Victorian Planning Authority

Part of Preston Market Precinct - Land Capability Assessment
St Georges Road, Preston
VIC 3072

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Prepared For:

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1 Introduction

1.1 Background

Meinhardt Infrastructure & Environment Pty Ltd (**Meinhardt**) was engaged by the Victorian Planning Authority (**VPA**) to undertake a Land Capability Assessment (**LCA**) for two (2) parcels of land (**Investigation Sites**) associated with the Preston Market Precinct Structure Plan (**PMPSP**). These parcels of land include sites:

- On the corner of Murray Road and St. Georges Road, Preston, encompassing approximately 0.19 ha (the **Northern Investigation Site**); and
- Corner of Cramer Street and St. Georges Road, Preston, covering approximately 0.44 ha (the **Southern Investigation Sites**).

A Site location plan is provided in ***Appendix A, Figure 1***.

The Preston Market Precinct (**PMP**) encompasses land between Murray Road in the north, Cramer Street to the south, St Georges Road to the west and the access road to the rear of shops fronting High Street to the east. It excludes Preston Rail Station and associated railway land as well as 104 St Georges Road, Preston. The Investigation Sites are located in the western portion of this area.

1.2 Objectives and Purpose

Meinhardt understands that the objective of conducting these works is to prepare a LCA on the Investigation Sites to understand their suitability for residential, commercial and industrial land uses, and to inform strategic decisions on these sites as part of the PMPSP .

Specifically, the purpose of this assessment is to understand the existing environmental condition of the Investigation Sites, and to ascertain whether an Environmental Audit Overlay (**EAO**) should be applied

2 Scope of Work and Methodology

2.1 Scope of Work

In order to complete the LCA, Meinhardt developed a scope of work to assess current and historical land use within the Investigation Sites. The scope of work is summarised below.

- Attendance of a project inception meeting with VPA via video conferencing to confirm the key objectives of the project and define the Investigation Sites;
- Completion of a desktop assessment of the Investigation Sites within the PMP Study Area including detail on current and historical land use, geological and environmental setting as well as any other pertinent planning and ownership information; and
- Preparation of Draft and Final reports upon completion of the desktop assessment. Based on the review of the desktop information, Meinhardt has provided VPA with Potential for Contamination (**PfC**) ratings for each parcel of land within the Investigation Sites and all findings from the desktop assessment in this report.

2.2 Methodology

Meinhardt completed the works in general accordance with the following guidelines and current applicable industry best practice:

- Australian and New Zealand Environment and Conservation Council (ANZECC) and the National Health and Medical Research Council (NHMRC), *Australian and New Zealand Guideline for the Assessment and Management of Contaminated Sites*, January 1992 (**ANZECC 1992**);
- Department of Environment, Land, Water and Planning (**DELWP**), *Planning Practice Note 30 - Potentially Contaminated Land*, 2021 (**PPN30**);
- National Environment Protection Council, *National Environment Protection (Assessment of Site Contamination) Measure*, 1999 (as amended 2013) (**NEMP 2013**);

- Standards Australia, *Australian Standard AS44812.1 – Guide to the Investigation and Sampling of Sites with Potential Contaminated Soil*, 2005 (**AS4482.1-2005**);
- State Government of Victoria, *Environmental Reference Standard*. Victoria Government Gazette No. S245, 26 May 2021 (**the ERS**).

2.2.1 Land Capability Desktop Assessment

The LCA was completed in the form of a desk based Preliminary Site Investigation (**PSI**) as defined in the National Environment Protection Council, *National Environment Protection (Assessment of Site Contamination) Measure*, 1999 (as amended 2013) (**NEPM 2013**).

The desk-based PSI comprised a search of current and historical datasets and included:

- Review of available geological, hydrological and environmental information (i.e., geological maps, historical aerial photography, planning provisions, etc.)
- Review of regulatory and planning guidelines;
- Review of any previous or currently publicly available reports regarding contamination, adverse amenity uses or geological/ hydrological conditions in or within the vicinity of the Investigation Sites;
- Review of Australian Heritage Database specifically for historic uses related to the potential for contamination;
- Discussions with VPA regarding known existing and historic land uses, where those uses may result in soil and groundwater contamination and adverse amenity land uses; and
- Other information that may be deemed appropriate for notification to VPA.

The information obtained from the above tasks was then collated to provide an assessment of the Potential for Contamination (**PfC**) at each property, in accordance with the DELWP, *Planning Practice Note 30 - Potentially Contaminated Land*, 2021 (**PPN30**).

A 'traffic light' system (**Green = Low**, **Yellow = Medium** and **Red = High**) was used in the PfC assessment of the potential for contamination for each Property.

The PfC assessment also identified potential contamination sources and Contaminants of Potential Concern (**CoPC**) which may not fall completely within the remit of the PPN30 guidance, but which may nonetheless pose a potential risk to the future development of a property.

No sampling and analysis of soils, surface water, groundwater or soil vapour/ ground gas was performed as part of the scope of works.

2.2.2 Reporting

Meinhardt compiled the information gleaned during the desk-based assessment into this PPN30-compliant report, to delineate which Investigation Sites are considered suitable (or otherwise) for the proposed development and whether further environmental assessment may be required in support of Statement or Certificates of Environmental Audit. The report also provides detail on:

- A summary of the project background and works completed;
- Review and interpretation of all information collected for the LCA;
- General discussion of site setting with regard to geology, hydrogeology and hydrology;
- Completion of a PfC assessment for each of the Investigation Sites;
- Recommendations for future additional assessment, management and/or remediation based on the outcomes of the PfC assessment and the PPN30 guidance;
- Provision of a comprehensive PfC assessment table showing the findings of the LCA for each property within the Investigation Sites;
- Provision of figures showing planning, geological, hydrogeological, hydrological and relevant overlays for the Investigation Sites; and
- Provision of colour coded figures showing the PfC assessment rating for each Investigation Site

3 Land Capability Desktop Assessment

As part of the desktop component of work, Meinhardt commissioned LotSearch to conduct a comprehensive property information search for the Investigation Sites. The information in the following sections of this report has predominantly been obtained from the LotSearch report and other supplementary sources as detailed.

