norfolk (BCKLWN) has a statutory duty to inspect its district for potentially contaminated land under Part 2A of the Environmental Protection Act 1990 (EPA 1990). The Borough Council's Part 2A inspection strategy has identified Dobby Drive & St Nicholas Retail Park, Kings Lynn (the site) as being of high priority due to the historic use as a metal casting foundry & engineering works and the presence of potentially sensitive receptors.

Given the former site use, an assessment of the site has been undertaken to assess the potential for harm to human health, property, ground/surface water and designated environmental receptors under Part 2A EPA1990.

To gather information of the site's history a desk study and preliminary risk assessment were carried out by the Environmental Quality Team. From the evidence gathered during the desk study of the site history and a site walkover, the following can be stated: The site was historically within the course of the River Great Ouse. The land was reclaimed in the mid-19th century and developed in 1873 as St Nicholas Iron works. The northern part of the site was later developed as a cannery. Following demolition of the iron works in 1975 and closure of the cannery in 1991 the site was redeveloped for mixed retails and residential use. The site's present use is predominantly retail with a small number of residential units in the south.

The site has been subject to a number of previous investigations as part of redevelopment. Remedial measures were agreed with the borough council and the Environment Agency to address risks from hydrocarbon and metal contamination from the former use and to protect buildings from gas and vapour ingress.

Plausible source pathway receptor linkages were assessed considering the available visible and documentary evidence. A LOW risk from contamination was assessed to human health, property and the wider environment as defined in the statutory guidance. A VERY LOW risk was identified to surface water and groundwater.

There was no evidence of harm or of a significant possibility of significant harm to the receptors identified in the conceptual site model. As the risk posed is low, the site would be classified as Category 4 as set out in the Statutory Guidance. No evidence was noted of significant pollution of controlled waters or of the significant possibility of such pollution. Therefore the site is not considered to be contaminated land under Part 2A of the Environmental Protection Act 1990.

1 Introduction

This report details a review of information about land at Dobby Drive & St Nicholas Retail Park, King's Lynn and provides a conclusion on the risk to human health, property, groundwater and the wider environment.

The Contaminated Land Statutory Guidance (DEFRA, 2012) suggests that where the authority has ceased its inspection and assessment of land as there is little or no evidence to suggest that it is contaminated land the authority should issue a written statement to that effect. This report forms that written statement.

2 Desk Study Information

Location

The site is situated on Edward Benefer Way in King's Lynn, postcode PE30 2HW. The location is shown in Appendix B. The grid reference for the centre of the site is 562013 320900.

Previous investigation

The site has been subject to a number of investigations. Table 1 below lists the reports used in compiling this written statement.

Table 1 Documents used in this report

Reference	Date	Author	Title
23427	November 2000	Richard Jackson Partnership	Ground Investigation Report
45986	May 1996	May Gurney	Desk study (referred to in Richard Jackson, Nov 2000 report)
23427	June 2003	Richard Jackson	Contamination Remediation Scheme
23427	August 2003	Richard Jackson	Report on validation of Remediation Works

Previous Site Use

The May Gurney desk study records that the western two thirds of the site originally lay within the course of the River Great Ouse. In the 17th century, a civil war ditch fortification lay on the line of Bawsey drain, with part of the Town Wall to the east of the drain. In the mid-19th century a new cut was dug to carry the river further to the west, after which the land including the site was reclaimed.

The site was first developed in 1873 as St Nicholas Iron Works, occupied by Savage Brothers. The company built fairground and traction engines, steam wagons, ploughing engines and engines for steam yachts. A large house for the owner was constructed on the southern end of the site. During World War I the firm made aircraft. The northern part of the site later became a cannery. The iron works site was demolished in 1975 and the cannery closed in 1991.

The nine-acre urban regeneration site was acquired in 2002 following grant of planning permission for a £10m mixed-use development comprising 75,000 sq ft of retail warehouse units, a food store, a fast-food outlet and 30 residential units. Work was completed on the infrastructure and first phase of the retail development in 2004.

Present Site Use

The site's present use is predominantly retail with a small number of residential units in the south. Figure 1 below shows the site layout on 2006-09 aerial photography. Photographs of the site are in appendix A.

Figure 1: Site layout and surroundings

Ownership
Enquiries have been made to establish land ownership. This report will be made available to the site owners.

