

21 Jul 2020

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Brunswick Investment Project Pty Ltd,
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Advertised Document
Advertised Report - 9 Pages
Application No: MPS/2020/260
Date: 21/08/2020

Reference: ESG2020-030 Summary of Environmental Condition - 145 Glenlyon Rd Brunswick V1.docx

**SUBJECT: PROPOSAL FOR WORKS AND TARGETED ENVIRONMENTAL SITE ASSESSMENT –
145 GLENYON ROAD, BRUNSWICK, VICTORIA**

Dear Matt,

As requested, please find following our summary of the findings from the environmental site assessment, with reference to the Request for Information (RFI) made by Moreland City Council (MCC) for the property located 145 Glenlyon Road, Brunswick Victoria (hereafter the site).

ESG Environmental Pty Ltd (ESG) has recently conducted a Limited Environmental Site Assessment (ESA) of the land with the aim of understanding whether potential contamination may be present that may impact on the site's suitability for the intended use.

It is understood that the proposed Intended Use of the site would be for a commercial use, comprising a warehouse style retail centre, consisting of a new multilevel warehouse building with a two-storey basement carpark that will occupy the majority of the site area of approximately 5,000m².

1 Request for Information (RFI)

The Request for Information (RFI) provided by Moreland City Council (MCC RFI) provided the following items for clarification:

"The site has been identified as potentially contaminated. Therefore, a preliminary environmental site assessment prepared by a suitably qualified professional is required.

The site assessment must:

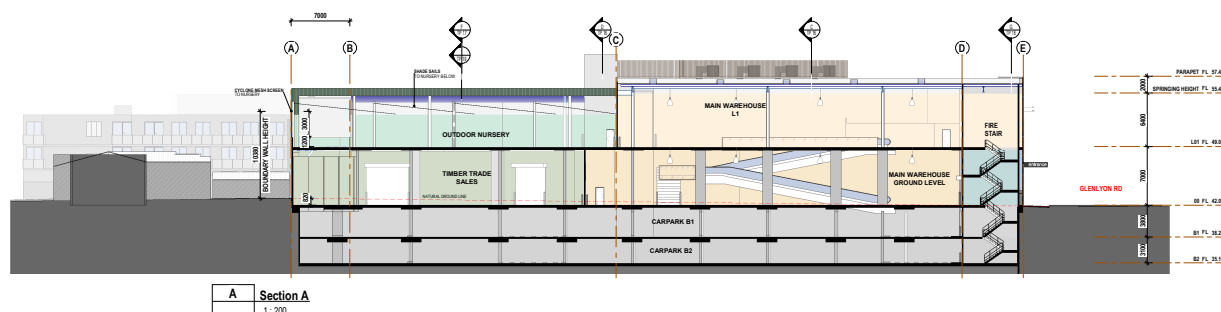
- a. *Clearly state that there has been no contamination risk found that could not be managed that may prevent the proposed use and development. This should include a history of the known activities undertaken on the land or adjoining land;*
- b. *Describe the nature of any contamination risk found that may not be able to be managed that may prevent the proposed use and development;*
- c. *Specify the name and qualifications of the environmental professional who has conducted the report; and*
- d. *Include a statement that Council can rely on the recommendations and opinions contained in the report."*



1.1 Proposed Development Design for the Site

The assessment that has been undertaken has been designed with reference to the preliminary development plans provided to ESG Environmental. The design considers a commercial warehouse style construction, with two level basement carpark to 7m below ground level.

The sectional plan for the development has been included below for reference:



2 Response to RFI Requests

ESG has provided responses to the individual questions, as detailed within the MCC RFI. The response is based on the findings of the ESA works that have been completed to date.