The Location Plan and Property Plan are presented in ***Appendix A, Figure 1***. A copy of the LotSearch report for the Investigation Sites is included as ***Appendix B***.

3.1 Site Characterisation

3.1.1 Location and Description

The Investigation Sites in total encompass an area of approximately 0.63 ha and include a total of 2 individual Properties (some with multiple parcels), of which most are being used for the Level Crossing Removal project and are largely undeveloped.

A summary of the Property details is provided in ***Table 3-1***.

Table 3-1 Property Details

Meinhardt LCA Property ID	Property Address	Standard Parcel Identifier	Approximate Property Area (Ha)
Northern Investigation Site	102 St Georges Road, Preston VIC 3072	1\TP95213	0.19
Southern Investigation Site	30 Cramer Street, Preston VIC 3072 and part of 30A Cramer Street, Preston VIC 3072	144G\PP2796 and parts of TP873404 as well as 1\TP618847	0.44

3.1.2 Topography

The topography of the Study Area is summarised in ***Table 3-2***. The Study Area topography is presented in the LotSearch report.

Table 3-2 Summary of Topography

Meinhardt LCA Property ID	Surface Elevation	General Topography
Northern Investigation Site	64 - 65 m AHD	Generally flat with a gentle slope to the south, south-west.
Southern Investigation Site	63 - 64 m AHD	Generally flat with a gentle slope to the south.

In general, the topography across the Investigation Sites slopes gently towards the south.

3.1.3 Current Land Use within the Investigation Sites

It is understood that the Investigation Sites are currently used as staging sites for the level crossing removal project occurring on the level crossing across Murray Road, to the north-east of the Northern Investigation Site. The sites include car parking and also laydown areas for materials used in the infrastructure upgrade works.

3.1.4 Current Surrounding Land Use

The area between the two (2) Investigation Sites is currently occupied by a medium density residential development. To the north of the Investigation Sites is Murray Road, with established low density residential land use further north and north-east of the sites. The rail corridor separates the Investigation Sites from a large car park used for the Preston Market, to the east. St. Georges Road bounds the Investigation Sites to the west, with residential housing further to the west. South-west of the sites and beyond St. Georges Road as well as Cramer Street are a series of commercial and educational buildings including Melbourne Polytechnic, a clothing store, and a circus education business.

Immediately south of the Southern Investigation Site, beyond Cramer Street are a series of residential properties and to the south east of the Investigation Sites is Preston City Oval.

3.1.5 Proposed Land Use

This LCA report has been prepared as part of the pre-planning process for the PMPSP, with specific proposed land uses to be decided in the future (partly based on the outcomes of this LCA report). For the purposes of assessing the suitability of the properties for future land use, Meinhardt has considered those potential land use categories listed in the Environmental Reference Standard[1], to provide a comprehensive assessment and allow for potential changes which may occur during the design and planning process.

For the purposes of this LCA, a conservative approach has been adopted, assuming that potential future land use may include 'sensitive' land uses, such as residential properties with gardens and other sensitive uses with high potential for access to soils. It is understood however that VPA also wish to understand the capability of the Study Area for less sensitive uses such as commercial and industrial land uses.

3.2 Current Planning Zones and Overlays

The Lotsearch report provided in ***Appendix B*** provides a summary of current land use and relevant planning overlays where they affect the Investigation Areas.

Copies of Victorian State Government Department of Environment, Land, Water and Planning (**DELWP**), *Planning Property Reports* for each Property within the Investigation Sites are also provided in ***Appendix C***.

3.2.1 Current Planning Zones

A review of the DELWP Planning Maps Online service indicated that the Investigation Sites are currently zoned as Priority Development Zone (**PDZ**). ***Appendix A, Figure 2*** shows planning zones for the sites and surrounds.

The purpose of the PRZ is to:

- *Implement the Municipal Planning Strategy and the Planning Policy Framework;*
- *To recognise or provide for the use and development of land for projects and areas of regional or State significance;* and
- *To provide for a range of uses and the development of land in accordance with a plan incorporated in this scheme;*

3.2.2 Current Planning Overlays

A review of the DELWP Planning Maps Online service indicated that various planning overlays exist on the Investigation Sites. Where a planning overlay has been identified, a permit may be required before development of the Property can commence.

The following planning overlays were identified for the Investigation Sites:

- **Development Contributions Plan Overlay (DCPO)** - Both Investigation Sites;
- **Environmental Audit Overlay (EAO)** – Both Investigation Sites; and
- **Special Building Overlay (SBO)** – Both Investigation Sites.

The purpose of the **Development Contributions Plan Overlay** is to:

- *Implement the Municipal Planning Strategy and the Planning Policy Framework; and*
- *To identify areas which require the preparation of a development contributions plan for the purpose of levying contributions for the provision of works, services and facilities before development can commence.*

[1] Victorian Government, *Environment Reference Standard*. Victoria Government Gazette No. S245, 26 May 2021.

The DCPO applies universally across both Investigation Sites and over land across the immediate surrounds.

The purpose of the **Environmental Audit Overlay** is to:

- *Implement the Municipal Planning Strategy and the Planning Policy Framework; and*
- *To ensure that potentially contaminated land is suitable for a use which could be significantly adversely affected by any contamination.*

As an EAO applies, a Preliminary Risk Screen Assessment (**PRSA**) will need to be completed to assess the potential contamination risk to the sites. It is noted that the EAO areas identified include two small slivers of land with one (1) on the eastern margin of each of the Northern and Southern Investigation Sites. Further guidance will need to be sought from EPA on the exact extent of the EAO, however this is also discussed further in this report.