Environmental Setting
Geology
The site is predominantly hard surfaced. The geological map indicates that superficial geology is tidal flat deposits. Bedrock geology is reported to be Kimmeridge clay.

The site is approximately 5 metres above ordnance datum (m AOD). Previous investigations have shown the geological strata encountered to be as set out in table 2.

Table 2: Geological strata encountered (from Richard Jackson 2000 report)

Strata	Thickness range (m)	Range of depth to top of stratum (m)
Made ground	0.5-3.0	
Marine Alluvium		0.9- 11.3
Glacial Till (in some locations)		8.2-9.8
Kimmeridge Clay		9.8-11.3

Hydrogeology
The superficial deposits and Kimmeridge Clay are designated by the Environment Agency as unproductive for water abstraction. There are no recorded licensed water abstractions within 1km of the site.

Hydrology
The nearest major water features are the Bawsey Drain which runs along the eastern boundary of the site. The River Great Ouse is approximately 550m to the west of the site. Gaywood River is approximately 430m to the south east.

Local Authority Pollution Prevention and Control
The docks to the west contains three sites which are permitted for timber treatment and processing and are located within 500m of the site. No breaches have been recorded that have released substances that could have contaminated the site.

The Environment Agency Web site records
The Environment Agency Web site records the following:

- No water abstraction licenses are recorded within 1km of the site.
- The site falls within a Nitrate Vulnerable Zone due to the presence of Gaywood River.
- Historic landfill over 700m to the east of the site.
- A number of environmental permits (current and historic) are recorded within 1km of the site. A full list is included in appendix C.
- An environmental permit is recorded for the former Anglia Canners for discharge to water.

The absence of water abstraction licenses demonstrates that there are no relevant receptors via this groundwater or surface water migration pathway. The environmental permit for the cannery suggests that some discharges from this site were controlled.

Historic Maps

E-map Explorer
Enclosure Map 1800 – 1850 – no data available
Tithe map circa 1840 – no data available
Ordnance Survey 1st Ed. 1879-1886 – the site is labelled St Nicholas Iron Works. The southern half of the site contains a number of large structures.

Historic Maps on file at the Borough Council of King's Lynn and West Norfolk
Historic maps are presented in Appendix B and summarised below.

1843 – 1893: Map 1 shows the site to be labelled as St Nicholas Iron Works. There are large buildings indicated in the southern half of the site. The northern part of the site appears vacant. A Rope Walk, embankments and ditches are indicated on the eastern boundary with housing beyond that. Kings Lynn Docks are situated to the west and south and further houses are also indicated. Land to the north is open fields.

1891 – 1912: The Ironworks site has been extended to include a saw mill in the north, labelled Saw Mill and Timber Yard. A set of tracks are marked which are likely to be a siding from the railway. A crane is noted to be present in the southern part of the site. Further terraced housing is shown to the west.

1904 – 1939: As the previous edition. Estuary Road is labelled. Directly to the north allotment gardens are indicated and some large tanks approximately 90m from the site boundary.

1919 – 1943: Not available.

1945 – 1970: Map 2 shows the site labelled as Engineering Works and Transit Depot in the southern half and Fruit and Vegetable Cannery in the northern half. A building on the southern boundary is labelled Estuary House. This is likely to be the house originally built for the Ironworks' owner. The drain to the east is labelled Bawsey Drain. Land to the north of the site is labelled as a Petroleum Depot and contains a large number of tanks.

1970 – 1996: Not available

Aerial Photographs
The aerial photograph for 1999 is presented in Appendix B and information from aerial photographs summarised below.

1945 – 1946 MOD Aerial Photograph – There is some damage obscuring parts of the photograph but the visible detail mostly matches the OS 3rd edition mapping. Much of the site contains buildings. An elongated circular

track appears to occupy the north western quarter of the site. The allotments directly to the north of the site and the tanks approximately 90m to the north are clearly shown.

1999 – Map 3 - The site has an open, predominantly hard-surfaced frontage in the south (approximately 40m deep) with a tank structure in the south eastern corner and a small area of soft landscaping in the south-western corner. The remainder of the southern half of the site is covered with three large shed type buildings. The northern half of the site appears to have been cleared of buildings and is covered with the remaining concrete pads and one remaining tank structure. The former allotments to the north appear to have been concreted and the former tank farm further to the north has been removed and appears to be rough grassland.

