

KP/GRB:jlb
Project 43034
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REPORT ON
PRELIMINARY CONTAMINATION ASSESSMENT
PROPOSED RESIDENTIAL AND COMMERCIAL DEVELOPMENT
PRINCES HIGHWAY AND ARNCLIFFE STREET
ARNCLIFFE

1 INTRODUCTION

This report details the results of a preliminary contamination assessment carried out for a proposed commercial and residential development between the Princes Highway and Arncliffe Street, Arncliffe. The work was requested by Greencliff CPL Pty Ltd, developers of the project.

The construction of a nine storey residential and commercial development complex with two levels of basement car park is proposed. The footprint of the proposed development complex covers the entire site, and hence the surface of the entire site will be sealed with no access to soil. The preliminary contamination assessment was carried out in conjunction with a geotechnical investigation of the site to provide technical information for the proposed development prior to the settlement of the property sale.

The contamination assessment comprised a site inspection, a brief review of limited site history, environmental sampling from 10 locations and the installation of three piezometers for the sampling of groundwater. Field work was followed by the analysis of selected soil and groundwater samples for potential contaminants the analysis of potential acid sulphate soils and the reporting the findings of the investigation.

2 SITE DESCRIPTION

The site is an approximately L shaped land parcel with a site area of approximately 1.1 hectares. The site is bounded by Arncliffe Street to the north, the Princes Highway to the south, Brodie Spark Drive, a car yard and an auto wreckers yard to the east and Suttons Holden Car dealership to the west (see Site Drawing Appendix A).

Site levels are variable across the site, however there is a dip of approximately 3 m along the Arncliffe street frontage in a southerly direction, however this may have been altered by levelling works during the construction of the buildings observed on-site. There is a slight dip of 0.5 m, from a levelled strip of land running in an east-west direction in the central part of the site towards the Princes Highway. The site also has a slight dip along frontage to the Princes Highway, in a northerly direction of about 0.5 m.

The site is presently occupied by a number of land parcels, with a number of building associated with commercial and industrial uses and is described as Lots 1-9. They are summarised as follows;

Lot 1 – this Lot is occupied by a precast concrete panel warehouse and office. A concrete slab covers the entire base of the warehouse and office. Paragon Cosmetics (a small cosmetics warehouse and packaging facility) presently occupy these premises.

Lots 2 & 3 – this lot is predominantly occupied by a steel fabricated building. A concrete slab covers the entire base of the building and office. Banksia Smash Repairs presently occupy these premises. To the west of Lot 2 and east of Lot 1, a 6.5 m wide concrete covered laneway services both Banksia Smash Repairs and Paragon Cosmetics. Banksia Smash Repairs (Auto repair and panel beating) currently occupies these premises

Lots 4, 5 & 6 – this lot is occupied by a steel fabricated split level warehouse. A concrete slab covers the entire base of the warehouse building and office areas on this site. Sydney Airpark (a business providing undercover secure parking) presently occupy this site.

Lots 7 & 8 – this lot is occupied by an office building, a washbay, a mechanical repairs workshop and open areas where vehicles are presently parked. NQ Australia Rentals (a business hiring out campervans) presently occupy this site.

Lot 9 – this lot is occupied by an office building and a t-shaped steel building with flexible and concrete pavements servicing the office at the front of the property and providing access to the rear buildings on both the eastern and western boundaries. E R McNamara Smash Repairs (an auto repair shop providing mechanical repairs, panel beating and detailing) presently occupy this site.

3 BACKGROUND

A review of anecdotal information and aerial photographs is summarised below, with the aerial photographs included in appendix B.

Circa 1930 – the site is predominantly occupied by a rural property estate with two buildings, plus a shed adjacent to the Princes Highway. A water channel is visible within the site heading North East from the southern corner of the site to midway along the southern boundary before heading south west. *Aerial Photograph 1*, County of Cumberland, (Feb 1930), Run 18.

Circa 1951 – Three industrial buildings with some sheds and possible large machinery or plant are visible along Arncliffe Street. The buildings, previously identified in the 1930 photo, are present along Princes Highway with an undeveloped corridor in the middle of the site separating the Arncliffe Street and Princes Highway development. *Aerial Photograph 2*, County of Cumberland, (May 1951), Run 16.