The purpose of the **Special Building Overlay** is to:

- *Implement the Municipal Planning Strategy and the Planning Policy Framework;*
- *Identify land in urban areas liable to inundation by overland flows from the urban drainage system as determined by, or in consultation with, the floodplain management authority;*
- *Ensure that development maintains the free passage and temporary storage of floodwaters, minimises flood damage, is compatible with the flood hazard and local drainage conditions and will not cause any significant rise in flood level or flow velocity.; and*
- *Protect water quality and waterways as natural resources by managing urban stormwater, protecting water supply catchment areas, and managing saline discharges to minimise the risks to the environmental quality of water and groundwater.*

Both the Northern and Southern Investigation Sites contain areas bound by the SBO. Further, permits may be required for the construction of a range of site features and uses as detailed in the schedules to the SBO.

No other planning overlays exist for the Investigation Sites. A map showing all relevant planning overlays for the Investigation Sites and surrounds is included in ***Appendix A, Figure 3***.

3.3 Geology

The LotSearch report notes that the surface geology at both Investigation Sites comprises of thinly-bedded siltstones and sandstones of the Silurian-aged Melbourne Formation. This unit forms the bedrock in much of the Investigation Sites surrounds. Outcrops of Pliocene to Holocene aged colluvium and Miocene to Pliocene aged, Red Bluff Sandstone are reported to the south (colluvium) as well as west and north (sandstone) of the Investigation Sites, within 1 km.

While the aim of this report is not to provide in-depth geotechnical advice, it is noted that sandstone and siltstone, as noted to be present within the Investigation Sites, are considered strong substrates for development to occur, especially where they not significantly folded or faulted, although this may need to be confirmed by geotechnical investigations where uncertainty exists.

3.3.1 Geological Structures

A search of geological structures reported within the LotSearch report for the Investigation Sites indicated there were no known geological faults or shear zones within the sites that would affect their future development. Meinhardt notes that geological information can be coarse and obtained from observations across large areas of land, and may not be based on observations made in local outcrops. Furthermore, geological conditions may change over time and as such, should be supported by local geotechnical investigation and logging as required.

3.3.2 Soil Types

The Lotsearch report indicates the soils in the Investigation Sites (where they exist) are Sodosols per the Atlas of Australian Soils. This soil type is summarised in ***Table 3-3***.

Table 3-3 Summary of Soil Types within the Investigation Sites (Atlas of Australian Soils)

Soil Order	Symbol	Description	Meinhardt LCA Property ID
Sodosol	Tb4	Undulating to hilly, dissected by streams with narrow to moderate expanses of flats; gentle to sleep slopes of hard acidic, yellow mottled soils with some areas of shallow, grey-brown sandy soils on upper slopes. Leached sands are observed on mid and lower slopes, as well as valley plains. Flats and former swampy areas contain dark cracking clays and smaller areas of other soils including peaty surfaces in the western and southern part of the Tb4 unit.	Northern Investigation Site and Southern Investigation Site

3.3.3 Acid Sulphate Soils

The LotSearch reports indicate that both Investigation Sites have a low (6-70% chance of occurrence) of being at risk from Acid Sulphate Soils (**ASS**) as per the Commonwealth Scientific and Industrial Research Organisation (**CSIRO**), Atlas of Australian Acid Sulphate Soils.

Localised ASS may often present at the base of dams and water bodies across, however Meinhardt understands that the Investigation Sites do not contain such features.

Where ASS are found, they are usually not harmful unless exposed to air to allow for the production of sulphate minerals or sulphuric acid, which then threaten ecological receptors and be a detriment to general environmental quality. Furthermore, the acidity generated can be corrosive to building foundations that come into contact with ASS, which may require for the ASS to be excavated and removed during development or be appropriately managed by treatment or modifying building materials and/or practices.

3.4 Hydrology and Hydrogeology

3.4.1 Surface Water

The Investigation Sites are located within the East Port Phillip Bay Catchment. Surface water runoff from the Investigation Sites is likely to flow towards the south, south-west, in the same direction as topography and towards the nearest surface water body to the Site, the Merri Creek, approximately 1.7 km to the south west of the Investigation Sites at its nearest point.

3.4.2 Groundwater Characteristics

The DELWP *Groundwater Resource Reports*, 2021 website indicates that groundwater beneath the Investigation Sites falls within the East Port Phillip Bay Catchment and comprises the basement Mesozoic and Palaeozoic fractured rock sandstone and siltstone aquifer. It is noted that the bedrock is also comprised of mudstones and shales, as well as fractured rock volcanic, granite and granodiorites.

The depth to groundwater at the Investigation Sites is expected to be less than 5 m below ground level.

Should the future development at the Investigation Sites require deep excavations (for car parking, footings or basement layers), it is expected that groundwater will be intersected. Where groundwater is intersected, management options will need to be considered with respect to design of buildings (e.g., tanked basements), the management of water during excavation, and disposal of water if it is intersected. If groundwater is intersected, the future landholder may wish for groundwater to be tested for a common suite of potential contaminants prior to it being pumped for disposal or reused elsewhere.

3.4.3 Groundwater Resources and Usage

The LotSearch reports identify registered boreholes within 2 km of the designated search area. Registered bores, obtained from the Department of Environment and Primary Industries' (**DEPI**) Water Measurement Information System, are also provided in the LotSearch report (***Appendix B***). A total of 140 groundwater bores were reported within 2 km of the Investigation Sites. Of these, none were located within the Investigation Sites.

The groundwater bore uses listed included:

- Investigation (40 total);
- Observation (60);

- Unknown Use (2);
- Domestic and Stock (7);
- Underground Disposal (17);
- Commercial and Industrial (3); and
- Miscellaneous (1).

On these bores, eight (8) of the nine (9) closest bores to the Investigation Sites were investigation bores located between 30 and 200 m to the east and south-east and likely to be associated with the Preston Market Precinct at present. The one (1) other bore was listed as having an unknown use, though given its proximity to the Preston Market, may also be associated with groundwater investigation.