2006-2009 – Figure 1 (on page 3) shows the site laid out as it is currently. The residential development is shown in the south of the site with small areas of garden and soft-landscaping. The north of the site is occupied by retail units and car-parking and some pads where retail units will be situated.

2017 - Google maps satellite imagery dated 2017 (www.google.co.uk/maps) shows the existing layout of the site.

Planning and Redevelopment

There are several applications for redevelopment of the site which were permitted, significant applications are summarised below:

Date permitted	**Application ref**	**Description**
11/02/1997	2/96/1614/CU	HL Foods Site (formerly Anglia Canners) Change of use of land and building from B2 manufacturing (ancillary) to B8 storage and distribution
13/03/1997	2/96/1615/LD	Processing and manufacturing of canned products falling under Class B2 of the Town and Country Planning (Use Classes) Order 1987
14/02/2001	2/99/0052/O	Site for Class A1(food/non-food retail) Class A3 (hot food and drink)residential (42 flats & residential home) industrial units car parking public open space and associated works (revised proposal)
23/07/2002	2/01/1985/F	Construction of a food retail outlet and a fast food outlet
13/09/2002	2/02/0715/F	Mixed use development incorporating a DIY store garden centre 2 no. food retail units a non-food retail unit a class A3 food and drink

Date permitted	Application ref	Description
23/04/2003	2/02/1225/F	Construction of 20 houses 8 flats and 2 bungalows (revised scheme)
29/06/2004	04/00832/F	Construction of food store (amended design)
04/12/2008	08/02212/F	Construction of 2 A5 food units

Planning permission 2/02/0715/F included a condition (11) which required that any contamination encountered during construction should be reported and a remediation strategy agreed. Condition 12 required that the development should be protected against the ingress of landfill gas.

Planning permission 2/02/1225/F included a condition (16) which required a 'scheme for provision and implementation of site contamination investigation and remediation' to be agreed and completed.

Planning permission 04/00832/F included conditions 9 & 10 relating to contamination encountered during construction and ground gas investigation & remedial measures.

The contamination remediation scheme dated June 2003 (revision A) was agreed with the Borough Council. A letter on borough council files dated 6 February 2004 from Environmental Protection to Richard Jackson plc refers to correspondence during 2003, a site meeting and the Contamination Remediation Scheme. The letter indicates that remediation and validation has been largely agreed for both the retail and residential developments, including gas protection. Remediation was required due to concentrations of total petroleum hydrocarbons exceeding the agreed screening values.

Details of the gas protection and validation of the remediation works were discussed in email correspondence and telephone conversations with CNC Building Control during November 2017. A copy of the Validation of Remediation Works Report was obtained from building control files. The validation report dated August 2003 provides details of:

- The objectives of the remediation works;
- Details of further investigation works;
- Details of validation sampling;
- Conclusions on the effectiveness of remediation;
- Advice on additional remediation.

Reported remediation measures included:

- excavation of contaminated materials where TPH exceeded screening criteria;
- raising ground levels in the residential areas;
- provision of 1m of clean imported soil in gardens;
- 0.5m clean imported soil in landscaped areas;
- Passive gas venting of granular fill or proprietary void-former in commercial units;

- Gas proof membrane in commercial units;
- Gas and hydrocarbon vapour resistant membrane in the northern-most commercial unit;
- Gas protection for residential units to be agreed with future developer.

An email on borough council files dated 16 May 2005 (ref to EP letter dated 6 May 2005) confirms that condition 11 of 2/02/0715/F and condition 9 of 04/00832/F are discharged. The same email records that Building Control had accepted and signed off gas protection measures. Recent discussions with CNC Building Control confirmed that gas proof membranes and venting were agreed as protection in all buildings and additional sub-floor venting in the residential properties.

Environment Agency Records

Correspondence from the Environment Agency dated 18 June 2004 regarding planning permission 02/0715/F states that concerns regarding contaminated land and landfill gas have been previously addressed.

3 Site Walkover

A site walkover was carried out in October 2017. Photographs are presented in Appendix A.

The site is fully developed. Photographs 1, 2 and 11 show the houses on Dobby Drive. Photographs 3 to 9 show the retail park. The site is predominantly hard surfaced with small residential gardens and limited areas of soft landscaping. Vegetation on site appears healthy and with no visible signs of damage or distress. There were no visible indicators of contamination within exposed soil.