MCC RFI

- Clearly state that there has been no contamination risk found that could not be managed that may prevent the proposed use and development. This should include a history of the known activities undertaken on the land or adjoining land;*
- Describe the nature of any contamination risk found that may not be able to be managed that may prevent the proposed use and development;*

2.1 Historical Uses of the Site and its Surrounds

The preliminary historical review of the site has identified the following historical uses of the site and surrounds:

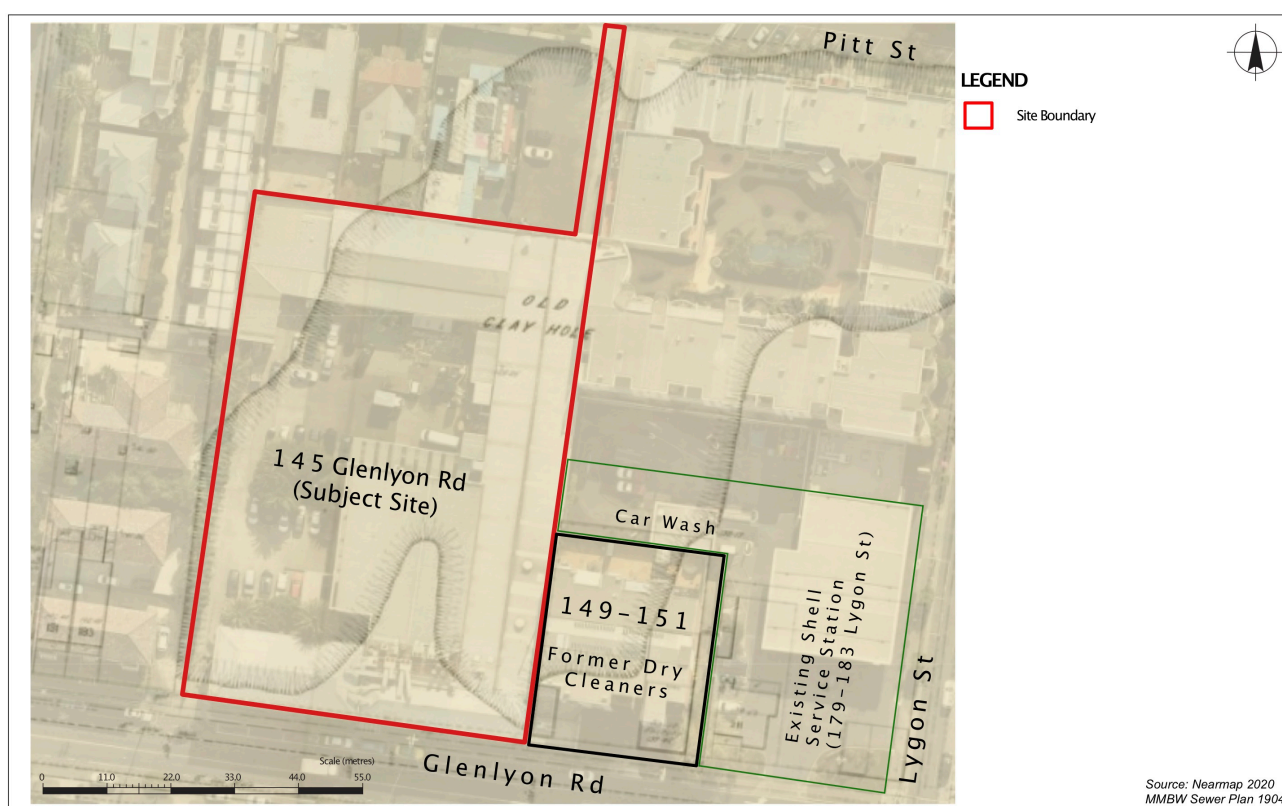
On-Site Uses

- Earliest records at the site, from Melbourne Metropolitan Board of Works (MMBW)¹ historical map dated 1904, indicate the site and immediate surrounds was historically used as a clay pit with a building in the south east corner of the property identified as a shirt factory.
- Historical Sands & McDougall directories² confirmed that a shirt factory/fabric printing business was listed at the site up until 1965 to 1974 when the site was listed as an office/leather merchant.
- Historical aerial photographs dating back to 1942 indicated that building/buildings were present at site along the south-eastern perimeter and the clay pit appears to have been filled.
- Various iterations of warehouse-type structures are visible on aerial photographs up until 1989, when the current day structures are visible.
- The site has been occupied by Chamton Pty Ltd since 1985 for the framing and glazing of pictures, prints and mirrors, which incorporates the cutting and joining of timber and alloy decorative frames.