Due to the proximity of the Investigation Sites to areas of historical industrial land use, the types of bores identified are considered to be typical of the types of bores expected in such a setting. Nonetheless, the presence of bores listed as having an 'Underground disposal' use may suggest impacts to groundwater regionally are likely to persist.

3.5 Natural Hazards

The LotSearch report provided records on natural hazards that exist or have the potential to exist at each of the Investigation Sites. Records for the Investigation Sites indicated that they were not designated bushfire prone areas, did not have any records of fire history, subject to flooding based on a 1 in 100 year modelled flood extent, or in an area subject to potential coastal inundation caused by seal level rise.

3.6 EPA Records

3.6.1 Waste Management Facilities and Landfills

A review of EPA Records provided in the LotSearch report identified no EPA Prescribed Industrial Waste sites or Landfills within the Investigation Sites, however two (2) properties approximately 1 km south of the Investigation Sites were found to have previously been listed as EPA Prescribed Industrial Waste transporter sites, operated by Absolute Asbestos Removal Pty Ltd. The sites listed were at 36 and 38 Oakover Road, Preston. The distance between these sites and the Investigation Sites suggests that they are unlikely to have had an impact on the amenity of the Investigation Sites.

Further, a total of two (2) other sites within 1 km of the Investigation Sites were listed as having been used historically for waste disposal. The sites included:

- Ray Bramham Gardens – located approx. 740 m to the south of the Investigation Sites. This site was historically used as a quarry and then reportedly backfilled with 90% earth fill and 10% garbage (including municipal and inert waste materials) between 1963 and 1968. The site is currently used as a reserve and houses a school.
- A site on Colfier Street – located approx. 930 m to the south east of the Investigation Sites. This site was historically a quarry that was then backfilled using municipal wastes between 1948 and 1961. The site is currently used for a school.

3.6.2 Priority Sites Register

The LotSearch report provided a summary of the EPA Priority Sites Register (**PSR**). This summary indicated that the Investigation Sites are not and have not previously been listed on the PSR. There are a total of eight (8) instances of properties that have currently or previously been issued with a pollution notice within 1 km of the Investigation Site, the closest being located on Gower Street, approximately 315 m to the east.

3.6.3 EPA Audit Sites

A review of the EPA Audit Sites information provided in the LotSearch report identified no Audit sites within the Investigation Sites, and a total of 28 within a 1 km radius. Meinhardt also notes that the Investigation Sites and nearby properties may have an Environmental Audit Overlay prescribed to them, however no formal Audit report has yet been prepared, and as such are not included in this discussion. Of the 28 Environmental Audits completed within 1 km of the Investigation Sites, a total of six (6) were within 500 m and are discussed briefly in the following sections. The sites of note are:

- 2 – 8 Clinch Avenue, Preston, located approx. 64 m north-east of the Investigation Sites;
- 10 Clinch Avenue, Preston – located approx. 95 m north-east of the Investigation Sites;
- 343 – 353 Murray Road, Preston – located approx. 167 m west of the Northern Investigation Site;
- 28A and 30A Jessie Street, Preston – located approx. 396 m south-west of the Investigation Sites;
- 1 Emery Street, Preston – located approx. 482 m south of the Investigation Sites; and
- 2 – 10 Mary Street, Preston – located approx. 489 m south of the Investigation Sites.

Meinhardt conducted a review of the Environmental Audit reports for the sites nearest to the Investigation Sites and up-hydraulic gradient. The information from the review is summarised in ***Table 3-4***.

Table 3-4 Summary of EPA Audit Sites

Report	Details
Kirsa Environmental, *Environmental Audit Report, 2-8 Clinch Avenue Preston, VIC (EPA CARMS Ref 74280-2)*, 10 April 2018.	An Environmental Audit report was prepared for the site at 2-8 Clinch Avenue, Preston site by Kirsa Environmental in 2018. The report concluded that: • The site was used historically for tannery operations across not only the site but also nearby areas. The tannery was closed in the 1960s and the site was acquired by Ampol Petroleum, remaining as such until 1973. Between the mid-1970s and 2016, the use of the site is unknown, and the only information available for the site is that a large warehouse stood across the site. • The main contaminants of concern for the site included Total Recoverable Hydrocarbons (TRH), Monocyclic Aromatic Hydrocarbons (MAH), heavy metals (including lead), Polycyclic Aromatic Hydrocarbons (PAH), and asbestos containing materials (ACM) from imported fill material and additionally phenols, acids, alkalis, ammonium, alum and formaldehyde as part of tannery operations. • The Auditor for the site reported that the shallow soil layer contained elevated concentrations of PAH and as such, were not suitable for sensitive land uses (low and medium density residential). Further, groundwater nitrate, sulphate, copper and selenium impacts beneath the site were identified, however it was considered unlikely to have originated from the site. • A recommendation was made that the future management of the site consider a physical barrier be maintained to prevent access to soils and that groundwater not be used for any beneficial use, with the exception of testing or remediation. • A Groundwater Quality Restricted Use Zone (GQRUZ) was recommended to apply to the site and its immediate surrounds in accordance with clean up to the extent practicable (CUTEP) as determined by EPA. • The site was issued with a Statement of Environmental Audit with conditions.
ERM, *10 Clinch Avenue, Preston, Environmental Audit of Land (CARMS Ref 73033-1)*, 5 October 2015.	An Environmental Audit was conducted for the property at 10 Clinch Avenue, Preston VIC 3072 by ERM in 2015. The Audit report concluded that: • The site was historically part of the Braithwaite tannery until the 1960, and remained owned by W. Braithwaite Pty Ltd (tanners) until 1982. The property was then owned by a number of entities until 2003, when the site was acquired by Clinch Properties Pty Ltd, for the purposes of development. The land use following tannery operations and prior to ownership by developers was a mix of light industrial and warehousing. • Investigations at the site indicated low level contamination was present in soils prior to excavation works being conducted. Once complete, the soils at the site were deemed suitable for a range of land uses, with only one (1) zinc concentration reported above ecological screening criteria for the site. • No evidence of soil vapour impact were observed or recorded at the site. • Groundwater was found to be impacted by copper, nickel, zinc, chloride and sodium though it was deemed to be naturally sourced. Further, mercury and nitrate impacts were noted and sourced from diffuse up-hydraulic gradient sources. The Auditor issued a Certificate of Environmental Audit and deemed the site suitable for any potential beneficial use of the land at the site.