The Bawsey Drain (photograph 10) at the east of the site has well vegetated banks and clear-looking water. However, the Bawsey Drain is subject to fly-tipping in this area and items of household and other general waste (paper, card, plastic, garden waste and shopping trolleys) were observed on the banks and in the water. However, there were no visible signs of contamination from the site affecting the water quality. Part of the retaining wall in the eastern part of the site contains drainage holes at the base. There was no evidence of staining which could suggest that contaminated water is draining from here towards the Bawsey Drain.

Regularly spaced gas vents were observed in the houses on Dobby Drive (photograph 11). The Dobby Drive site is elevated above the Bawsey drain and surrounding land with retaining walls on the eastern side. This suggests that the land was raised as recommended in the remediation plan.

Location of Receptors

Humans

Dobby Drive is a residential area, therefore people live on the site. There are also houses within 20m to the east of St Nicholas Retail Park. The retail park is a commercial area and is occupied during business hours by shop-workers and customers.

Property

There are houses and commercial property both on site and adjacent to the site.

Environment

There are no relevant types of receptor as set out in Table 1 of the statutory guidance within 1km of the site.

Controlled Water - Groundwater & Surface water

The site is not situated on an aquifer. Bawsey Drain runs directly along the eastern boundary of the site. The River Great Ouse is approximately 550m to the west of the site. Gaywood River is approximately 430m to the south east.

4 Contaminated Land Risk Assessment

The Council has used a process adapted from CIRIA C552 (Contaminated Land Risk Assessment, a guide to good practice) to produce the conceptual site model and estimate the risks to defined receptors. This involves the consideration of the probability, nature and extent of exposure and the severity and extent of the effects of the contamination hazard should exposure occur. Further explanation is provided in Appendix C.

Earlier reports in section 2 above identified risks to sensitive receptors and set out recommended remediation measures. Although there is incomplete evidence of validation of all remediation measures, the evidence collected suggests that that the risks have been mitigated to an acceptable level.

Assessment of probability of a contamination event

From the information gathered it is considered that there is the potential for some residual contamination to be present on the site. The potential source is hydrocarbon contamination from the previous engineering works on site and from the former petroleum depot to the north. Elevated methane was detected in the earlier site investigation, however the source was not fully characterised. Areas of metal contamination and asbestos containing materials are reported to have been excavated and removed as part of remediation works.

Human health, property, & designated environmental receptors

There are people living, working and shopping on site. The remediation which has taken place removed the most contaminated soils and has provided predominantly hard cover across the retail site and additional cover material to raise levels in the residential site. This has broken the potential direct contact pathway. Membranes and venting were installed to reduce the entry and build-up of gas and vapours into buildings. The probability of a contamination event affecting human health, property, and designated environmental receptors is LOW

Controlled water - Groundwater

The superficial deposits and Kimmeridge Clay are designated by the Environment Agency as unproductive for water abstraction. Therefore probability of a contamination event to groundwater is assessed as UNLIKELY.

Controlled water - Surface water

The site is predominantly hard-surfaced with surface water drains provided. Therefore water infiltration is minimised and run-off is to a formal drainage system. The drainage at the base of the retaining wall did not show signs of contaminated water draining to the adjacent surface water. The probability of contamination to surface water is assessed as UNLIKELY.

Assessment of Hazard

The reports reviewed in the preceding sections refer to laboratory analysis of selected samples against available assessment criteria and agreed remedial target values. While the methodology for derivation of these values would not be appropriate for a current risk assessment, it is likely that the reported and validated remediation has removed the areas of highest TPH concentrations and addressed risks to controlled waters from leachable metals.

Human Health

Remediation is reported to have taken place to address concentrations of TPH, PAH and metals in soil. Remedial target values were agreed with the borough council with regard to human health. The hazard is assessed as LOW

Property

Residual contamination was considered in building design and selection of construction materials. Harm, should it occur to buildings is not expected to be significant as defined in the statutory guidance. The hazard is assessed as LOW

Environment

In considering environmental receptors, the statutory guidance states that the authority should only regard certain receptors (described in Table 1 of the Statutory Guidance) as being relevant for the purposes of Part 2A. Harm to an ecological system outside that description should not be considered to be significant harm. The site and surrounding area do not contain any of the receptors stipulated in Table 1 of the Statutory Guidance.

