ARCADIS Design & Consultancy for natural and built assets

TFL_PSF_9131 SITE INVESTIGATIONS: SMALL SITES INITIATIVE
LAND AT ARBUTHNOT LANE

Summary Report

FEBRUARY 2019



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Land at Arbuthnot Lane

Summary Report

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1 Introduction

Arcadis Consulting (UK) Limited (Arcadis) has been commissioned by Transport for London (TfL) to undertake a number of technical surveys for a site referred to as Arbuthnot Lane, Bexley ('the Site').

TfL is aiming to divest a number of small sites to enable prospective regeneration. The objective of the Small Sites Initiative is to provide robust and pragmatic advice that sensibly de-risks each of the sites such that unreasonable "abnormal" development costs are not incurred by developers.

This report provides a summary of the technical surveys commissioned for the Site and reference should be made to the individual reports for further detailed information.

The Site covers approximately 0.14 hectares and is located in the east of the London Borough of Bexley, between Arbuthnot Lane and the A2 East Rochester Way, centred on NG 548580, 174359.

The Site is bounded by East Rochester Way to the south and Arbuthnot Lane from the north-east to the south-west and residential housing and hedgerows to the east. There is a manhole near the southern edge of the Site boundary.

The Site is currently unoccupied greenspace with several trees.

The surveys carried out for Arbuthnot Lane, Bexley comprise the following;

- Topographical and Buried Services Survey (Ref 1);
- Archaeological Desktop Review (Ref 2)
- Ecology Assessment (Ref 3)
- Arboricultural Survey (Ref 4); and
- Geotechnical and Geo-Environmental Desk Study Report (Ref 5)

A summary of the findings of these surveys are detailed in the following sections.

2 Topographical and Buried Services Survey

The topographical survey indicates that the Site slopes downwards to the south with the level in the north eastern corner measured as 37.14m and in the south eastern corner as 33.76m (Ordnance Survey Datum). There are several trees indicated across the Site.

Services are indicated around the perimeters of the Site and close to the southern boundary. There is a surface water drainage pipe crossing from north to south in the western part of the Site. There is a foul water drainage pipe crossing from west to east in the southern part of the Site. A manhole chamber connected to this drainage is located on Site as indicated on the survey drawings.

It is understood that 68 Arbuthnot Lane has the right to use and maintain the drain and catch pit for the passage of sewerage, water and soil from their property together with a right to enter the land and to excavate for the purposes of exercising the rights granted. This may need to be investigated further, however no pipework between the catch pit and property were identified in the survey. If access is still required it could be possible that the catch pit is moved to the garden of 68 Arbuthnot Lane.

3 Archaeology Desktop Review

An archaeological desk-top review for the Site located at Arbuthnot Lane has been carried out. This involved a rapid information-gathering and review of the Site and a 500m study area using information from publicly held sources. A brief appraisal of potential heritage/archaeological constraints and opportunities at the Site has been made.

The data reviewed for this appraisal indicates a likely low potential for buried archaeological remains to survive at the Site. This is because the Site remained unoccupied greenspace until the 1930s when it became the location of a housing development. The houses on the Site were demolished in the 1970s. The Site was later disturbed by landscaping which changed its topography. While there remains a possibility of prehistoric remains to exist on Site, the degree of disturbance on the Site is high enough that remains would have been disturbed.

There are no designated assets i.e. scheduled monuments or listed buildings within the Site and there are none within the study area.

The Greater London Archaeological Advisory Service (GLAAS) who advise the local planning authority are likely to recommend a full archaeological desk-based assessment (DBA) for the Site as well as an evaluation to be undertaken prior to any planning application submissions.

4 Ecology Assessment

The ecological assessment comprised a desk-based study using publicly available information and an ecological constraints survey to identify potential constraints present on Site.

Based on the assessment undertaken to date, there are no likely significant ecological constraints with regards to the development of this Site.

No Statutory or non-statutory designated sites (including ancient woodlands or woodlands listed on the Ancient Woodland Inventory (AWI)) identified within the vicinity of the Site have the potential to be significantly impacted by development on the Site.

Constraints are listed below:

- The Site was dominated by scattered trees, scrub and a hedge. The habitats on Site were generally un-diverse due to the lack of positive management. However, these habitats have value in terms of green infrastructure, likely performing important ecosystem services (such as water quality and volume attenuation and air quality attenuation etc.).
- There is potential for nesting birds to be utilising the trees, scrub and hedges on the Site, including species listed on S41 and the London BAP such as house sparrow. Removal of suitable vegetation on Site will need to be conducted outside of the bird nesting season (March – August inclusive) or under an ecological watching brief.
- There is potential for fox and hedgehogs which is a London BAP and Priority Species S41 (also protected from inhumane killing or injury) to use the Site. Employ a two-stage removal of scrub suitable for hibernating hedgehogs should this be required during the hibernation season (November to March seasonally dependant).
- There will be some ecological benefit from the removal of non-native and invasive species on LISI, which is likely to occur when the Site is cleared for any construction. There is no legal obligation to control the LISI species (Cherry laurel) recorded on the Site or to remove it as controlled waste but it is good practice to remove them and to avoid their spread.
- Trees and other vegetation should be replaced within any proposed soft landscaping and these designs should be evolved in liaison with an ecologist and arboriculturist. In addition, rain gardens, biodiversity roofs and other green infrastructure should be considered within any development.
- There are also opportunities for enhancements for London BAP species. Bird boxes for sparrows would be a valuable enhancement, along with bat roosting boxes. Implementation permeable fencing would be of benefit to small mammals, such as hedgehog, which is a priority species currently in decline.