Off-Site Uses

- The north side of the site, south of Pitt Street was occupied by residential house until the last Sands & McDougall directory in 1974.
- The eastern neighbouring property (149- 151 Glenlyon Road) was listed as a shirt manufacturing centre in 1916 until 1941 in Sands & McDougall directories, when changed use to a textile dryers/dry cleaning facility. The site continued its use as a dry-cleaning premise until 1996, when the site was redeveloped as a four storey multi-residential property.
- Further to the east exists a Shell Service Station at 179-182 Lygon Street, which has been present on the site since prior to 1962 (1962 as the P.J Martins Service Station and 1970 as Glenlyon Service Station - Sands & McDougall directories); and
- 177a Lygon Street has also been listed as the site of Houghton's Dry Cleaning (1962) and Masons Dry Cleaning Services in 1970.

The locations of the site and the surrounding sites of interest are shown within **Figure 1**.



Designed by: Philip Harvey
Drawn by: Lucy Burt
File Name: Letter Figure 1
Date Edited: 16-07-2020

Figure 1: Site, Surrounding Locations and Clay Pit Area

ESG2020-030: Preliminary ESA
145 Glenlyon Road, Brunswick

2.2 Scope of Current Environmental Site Assessment

In late June 2020, ESG undertook a soil, groundwater and vapour assessment on the site of 145 Glenlyon Rd. The scope of the assessment included:

- Eleven (11) soil bores, excavated using a Geoprobe 7720DT Drilling Rig, with all bores to be excavated as a minimum to intersect the top of the natural soils or underlying basalt.
- One of the soil bores was drilled to a depth of 12m, with the aim of intersecting regional groundwater. This bore was installed with a 50mm ID uPVC piezometer for the monitoring the standing water level and to collect regional groundwater samples.



- Two of the soil bores intersecting shallow perched groundwater within the former clay pit. Both bores were installed with a 50mm ID uPVC piezometer for the monitoring the standing water level and to collect perched groundwater samples.
- Three vapour pins were installed along the eastern boundary of the site with 149-151 Glenlyon Rd for the collection of soil vapour samples from below the building slab.

2.3 Assessment against Australian Guidance Criteria

The most recently reviewed and developed Australian health and ecological investigation and screening levels for soil and groundwater. *National Environment Protection (Assessment of Site Contamination) Measure, 1999 (as amended 2013). Schedule B1 of the 1999 National Environment Protection (Assessment of Site Contamination) Measure, as amended 2013* (hereafter referred to as the ASC NEPM), *Guideline on Investigation Levels for Soil and Groundwater*, sets out the most recently reviewed and developed Australian health and ecological investigation and screening levels for soil and groundwater.

The EPA amended the State Environment Protection Policy (Prevention and Management of Contamination of Land) (the Land SEPP), effective from 26 September 2013, to incorporate the amended National Environment Protection Measure for the Assessment of Site Contamination.

Separate health and ecological investigation levels have been established for the assessment of soil to consider the different sensitivities of humans and other components of the environment.

For the purposes of this assessment, the NEPM Commercial / Industrial HSL-D criteria will be used for the proposed commercial redevelopment of the site.

2.4 Findings of Current Environmental Site Assessment

In summary, the assessment identified the presence of the following on-site contamination.