3.6.4 Groundwater Quality Restricted Use Zones

A review of the EPA GQRUZ information provided in the LotSearch report noted that two (2) sites were within 1 km of the Investigation Sites. The sites included:

- 2-8 Clinch Avenue, Preston VIC 3072 – located 64 m to the north east of the Investigation Sites; and
- 52 Showers Street, Preston VIC 3072 – located approximately 900 m to the south of the Investigation Sites.

Use of groundwater for drinking water, livestock water supply, industrial use and recreational uses are precluded as part of the GQRUZ applied to these sites.

3.7 Ecological Settings

3.7.1 Native Vegetation

A search of the DELWP Native Vegetation register was conducted in the LotSearch Reports (included in ***Appendix B***). The search indicated that there were no areas of Native Vegetation identified within the Investigation Sites.

3.7.2 Groundwater Dependent Ecosystems

A search of the Bureau of Meteorology (**BOM**) Groundwater Dependent Ecosystems (**GDE**) Atlas register was conducted as reported in the LotSearch report (included in ***Appendix B***).

Both Investigation Sites were found to be not listed on the GDE register.

3.7.3 Inflow Dependent Ecosystems

A search of the BOM Inflow Dependent Ecosystems (**IDE**) register was conducted and reported in the LotSearch report (included in ***Appendix B***).

Both Investigation Sites were found to be not listed on the IDE register.

3.8 Heritage

A review of the DELWP Planning Maps Online service was conducted as detailed in the LotSearch report (included in ***Appendix B***).

The results of the search indicated that both Investigation Sites were not bound by Heritage Overlays, however a Heritage feature was reported to exist approximately 10 m to the west of each Investigation Site, along St Georges Road and listed on the Victorian Heritage Register. The feature identified was the Yan Yean Water Supply System (**YYWSS**). This system was constructed between 1853 and 1857, consisting of a series of catchment weirs and reservoirs connected by aqueducts and pipe track which extends from north of the Great Dividing Range to Merri Creek. The water supply network was constructed to transport water that was of higher quality than Melbourne's water supply at the time to areas of northern Melbourne in an attempt to reduce the incidence of disease and available supply.

Any future works at the Investigation Sites must consider the presence of the Yan Yean Water Supply System and its protection.

3.9 Historical Aerial Photography

Aerial historical photography from 1931 to 2021 provided in the LotSearch report was reviewed and observations pertaining to the Site and surrounds are summarised in ***Table 3-5***.

Table 3-5 Aerial Photography Review

Image Year	Relative to Site	Observation
1931	Investigation Sites	The land appears largely vacant with the exception of a number of structures in the north-east corner of the Northern Investigation Site and the south-east corner of the Southern Investigation Site. Further, a lighter linear strip of land (likely either paved or exposed at surface) is visible along the eastern margin of the Northern Investigation Site.

Image Year	Relative to Site	Observation
	Surrounds	Both Investigation Sites are bound to the west and east by what appears to be the YYWSS (linear structure with circular features at set intervals) and railway tracks, respectively. Two platforms appear to be visible to the east of the Investigation Sites, extending from the Northern to Southern Investigation Site. Houses are visible to the west of the YYWSS and to the north-west of Murray Road. The land to the east and north-east of the railway line appears to be used as part of an industrial/ agricultural operation (likely tannery) that existed across much of this area. Immediately to the north of the Investigation Sites beyond Murray Road is vacant land and what appears to be a large structure of unknown use. An open grassed is located on the north western corner of the St Georges Road and Murry Road intersection, possible a bowling green.
1945	Investigation Sites	There appears to have been no change at the Investigation Sites relative to the 1931 image reviewed with the exception of the addition of structures in the north western corner of the Northern Investigation Site and south western corner of the Southern Investigation Site.
	Surrounds	There appears to have been no significant changes to the use of land surrounding the Site, with the exception of sites to the north-east where it appears as though the land was either developed or used for storage of materials, however it is noted that the imagery is not clear. Further, trees or other vegetation appears to have been planted alongside the linear structure assumed to be the YYWSS and a rectangular shaped structure, approximately the same length (from north to south) as the Northern Investigation Site
1954	Investigation Sites	There appears to have been no change at the Investigation Sites relative to the 1945 image reviewed with the exception of the Southern Investigation Site appearing to be made up of three (3) or four (4) smaller plots, as evidenced by darker linear features running across the area.
	Surrounds	The site configuration of buildings to the east of the Investigation Sites appears to have changed between 1945 and 1954, with additional buildings observed across the assumed former tannery site.
1962	Investigation Sites	There appears to have been no change at the Investigation Sites relative to the 1954 image reviewed.
	Surrounds	A new building has been constructed to the north of the Investigation Sites, appearing to be a double-domed roof. The land between the two Investigation Sites appears vacant and all buildings on land to the east and north east of the Investigation Sites appear in a state of disrepair. The land immediately to the west of the Investigation Sites appears to have changed. The previously visible alignment of the YYWSS is no longer visible as had previously been seen. The linear structure appears to have been covered over and exposed soil is visible at surface. No other changes were noted in this image.
1968	Investigation Sites	There appears to have been little change at the Northern Investigation Site between 1962 and 1968. However, the Southern Investigation Site appears to have been developed in the north. A number of buildings or structures are visible on the northern half of the Southern Investigation Site that previously were not visible. The building in the north eastern corner of the Southern Investigation Site may have been associated with the adjacent train station, as suggested by a narrow potential walkway towards what appears to be side street (now St Georges Road). To the south, what appears to be a garden with a north-south oriented path appears to be present. A small square shaped feature is observed in the middle of this garden area.