Controlled Water -Groundwater and Surface Water

Reported concentrations of leachable contaminants were below ageed screening criteria in selected samples. Therefore the hazard is assessed as LOW.

Conceptual site model

The conceptual site model (Table 3 below) shows the sources, pathways and receptors identified and the subsequent risk classification.

Table 3: Conceptual site model

Source	Pathway	Receptor	Probability	Hazard	Risk
Heavy metals, polyaromatic hydrocarbons petroleum hydrocarbons asbestos containing materials within the made ground Hazardous ground gas within the made ground and alluvial deposits	Direct contact, ingestion, dust inhalation Gas & vapour migration	Humans (adults and children)	LOW	LOW	LOW
	Direct contact Gas & vapour migration	Property (buildings)	LOW	LOW	LOW
	Direct contact	Environment*	LOW	LOW	LOW
	Direct contact	Controlled water (surface and groundwater)	UNLIKELY	LOW	VERY LOW

Moderate/Low risk - It is possible that harm could arise to a designated receptor from an identified hazard. However, if any harm were to occur it is more likely that harm would be relatively mild.

Low risk - It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.

Very low risk - There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is unlikely to be severe.

*Ecological systems as set out in Table 1 of the contaminated land statutory guidance

5 Outcome of Preliminary Risk Assessment

Conclusion

Evidence from the planning, building control and environmental health files indicates that a remediation scheme was agreed and implemented for both the retail and residential sites to address risks from land contamination and hazardous ground gas and vapours. Reports and correspondence referred to in this report demonstrate that, in consultation with the Environment Agency and the borough council Environmental Health department, the retail park development had a number of conditions relating to contamination discharged by the Local Planning Authority.

Documentary evidence of all the remediation actions could not be found on the borough council files. Some additional information was provided by CNC Building Control. The site walkover provided additional evidence of

remediation measures such as gas venting and provision site drainage and soft and hard cover materials.

Plausible source pathway receptor linkages were identified and assessed. A LOW risk from contamination was assessed to human health, property and the wider environment as defined in the statutory guidance. A VERY LOW risk was identified to surface water and groundwater.

There was no evidence of harm or of a significant possibility of significant harm to the receptors identified in the conceptual site model. As the risk posed is low, the site would be classified as Category 4 as set out in the Statutory Guidance (Appendix D contains the categorisations from the Statutory Guidance).

No evidence was noted of significant pollution of controlled waters or of the significant possibility of such pollution.

Part 2A status

Statutory Guidance states that 'If the authority considers there is little reason to consider that the land might pose an unacceptable risk, inspection activities should stop at that point.' In such cases the authority should issue a written statement to that effect. This report forms that written statement.

On the basis of its assessment, the authority has concluded that the land does not meet the definition of contaminated land under Part 2A and is not considered contaminated land.

Further Action

This assessment is based on the site's current use and is valid providing no changes are made to the cover material, to surface water conditions or to the site's use.

No further assessment of the site is considered necessary under Part 2A unless additional information is discovered or if changes are made to the site. Any redevelopment would require an assessment of contamination as part of the application for planning permission.

Appendices

Appendix A: Site Photographs

Location of photographs

Photograph 1:

Photograph 2:

Photograph 3:

Photograph 4:

Photograph 5

Photograph 6:

Photograph 7:

Photograph 8:

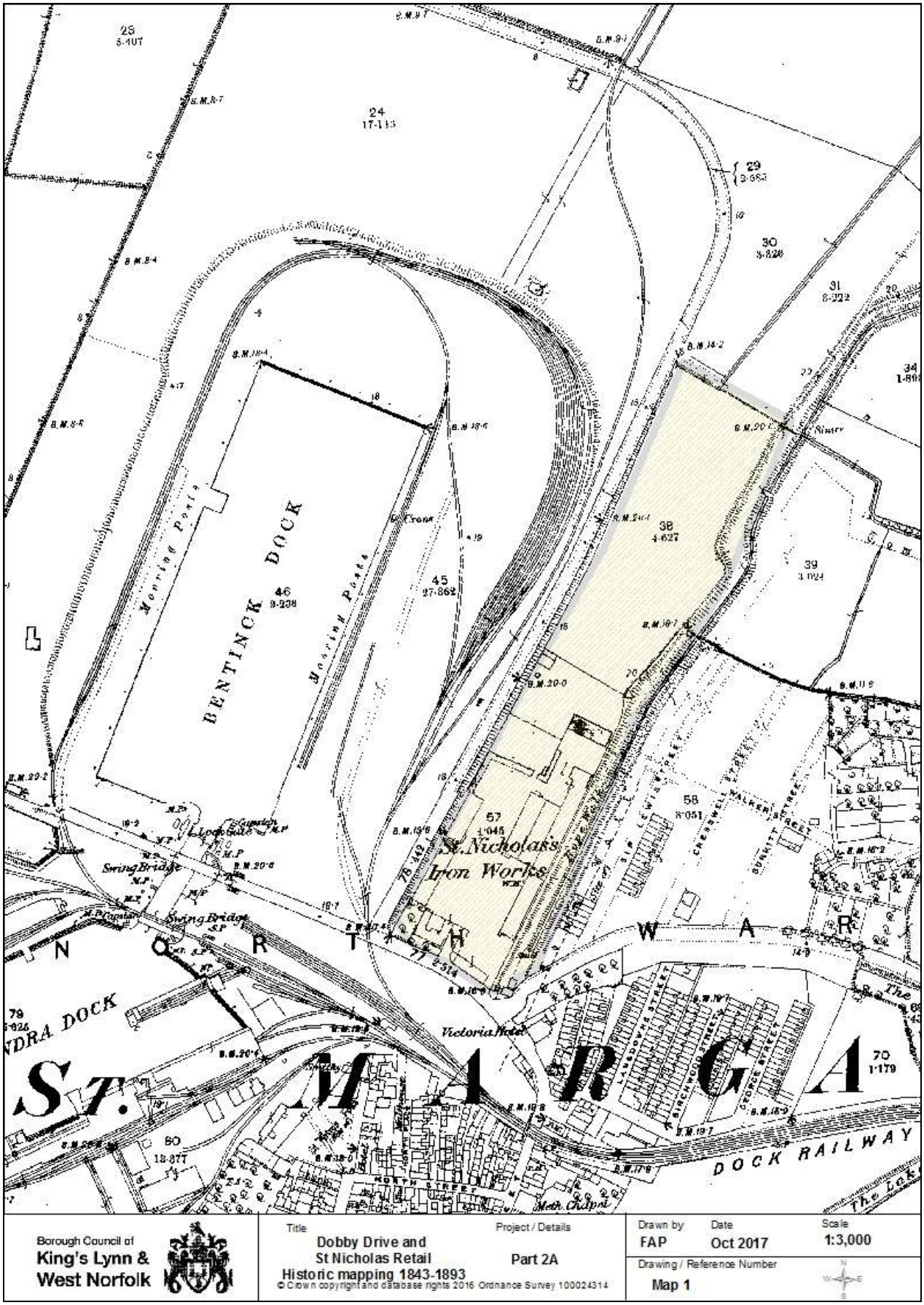
Photograph 9:

Photograph 10

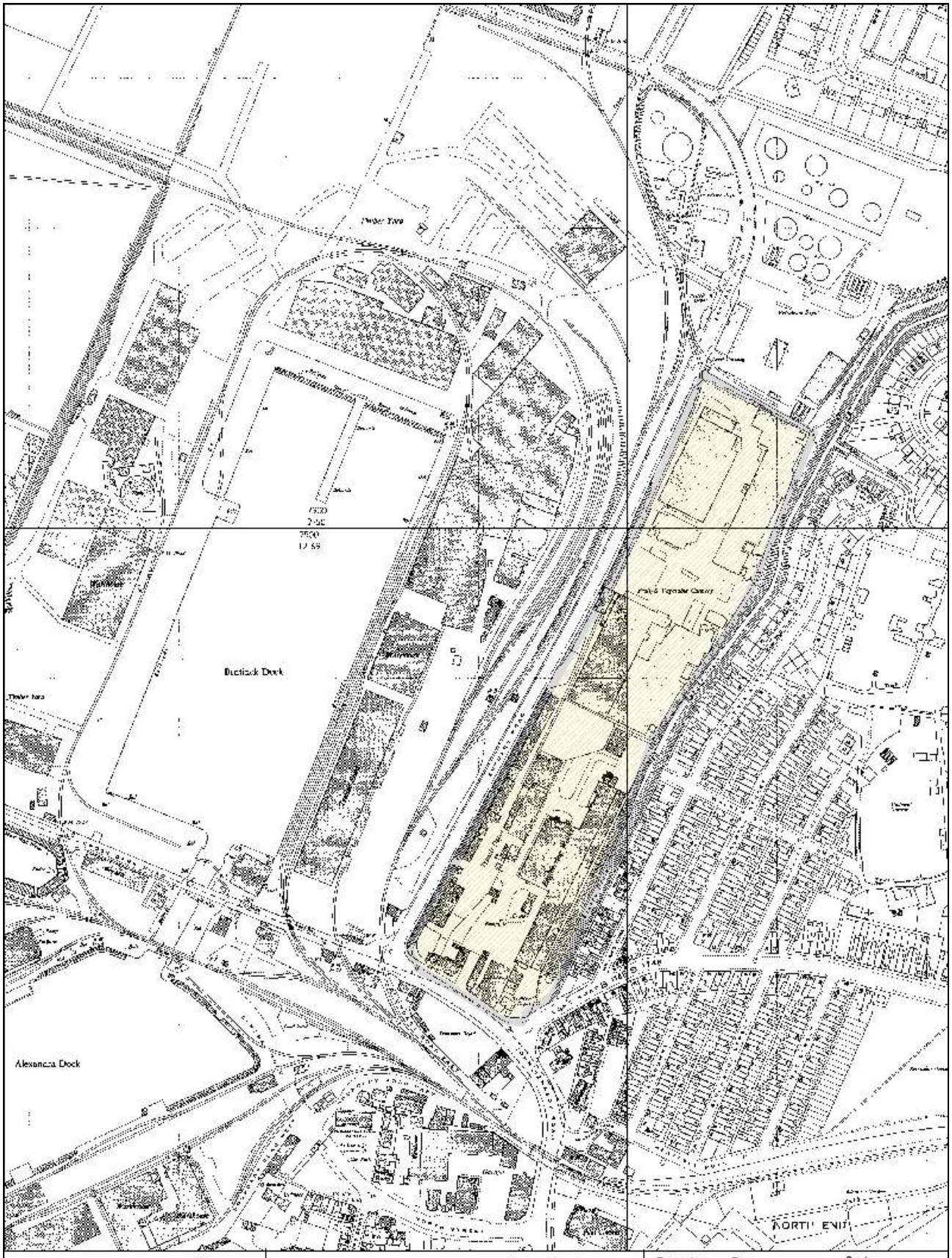
Photograph 11

Appendix B: Drawings

Plan 1 – Site extent and location



Borough Council of King's Lynn & West Norfolk	Title: Dobby Drive and St Nicholas Retail Historic mapping 1843-1893	Project / Details: Part 2A	Drawn by: FAP; Date: Oct 2017; Scale: 1:3,000; Drawing / Reference Number: Map 1



Borough Council of King's Lynn & West Norfolk

Title: Dobby Drive and St Nicholas Retail Historic mapping 1945-170

Project / Details: Part 2A

Drawn by: FAP

Date: Oct 2017

Scale: 1:3,000

Drawing / Reference Number: Map 2

Borough Council of
King's Lynn &
West Norfolk

Title
Dobby Drive and
St Nicholas Retail
Aerial Photo 1999

Project / Details
Part 2A

Drawn by	Date	Scale
FAP	Oct 2017	1:3,000

Drawing / Reference Number
Map 3

Appendix C: Environmental Permits

Appendix D: Risk Assessment Methodology

The Model Procedures for the Management of Land Contamination (CLR11[1]) provide the technical framework for applying a risk management process when dealing with contaminated land.

The Borough Council's Contaminated Land Strategy has identified priority sites based on mapping and documentary information. The Contaminated Land Inspection Report collates all the existing information on the site and develops a conceptual site model to identify and assess potential pollutant linkages and to estimate risk.

The risk assessment process focuses on whether there is an unacceptable risk, which will depend on the circumstances of the site and the context of the decision. The Council has used a process adapted from CIRIA C552, Contaminated Land Risk Assessment, a guide to good practice[2] to produce the conceptual site model and estimate the risk of harm to defined receptors. This involves the consideration of the probability, nature and extent of exposure and the severity and extent of the effects of the contamination hazard should exposure occur.

The probability of an event can be classified as follows:

- Highly likely: The event appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution;
- Likely: It is probable that an event will occur, or circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term;
- Low likelihood: Circumstances are possible under which an event could occur, but it is not certain even in the long term that an event would occur and it is less likely in the short term;
- Unlikely: Circumstances are such that it is improbable the event would occur even in the long term.