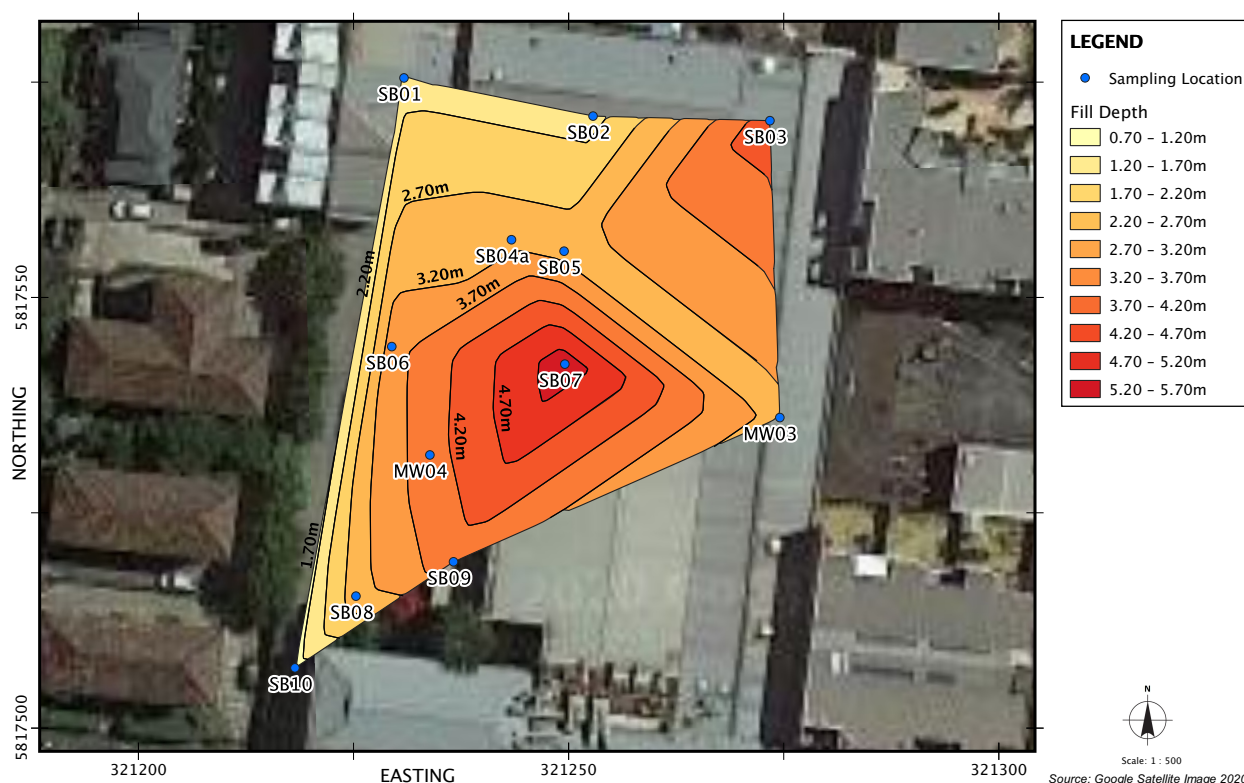
2.4.1 Historical Fill Materials

The area identified to be underlain by the historical clay pit has a fill depth ranging between 1.2m and 5.7m below ground level. The position of the pit was in general agreement with its inferred location on the 1904 MMBW sewer plan (Refer to **Figure 1**).

The depth of the historical fill has been recorded and contoured within the figure provided below.

It should be noted that no deep soil assessment locations could be placed within the southeast corner of the site, due to the low headroom inside the building:

Thickness of Historical Fill Material below ground level.



Out with the historical clay pit area, the fill depth was approximately 0.7m deep.

The fill material comprised mixed dark brown firm silty clay, with low plasticity and containing fragments of basalt, sandstone, ash, clinker and brick. A faint heavy hydrocarbon odour was noted within the fill, with an increase in odour and staining present within the central and northeastern site areas.

The fill soils analysed reported the presence of heavy end hydrocarbons and polycyclic aromatic hydrocarbons within most locations, with elevated concentrations of copper, lead, nickel and zinc within the NW corner of the site (SB04a).

The results of the soil analysis were screened against the ASC NEPM HSL-D guidance criteria, considered protective of the future commercial use of the site.

The results identified that all of the analytes were reported below the HSL-D criteria, with the exception of benzo(a)pyrene within two soil samples within locations SB01/1.0m and SB03/2.0m, located on the northern end of the site.

Both samples reported exceedances of the HSL-D benzo(a)pyrene (BaP) toxicity equivalence quotient (TEQ) of 40mg/kg, with concentrations of 49 mg/kg and 72mg/kg respectively.

The majority of the Historical Fill on the site would be considered to be a Prescribed Waste for off-site disposal purposes.

With respect to the proposed commercial development design, it is considered likely that the full extent of the impacted soils, which has been reported to a maximum depth of 5.7m, will require to be removed as part of the basement excavation works, which will extend to a general design level of 7.0m below ground level.

As such, once the basement has been excavated, it is considered unlikely that any Historical Fill that may contain elevated BaP concentrations would remain within the development area, therefore removing the potential risk to the future commercial users of the site. It should also be noted that, once the historical fill is removed, the site would likely be suitable for other, more sensitive, uses.