Image Year	Relative to Site	Observation
	Surrounds	Land between the Investigation Sites appears to have been developed with a total of at least three buildings (each shaped like three offset rectangles). To the east of the railway line, the former tannery appears largely demolished with a total of four buildings remaining within a cross-shaped area of exposed land. A large carpark appears to have been constructed between the railway station and the aforementioned buildings. Further to the north of the new carpark, and north of Murray Road, what appear to be newly constructed buildings and another carpark appear to have replaced historical buildings that stood there. The intersection between Murray Road and St Georges Road appears to have changed configuration, with St Georges Road appearing to remain on the west of a road reserve that once was the YYWSS. To the north of the Investigation Sites, a linear strip of land that extends from the St Georges Road reserve can be observed running north, past Murray Road.
1975	Investigation Sites	The Investigation Sites changed significantly between 1968 and 1975. The house/ structures in the northern end of the Northern Investigation Site and the building in the south-western corner of the Southern Investigation Site appear to have been demolished .The Southern Investigation Site appears to have largely been covered in hardstand, with car parking making up the majority of the western half of the site. On the Northern Investigation Site, two (2) buildings and hardstand appear to have been constructed in the central and north-west portion of the site.
	Surrounds	Significant development appears to have occurred surrounding the Investigation Sites. To the west, St Georges Road appears to have been duplicated to the configuration that currently exists. To the east of the railway line is a new car park that has been constructed adjacent to the Preston Market car park. The previously barren, exposed land that was apparent in the 1968 imagery has been built on with built structures across this extent. A number of saw-toothed warehouse buildings are apparent north east of the Investigation Site, beyond Murray Road and smaller industrial-style buildings are also visible. The intersection of Murray Road and St Georges Road also appears to have been updated with west-bound traffic on Murray Road having a new slip lane onto St Georges Road. This slip lane appears to have been constructed on what would have once been part of the Northern Investigation Site, curving around the north-western corner of the former lot.
1979	Investigation Sites	There appears to have been little change at the Investigation Sites relative to the 1975 image reviewed with the exception of the Northern Investigation Site containing what appears to be a car park. The two structures previously observed on the site are no longer present.
	Surrounds	There appears to have been little change surrounding the Investigation Sites relative to the 1975 image reviewed.
1985	Investigation Sites	There appears to have been little change at the Investigation Sites relative to the 1979 image reviewed.
	Surrounds	There appears to have been little change surrounding the Investigation Sites relative to the 1979 image reviewed.
1989	Investigation Sites	There appears to have been little change at the Investigation Sites relative to the 1985 image reviewed.
	Surrounds	There appears to have been little change surrounding the Investigation Sites relative to the 1985 image reviewed.
2001	Investigation Sites	There appears to have been little change at the Investigation Sites relative to the 1989 image reviewed.

Image Year	Relative to Site	Observation
	Surrounds	There appears to have been little change surrounding the Investigation Sites relative to the 1989 image reviewed.
2009	Investigation Sites	There appears to have been little change at the Investigation Sites relative to the 2001 image reviewed.
	Surrounds	The land in between the Northern and Southern Investigation Sites appears to have been developed into an elongated, north – south trending building with courtyard. The road reserve in the middle of St Georges Road appears to have had a small path constructed within it, potentially as a bike path. All other features in the surrounds appear relatively unchanged.
2016	Investigation Sites	There appears to have been little change at the Investigation Sites relative to the 2009 image reviewed.
	Surrounds	The former bowling green site (on the north western corner of Murray Road and St Georges Road) identified in the 1931 imagery appears to have been built over by a medium to high density apartment building. Further, some of the properties located to the north east of the Investigation Sites (on Clinch Avenue) that were considered likely to be industrial warehouses appear to have been demolished and replaced by multi-storey medium density residential developments.
2021	On-Site	The Investigation Sites have been used as staging sites for the level crossing removal works associated with the Preston Railway Station. Various construction vehicles can be observed within both Investigation Sites and the Northern Investigation Site also contains what appear to be portables (potentially site offices). Part of each site also appears to contain what looks like a concrete wall that spans across the entire block from Murray Road to Cramer Street.
	Off-Site	To the north of the Investigation Sites and Murray Road, the land adjacent to the railway tracks appears to be used for the Level Crossing Removal Project, with hardstand or crushed rock covering much of the land previously used as open parkland. The land to the east of the Investigation Sites and railway station that was previously used as a station carpark has been taken over for construction work associated with the Level Crossing Removal Project. No other significant changes in the surrounds were noted.

3.10 Current and Historical Maps and Business Information

3.10.1 Historical Maps

A search of historical maps indicated that the Northern Investigation Site housed a homestead and three other smaller structures per a Metropolitan Melbourne Board of Works (**MMBW**) 1915 map sheet. The land abutted to the east with Preston Railway Station. The Southern Investigation Site contained four buildings in the south eastern corner at the same time. The use of the buildings was not stipulated in the map.

Historical maps from 1916, 1930 and 1938 did not indicate any features within the Investigation Sites.

The 1966, 1978, 1986 Melways directories did not indicate specific features on the Investigation Sites. The 1998 Melways directory indicated the presence of a senior citizens facility existed on the Northern Investigation Site, however this may be related to the site between the Northern and Southern Investigation Sites. Car parking was featured on the Investigation Sites on the 2009 Melways directory, as was visible on aerial imagery for the sites.

3.10.2 Current Features of Interest

The LotSearch report indicated that a total of four (4) liquid fuel facilities were located within 1 km of the Investigation Sites, with the closest facility located at 340 Murray Road, Preston VIC 3072, approximately 77 m to the north east of the Investigation Sites. All other facilities were approximately 500 m or greater away from the Investigation Sites and also cross- and down-hydraulic gradient to them.