The severity of the hazard can be classified as follows:

- High: Short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short term risk of pollution of sensitive water resources. Catastrophic damage to buildings or property. Short term risk to an ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Contaminated Land Statutory Guidance, April 2012');
- Medium: Chronic damage to human health ('significant harm' as defined in 'Contaminated Land Statutory Guidance, April 2012'), pollution of sensitive water resources, significant change in an ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Contaminated Land Statutory Guidance, April 2012');
- Low: Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in

[1] https://www.gov.uk/guidance/land-contamination-risk-management
[2] https://www.brebookshop.com/samples/142102.pdf

'Contaminated Land Statutory Guidance, April 2012'). Damage to sensitive buildings, structures or the environment.

Once the probability of an event occurring and hazard severity has been classified, a risk category can be assigned from the table below:

		Hazard		
		High	Medium	Low
Probability	High Probability	Very High Risk	High Risk	Moderate Risk
	Likely	High Risk	Moderate Risk	Moderate/Low Risk
	Low Probability	Moderate risk	Moderate/Low Risk	Low Risk
	Unlikely	Moderate/Low Risk	Low Risk	Very Low Risk

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

Determination of contaminated land
Contaminated Land Statutory Guidance, April 2012

Human Health

Category	
1	The local authority should assume that a significant possibility of significant harm exists in any case where it considers there is an unacceptably high probability, supported by robust science-based evidence that significant harm would occur if no action is taken to stop it. For the purposes of this Guidance, these are referred to as "Category 1: Human Health" cases. Land should be deemed to be a Category 1: Human Health case where: (a) The authority is aware that similar land or situations are known, or are strongly suspected on the basis of robust evidence, to have caused such harm before in the United Kingdom or elsewhere; or (b) The authority is aware that similar degrees of exposure (via any medium) to the contaminant(s) in question are known, or strongly suspected on the basis of robust evidence, to have caused such harm before in the United Kingdom or elsewhere; (c) The authority considers that significant harm may already have been caused by contaminants in, on or under the land, and that there is an unacceptable risk that it might continue or occur again if no action is taken. Among other things, the authority may decide to determine the land on these grounds if it considers that it is likely that significant harm is being caused, but it considers either: (i) that there is insufficient evidence to be sure of meeting the "balance of probability" test for demonstrating that significant harm is being caused; or (ii) that the time needed to demonstrate such a level of probability would cause unreasonable delay, cost, or disruption and stress to affected people particularly in cases involving residential properties.
2	Land should be placed into Category 2 if the authority concludes, on the basis that there is a strong case for considering that the risks from the land are of sufficient concern, that the land poses a significant possibility of significant harm, with all that this might involve and having regard to Section 1. Category 2 may include land where there is little or no direct evidence that similar land, situations or levels of exposure have caused harm before, but nonetheless the authority considers on the basis of the available evidence, including expert opinion, that there is a strong case for taking action under Part 2A on a precautionary basis.
3	Land should be placed into Category 3 if the authority concludes that the strong case described in 4.25(a) does not exist, and therefore the legal test for significant possibility of significant harm is not met. Category 3 may include land where the risks are not low, but nonetheless the authority considers that regulatory intervention under Part 2A is not warranted. This recognises that placing land in Category 3 would not stop others, such as the owner or occupier of the land, from taking action to reduce risks outside of the Part 2A regime if they choose. The authority should consider making available the results of its inspection and risk assessment to the owners/occupiers of Category 3 land.

Human Health

Category	
4	The local authority should consider that the following types of land should be placed into Category 4: Human Health: (a) Land where no relevant contaminant linkage has been established. (b) Land where there are only normal levels of contaminants in soil, as explained in Section 3 of this Guidance. (c) Land that has been excluded from the need for further inspection and assessment because contaminant levels do not exceed relevant generic assessment criteria in accordance with Section 3 of this Guidance, or relevant technical tools or advice that may be developed in accordance with paragraph 3.30 of this Guidance. (d) Land where estimated levels of exposure to contaminants in soil are likely to form only a small proportion of what a receptor might be exposed to anyway through other sources of environmental exposure (e.g. in relation to average estimated national levels of exposure to substances commonly found in the environment, to which receptors are likely to be exposed in the normal course of their lives).