2.4.2 Groundwater

Groundwater exists as two separate aquifers at the site, in summary, these comprise:

- Perched Shallow Aquifer:** Depth to groundwater recorded as 4.5m below ground level, only present within the deeper areas of the filled Clay Pit; and
- Regional Aquifer:** Likely to be the main underlying aquifer, located within the basalt. Depth to groundwater of 10.5m below ground surface.

Assessment of the groundwater from both aquifers has identified that the shallow perched groundwater reports concentrations of heavy hydrocarbons and polycyclic aromatic hydrocarbons, which is likely related to the similar contaminants within the fill soils. Low concentrations of Tetrachloroethylene were also reported within the shallow groundwater within Soil Bore SB03, on the northern end of the site.

The deeper regional groundwater reports the presence of both light and heavy end hydrocarbons, with elevated concentrations of trichloroethylene. Generally, the regional groundwater within the Brunswick area flows in a southerly direction towards the Yarra River, as such, it is possible that the TCE and hydrocarbon impact within the regional groundwater may not be derived from the site, but from one of the many industrial sites to the north.

Based on the contaminant concentrations reported to date, within both the sites perched and regional groundwater, it is considered unlikely that these would pose an impediment to the sites proposed commercial redevelopment. However, consideration will require to be given to the potential vapour ingress risk posed by the chlorinated hydrocarbon within groundwater into the proposed basement structure.

2.4.3 Soil Gas / Vapour Assessment adjacent to 149-151 Glenlyon Road

Three soil vapour pins were installed spatially along the southeast boundary of the site, adjacent to the area previously occupied by the former dry-cleaning business located on the adjacent site of 149-151 Glenlyon Road.

The vapour pins were installed through the concrete slab and allowed for the sampling of soil vapour from just below the slab level. The results of the soil vapour analysis identified the presence of tetrachloroethylene (PCE) and its daughter breakdown products within the sampled soil gas. The concentrations of PCE and associated breakdown products increased in concentration in a southerly direction, with the highest concentrations reported within the vapour pin (VP3), located closest to Glenlyon Road.

This contamination is considered to be directly related to the adjacent use of the neighbouring site of 149-151 Glenlyon Road as a dry-cleaning business. As such, this contamination is unlikely to be site derived, and therefore under the *Environment Protection Act 1970*, does not constitute contamination from the subject sites historical use.

It is possible that this contamination may pose a risk to the future commercial users of the site, particularly within the proposed basement structure, however this risk can be mitigated through the implementation of one or more of the following protective measures:

- Further assessment of the vapour risk, based on the assessment of soil gas concentration that may be derived from the proposed sites basement design;
- Where a potential risk may exist, the vapour risk may be managed by increasing the ventilation rate within the building basement; or
- By the installation of a vapour mitigation system (e.g. a gas impermeable membrane or barrier) installed adjacent to the boundary of 149-151 Glenlyon Road.



3 Qualification and Reliance on Recommendations

The following additional requests were made within the MCC RFI:

- c. *Specify the name and qualifications of the environmental professional who has conducted the report; and*
- d. *Include a statement that Council can rely on the recommendations and opinions contained in the report."*

3.1 ESG Environmental Project Manager

Philip Harvey, the project manager and author of this report, is a Principal Environmental Geochemist, with over 24 years of experience in the assessment and management of contaminated sites.

Philip holds an Honours Degree in Environmental Biogeochemistry from the University of Glasgow and is the Director of ESG Environmental Pty Ltd, which has been in professional operation for over 10 years. ESG Environmental has twelve (12) full time professional staff providing both Environmental and Occupational Hygiene Services.

For further information on the author of this report and ESG Environmental, reference can be made to our web resource: www.esgenvironmental.com.au

3.2 MCC Reliance on Provided Opinion

ESG Environmental Pty Ltd can provide reliance of the included findings to Moreland City Council (MCC), which is offered with respect to our standard Statement of Limitations, a copy of which has been included within **Appendix A**.

We hope the above information is to your satisfaction. If you have any further questions, please do not hesitate to contact myself directly.