3.10.3 Historical Business Directory Search

A search of historical Universal Business Directories (**UBD**) and Sands & McDougall Directory records was undertaken and included in the LotSearch report. The report indicated that the Northern Investigation Site housed a boot and shoe repairer from at least 1950 to 1974. The business was reportedly run out of a kiosk alongside the Preston Railway Station.

Other businesses nearby to the Investigation Sites included engineers, plastic moulders, toolmakers, metal pressers, a series of general retailers, hairdressers, jewellers, grocers, motor garages, glazier and tanners, most associated with the Preston Market and businesses on the east of the level crossing on Murray Road.

The nearest motor garage to the Investigation Sites was the Standard Cards Motor Garage located at 342 Murray Road, Preston, approximately 50 m to the north east between 1975 until at least 1980, and a nearby service station at 336 Murray Road, Preston (110 m to the north east of the Investigation Site) existed between 1967 until at least 1980.

3.11 Other Considerations

Due the high-level nature of this desktop assessment (time between the aerial photographs, poor resolution of some imagery, no interviews with previous site staff, and no intrusive investigations forming part of this assessment) and site inspection, there is potential for actual or assumed activities not listed as occurring at the Site to have taken place.

The review of historical information detailed herein is Meinhardt's understanding of the Investigation Sites and is subjective based on Meinhardt's previous experience and understanding of contamination sources and pathways.

4 Contaminants of Potential Concern

Based on the desktop review, Meinhardt considers that a number of potentially contaminating activities may exist or have occurred on and/or in the vicinity of the Investigation Sites, which may have the potential to have led to contamination of soil and/or the underlying groundwater and/or may pose a vapour risk.

These activities are summarised in ***Table 4-1***, along with their location and Contaminants of Potential Concern (**CoPC**) typically associated with the types of land use noted. Typically, these activities are related to Properties that have been assigned a Low to Medium Risk.

Please note: *Due the high-level nature of this assessment (time between the aerial photographs, poor resolution of some imagery and no intrusive investigations forming part of this assessment), there is potential for actual or assumed activities not listed as occurring at an individual Property to have taken place. The list of potentially affected Properties and CoPC as assessed in* ***Table 4-1*** *is not considered to be comprehensive and further activities may be assessed as having taken place in a more detailed and Property-specific assessment that should be conducted to confirm that individual Properties are in fact fit for proposed redevelopment.*

Further, where potentially contaminating activities has been identified at an individual Property, Meinhardt's observations should be considered as subjective and that there is no definitive evidence that contamination actually exists or has occurred at any property. The list of potentially affected Properties and CoPC may be downgraded or upgraded as further information becomes available through more detailed and Property-specific assessment.

Table 4-1 Potentially Contaminating Activities Identified (Actual or Assumed)

Land Use	Contaminants of Potential Concern	Properties Affected
Boot repair	VOCs, SVOCs, BTEXN, TRH, Heavy Metals, PAH	Northern Investigation Site (very limited)
Construction use (Stockpiling of imported fill / excavated material / Construction and Demolition (C&D) Waste / Scrap Metal)	Heavy metals, PAH, TRH, ACM, phenols, PCBs, VOCs, phthalates, cyanide	Northern Investigation Site and Southern Investigation Site
Car Parking	TRH, BTEXN, PAH	Northern Investigation Site and Southern Investigation Site

Notes
TRH - Total Recoverable Hydrocarbons
BTEXN - Benzene, Toluene, Ethylbenzene, Xylenes and Naphthalene.
PAHs - Polycyclic-Aromatic Hydrocarbons
VOCs – Volatile Organic Compounds
SVOCs – Semi-volatile Organic Compounds
PCBs - Polychlorinated Biphenyls
Heavy metals - As, Ba, Be, Bo, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Sn, V, Zn and Hg.
OCP/OPP - Organochlorine / Organophosphate Pesticides
ACM – Asbestos-Containing Materials

Meinhardt notes that both Investigation Sites have had a varied site history, though much of it appeared to be unrelated to the tannery to the east, as part of the current Preston Market Precinct. Much of the history was associated with car parking for the train station and prior to that, as open land, possibly associated with homesteads or businesses operating on the land. The main business associated with the Northern Investigation Site was a boot and shoe repair stall that operated for over 20 years.

The Southern Investigation Site housed a number of buildings, likely homes or similar single level buildings early in its history. Over time as populations increased and motor vehicles became mainstream, part of the site was taken over by car parking and a long building was constructed, likely associated with the railway station. This site configuration remained for much of its history, only being disturbed for construction projects such as the Level Crossing Removal project.

Meinhardt's searches of site history did not uncover any evidence or information to understand the reason for the presence of an EAO on each Investigation Site. The EAO may relate to use of part of the sites as a railway station, however this cannot be confirmed. Further, the strips of land assigned the EAO do not correspond to specific features noted in historical aerial imagery though the orientation of the slivers of land designated as having an EAO may have been contiguous prior to use of land between the two sites (specifically along the eastern margins) for the Level Cross Removal project and Preston Station upgrade.

In addition, where properties have had a significant history of development and redevelopment, there may be a risk of the presence of buried building and demolition wastes being present through soils in the areas where this activity has occurred. Due to the nature of building materials used historically throughout Australia, properties constructed prior to the early 1990s may pose a greater risk due to the presence of asbestos fibre cement sheet material as well as other asbestos-containing products, and also lead-based paint.

It is noted that while this report has been prepared based on a number of comprehensive information sources, should unexpected adverse environmental conditions be encountered (including, but not limited to those detailed herein) during development of the Investigation Sites, a suitably qualified and experienced environmental consultant and/or hygienist should be contacted for advice on management of any issues identified, prior to disturbance of the area of concern.