5 Arboricultural Survey

A constraints walkover and assessment was conducted to describe the general arboricultural features and potential constraints with regards to trees on Site.

A total of 18 arboricultural items were recorded within the study area as follows:

- Sixteen individual trees on-Site;
- Two hedgerows on the east and south east side of the site.

Three individual trees were graded as Category B (trees of moderate quality). Twelve individual trees and two hedgerows have been identified as Category C (trees of low quality). One individual tree has been graded as Category U (trees of poor quality unsuitable for retention).

There is currently no proposed design layout and therefore it is not possible to say whether the trees would need to be removed and if there is space for any new trees to be re-provisioned on the Site. This can be determined once designs are developed.

The dominant tree species within the Site are Silver birch (*Betula pendula*) and Hawthorn (*Crataegus monogyna*).

No trees are subject to Tree Preservation Orders or located within a Conservation Area.

While unlikely to prevent development, tree protection for trees to be retained and tree re-provisioning for any trees lost due to development are a material consideration for planning determination. If trees cannot be replaced on-Site due to development, off-Site options for tree re-provisioning to ensure no net loss should be considered. Individual Local Planning Authorities may ask for re-provisioning in excess of 1 to 1 for trees of Category B grade.

The main development considerations for the trees are:

- Over-hanging crowns;
- The planting location, height, width and density of the crowns will cast shade on to the Site;
- The Root Protection Area (RPA) of the trees within the Site; and
- According to British Geological Survey on-line map the Site is on London Clay. Therefore, the foundation design of any proposed new structure will have to reduce the risk of vegetation induced clay shrinkage subsidence damage occurring.

Should any future proposed development require tree removals or RPA incursions within RPAs of the retained trees an Arboricultural Impact Assessment (AIA) will be required by the LPA in support of a planning application.

A bespoke Arboricultural Method Statement may be required post planning and when the construction details are known to protect the retained trees within and adjoining the Site.

All new tree planting should be in accordance with British Standard 8545: Trees: From Nursery to Independence in the Landscape – Recommendations, 2014 and all tree works must be carried out by a qualified contractor in accordance with BS3998:2010: Tree Work – Recommendations.

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6 Geotechnical and Geo-Environmental Desk Study

The geo-environmental and geotechnical desk study comprises a review of existing historical and current information on the Site. No intrusive site investigations have taken place.

The historical review revealed previous development on the Site is limited to residential buildings (later demolished circa 1975) and a manhole cover in the south-east corner. Significant developments to areas surrounding the Site include an electricity substation from 1972 and a gas works from 1897 to 1921, however these are down hydraulic gradient from the Site and therefore unlikely to cause an impact to the Site.

Potential risks to human health, controlled waters and the built environment have been identified associated with potential on-site sources of Made Ground. Potential risks to the receptors have been identified by an off-site source of a transport company registered 32m to the north of the Site.

It is recommended that an intrusive site investigation is carried out prior to redevelopment to quantify these risks. This should include the contamination testing of soils and leachates, groundwater monitoring and gas monitoring in accordance with best practices and current guidance.

Potential founding solutions will be dependent on the encountered thickness of Made Ground and the geotechnical properties of the natural deposits. Made Ground is generally considered unsuitable for foundations due to its variable composition and its potential for high total and differential settlement. Deeper trench fill may be possible although the maximum practical extent of this type of foundation is in the region of 2-2.5m. In areas of deeper Made Ground, or where deeper soft / loose bands are recorded either piling or ground treatment e.g. vibro-stone columns should provide a suitable foundation solution. The advice of a specialist ground improvement contractor should be sought to verify the suitability of the ground for treatment.

There is a potential risk from UXO and it is recommended that a site specific detailed desk study is undertaken prior to any intrusive investigations or earthworks.

7 References

1) 40Seven (2019) TfL Sites Phase 2 Small Sites Arbuthnot Lane Pas128 M4p Underground Utility Mapping Survey (1670_P_Arbuthnot_Lane_SiteC)

2) Arcadis Consulting (UK) Limited (2019) TfL Phase 2 Site Investigations: Small Sites Initiative Arbuthnot Lane, Bexley, 10024781-ARC-03-XX-RP-YY-0001-01-Archaeology Desktop Review

3) Arcadis Consulting (UK) Limited (2019) Arbuthnot Lane, Bexley, Ecology Assessment (Report Number 10024781-ARC-03-XX-RP-YY-0001-01-Ecological Assessment)

4) Arcadis Consulting (UK) Limited (2019) Arbuthnot Lane, Bexley, Preliminary BS5837:2012 Tree Survey Report (Report Number 10024781-ARC-03-XX-RP-YY-0001-01-Arboricultural Report)

5) Arcadis Consulting (UK) Limited ((2019) Arbuthnot Lane, Bexley, Geotechnical and Geo Environmental Desk Study (Report Number 10024781-ARC-03-XX-RP-YY-0001-01-Geo Report)

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