Yours sincerely

Philip Harvey
Principal Environmental Geochemist
for ESG Environmental Pty Ltd.
Mobile: 0415 715515

Enclosed:

Appendix A

ESG Standard Statement of Limitations of Report



Appendix A

ESG Standard Statement of Limitations of Report

This report has been prepared in accordance with the scope of services described in the previous sections of this report. The report has been prepared for the sole use by the client.

The report or document does not purport to provide legal advice and any conclusions or recommendations made should not be relied upon as a substitute for such advice.

The report does not constitute a recommendation by ESG for the client (or any other party) to engage in any commercial or financial transaction and any decision by the client or other party to engage in such activities is strictly a matter for the client.

The report relies upon data, surveys, measurements and results taken at or under the particular times and conditions specified herein. Any findings, conclusions or recommendations only apply to the aforementioned circumstances and no greater reliance should be assumed or drawn by the Client. Furthermore, the report has been prepared solely for use by the Client and ESG accepts no responsibility for its use by other parties. The client agrees that ESG's report or associated correspondence will not be used or reproduced in full or in part for promotional purposes and cannot be used or relied upon in any prospectus or offering.

No warranties, express or implied, are made. Subject to the Scope of Work, ESG's assessment is limited strictly to identifying typical environmental conditions associated with the subject property and does not include evaluation of the structural conditions of any buildings on the subject property or any other issues.

Additionally unless otherwise stated ESG did not conduct soil, air, wastewater or other matrix analyses including asbestos or perform contaminated sampling of any kind. Nor did ESG investigate any waste material from the property that may have been disposed of off the site, nor related waste management practices.

The results of this assessment are based upon site inspection conducted by ESG personnel and/or information from interviews with people who have knowledge of site conditions and/or information provided by regulatory agencies. All conclusions and recommendations regarding the property are the professional opinions of the ESG personnel involved with the project, subject to the qualifications made above.

While normal assessments of data reliability have been made, ESG assumes no responsibility or liability for errors in any data obtained from regulatory agencies, statements from sources outside of ESG, or developments resulting from situations outside the scope of this project.

ESG is not engaged in environmental auditing and /or reporting of any kind for the purpose of advertising sales promoting, or endorsement of any clients interests, including raising investment capital, recommending investment decisions, or other publicity purposes. ESG assumes no responsibility or liability for errors in any data obtained from regulatory agencies, statements from sources outside of ESG, or developments resulting from situations outside the scope of this project.

Information relating to soil, groundwater, waste, air or other matrix conditions in this document is considered to be accurate at the date of issue. Surface, subsurface and atmospheric conditions can vary across a particular site or region, which cannot be wholly defined by investigation. As a result, it is unlikely that the results and estimations presented in this report will represent the extremes of conditions within the site that may exist. Subsurface conditions including contaminant concentrations can change in a limited period of time and typically have a high level of spatial heterogeneity.

In relation the conduct of Asbestos inspections or the preparation of hazardous materials reports ESG has conducted inspections and the identification of hazardous material within the constraints presented



by the property. Whilst efforts are made to access areas not normally accessed during normal use of the site to identify the presence of asbestos or other hazardous material, unless explicitly tested no guarantee can be provided that such material is or is not present.

From a technical perspective, there is a high degree of uncertainty associated with the assessment of subsurface, aquatic and atmospheric environments. They are prone to be heterogeneous, complex environments, in which small subsurface features or changes in geologic conditions or other environmental anomalies can have substantial impact on water, air and chemical movement.

Major uncertainties can also occur with source characterisation, assessment of chemical fate and transport in the environment, assessment of exposure risks and health effects, and remedial action performance. These factors make uncertainty an inherent feature of potentially impacted sites. Technical uncertainties are characteristically several orders of magnitude greater at impacted sites than for other kinds of projects.

ESG's professional opinions are based upon its professional judgment, experience, and training. These opinions are also based upon data derived from the limited testing and analysis described in this report or reports reviewed. It is possible that additional testing and analysis might produce different results and/or different opinions or other opinions. ESG has limited its investigation(s) to the scope agreed upon with its client. ESG believes that its opinions are reasonably supported by the testing and analysis that has been undertaken (if any), and that those opinions have been developed according to the professional standard of care for the environmental consulting profession in this area at this time. Other opinions and interpretations may be possible. That standard of care may change and new methods and practices of exploration, testing and analysis may develop in the future, which might produce different results.