Circa 1961 – Three additional industrial building developed along Arncliffe Street with one previously existing building which appears to have been redeveloped making a total of four. A new building was erected along the Princes Highway at the location of E R McNamara Smash Repairs, possibly a service station. The remainder of the site is still undeveloped with some plant or machinery adjacent to the new building along the Princes Highway. *Aerial Photograph 3*, County of Cumberland, (June 1961), Run 39.

Circa 1970 – No further development visible on site. *Aerial Photograph 4*, County of Cumberland, (May 1978), Run 20.

Circa 1978 – No further development on site however a number of cars appear to occupy the area between the possible service station on the Princes Highway and the corner of Brodie Sparks Drive (possibly an old car yard). *Aerial Photograph 5*, County of Cumberland, (May 1978), Run 19.

Circa 1986 – A new building is evident on Brodie Spark Drive, where the existing wreckers is located (technically this is on an adjacent lot to the subject site under review in this report). Cars still present the on undeveloped portion of site. The water channel noted in 1930 photograph appears to have been backfilled in association with a development south of the site. *Aerial Photograph 8*, Sydney, (August 1986), Run 25E.

Circa 1994 – a new building is visible to the north east of the possible service station site on Princes Highway. A new building to the rear of the possible service station has also been developed. *Aerial Photograph 9*, Sydney, (October 1994), Run 12.

Circa 2002 – no further development appears to have occurred on site. *Aerial Photograph 10*, Sydney, (March 2002), Run 12.

Anecdotal information obtained from discussions with long term tenants and owners indicated the following;

Lot 1 - It is understood that a printing firm occupied these premises prior to Paragon Cosmetics. It is further understood that the concrete sump pit, with dimension of approximately 1 m by 1 m by 0.5 m deep, at the rear (eastern) side of lot 1 was used for the disposal of the chemical by-products produced from the printing process.

Lots 2 & 3 – In the laneway to the west of Lot 2, ringlets were observed and following discussions with the site owner and tenant the ringlets are understood to be associated with chassis straightening equipment associated with a previous Truck Repairs business that occupied the site. It is also understood that there may have been an underground storage tank within this laneway that was apparently not removed. However the existence of a UST in this location could not be confirmed.

Lot 6 – along the Brodie Spark Drive side, an uneven strip of floor slab (approximately 5 m in length) is elevated approximately 200- 300 mm above the surrounding ground surface. It is

understood from the owner, that sandstone bedrock was encountered in this area and the slab was poured above the bedrock in order to achieve a uniform slab level.

Lots 7 & 8 – The ground surface over the northern portion of the site is covered with gravel. It is understood from the owner that the gravel layer in this area is 1-2 m in thickness where as gravel on the southern half of the site is surficial only.

Lot 9 - the site is an old service station and underground storage tanks are understood to be still located in the south west corner of the site. During site inspections, 3 dip points were observed in the south eastern section of Lot 9, which suggest that there are at least 3 UST's in this Lot. However, it could not be confirmed if any further USTs were present.

4 GEOLOGY AND HYDROGEOLOGY

Reference to the Sydney 1:100 000 Geological Series indicates that the site is underlain by alluvial and estuarine sediments of Quaternary age. These sediments generally comprise silty to peaty quartz sand, silt and clay which has ferruginous and humic cementation in places and common shell layers. A small outcrop of Hawkesbury Sandstone of Tertiary age is recorded on the northern boundary of the site. On the eastern side of the Princes Highway, the geology is noted to be of Quaternary sediments associated with a "freshwater swamp" comprising "peat, sandy peat and mud."

Field work for this assessment and the geotechnical investigation confirmed the presence of shallow Hawkesbury Sandstone on the northern site boundary and alluvial and estuarine sediments to variable depths across the remainder of the site. The placement of filling on site was also noted during this investigation.

Low lying topography and close proximity to the Cooks River and Wolli Creek suggests that free groundwater levels would be at a relatively shallow depth below natural ground levels on site. Field observations and monitoring of the piezometers on site indicated groundwater levels vary between RL 0.2 and 1.2.