5 Potential for Contamination Assessment

5.1 Planning System Considerations

As per the PPN30 guidance, it is understood that the *Planning and Environment Act 1987* requires a planning authority to take into consideration any significant effects which a planning scheme or amendment may have on the environment, or which it considers the environment may have an impact on any use or development envisaged in a planning scheme or amendment.

Further, *Ministerial Direction No.1* of the *Planning and Environment Act 1987* specifies additional requirements for land that has been determined to be potentially contaminated. Requirements exist for land proposed to be used for sensitive purposes such as residential, childcare, kindergarten, pre-school, primary and secondary school and playground use scenarios. In cases where these uses are proposed in a planning scheme amendment, a process under the environmental audit system (administered by Environment Protection Authority Victoria) is necessary to demonstrate that land is suitable for its intended use.

In the past, and currently (under certain circumstances), where land is deemed potentially contaminated and it is difficult to meet the requirements of the environmental audit system at the amendment stage, the application of an EAO allows for the deferment of this requirement. However, under the *Environment Protection Act 2017*, the environmental audit system provides for the appointment of EPA accredited auditor and a system of preliminary risk screen assessment (**PRSA**) and/or environmental audits to inform land use planning for potentially contaminated land, prior to the application of an EAO.

The PRSA process was not available under the former PPN30 (2005) and has been introduced as part of the *Environment Protection Act 2017*. As detailed in the PPN30, the purpose of the PRSA is to:

- *Assess the likelihood of the presence of contaminated land;*
- *Determine if an environmental audit is required; and*
- *If an environmental audit is required, to recommend a scope for the environmental audit.*

As such, it acts as an initial screen should a property be deemed to have sufficient potential for contamination to exist. Should an audit be deemed necessary, the purpose of the audit is to:

- *Assess the nature and extent of the risk of harm to human health or the environment from the contaminated land;*
- *Recommend measures to manage the risk of harm to human health of the environment form the contaminated land; and*
- *Make recommendations to manage the contaminated land, waste, pollution or activity.*

To make an assessment on whether a PRSA or environmental audit is necessary, a Potential for Contamination (**PFC**) assessment was undertaken for both Investigation Sites. PFC ratings were derived based on the outcomes of the desktop review of historical information for the properties as detailed within this report.

5.2 Potential for Contamination

A PFC assessment was undertaken for each Investigation Site and PFC Ratings were derived based on the outcomes of the desktop review.

A 'traffic light' system (**Green = Low**, **Yellow = Medium** and **Red = High**) was used in the PFC assessment for each property.

Based on the land uses understood to have taken place at both of the Investigation Sites, certain land uses (on and off-site) and activities (whether actual or assumed) were identified to have the potential to lead to contamination of soil and/or groundwater and/or vapour risks. These activities included:

- Earthworks / stockpiling / importation and use of possibly uncontrolled fill material/ waste materials (both Investigation Sites);
- Structures / buildings with unknown use (both Investigation Sites);
- Storage and maintenance of heavy machinery associated with construction (both Investigation Sites);

- Storage of chemicals used in the boot and shoe repair stall (Northern Investigation Site);
- Presence of tannery operations immediately to the east of the sites; and
- Potential asbestos containing materials (**ACM**) in soils where buildings constructed before 1990 (when domestic use of ACM was phased out) were demolished.

While these activities were identified as being a risk, the scale and extent of any noted potential impact was considered prior to prescribing PFC ratings for each property.

The PFC assessment for Investigation Sites was reviewed and considered in accordance with PPN30 and collated into the PFC assessment table located in ***Table 5-1***. The PFC ratings are presented in ***Appendix A, Figure 4***.

Table 5-1 PFC Assessment Table

PfC Rating	Applicable Properties
High	None
Medium	Northern and Southern Investigation Sites
Low	None

5.3 Assessment Levels

In accordance with the PPN30 guidance, Assessment Levels can be derived using the PFC ratings. Assessment Levels based on PFC ratings and proposed land-use are summarised in ***Table 5-2***.

Table 5-2 Assessment Levels Matrix

Proposed Land-Use		Potential for Contamination	
		High	Medium
Uses defined in *Ministerial Direction No. 1*, the EAO, and clause 13.94-1S			
• Sensitive uses: Residential use, childcare centre, kindergarten, pre-school centre, primary school, even if ancillary to another use • Children's playground • Secondary school	New use, or buildings and works associated with a new use	**A**	**B**
	Buildings and works associated with an existing use	**B**	**B**
Other land use			
• Open space • Agriculture • Retail or office • Industry or warehouse	New use, or buildings and works associated with a new or existing use	**C**	**D**

5.3.1 High Potential for Contamination

Where the PfC of a property or site is designated as high, Assessment Levels 'A', 'B' and 'C' may be applicable based on the proposed future use of land.

Both Investigation Sites assessed were not classified as having a PFC of high and as such, there were no Properties designated as requiring Assessment Level 'A' or 'C'.

5.3.2 Medium Potential for Contamination

Both the Northern and Southern Investigation Sites were designated as having a medium PFC. This was based on the PPN30 requiring consideration be given to nearby contaminating activities including tannery operations. While no evidence of tannery operations are apparent at the Investigation Sites, tannery activities are considered to be heavily contaminating and as such, the guidance requires a conservative approach be taken to adjacent sites.

The PPN30 states the following requirements for a Site designated as Assessment Level 'B':

"PRSA or audit option applies. PRSA to determine need for audit is recommended."

To meet Assessment Level 'B' requirements where the future use of land is for a sensitive land use, an EPA-accredited Environmental Auditor must be engaged to complete a PRSA[2] in accordance with the *Environment Protection Act 2017* to determine the need to complete an environmental audit.

This Investigation Sites would require Assessment Level 'D' to confirm their suitability for less sensitive uses such as open space, agriculture, retail or office (commercial use) or industry or warehouse in accordance with PPN30.

For Assessment Level 'D' PPN30 recommends for a planning scheme amendment that "*Planning authority to document consideration of potential for contamination to impact proposal."* Where a planning permit application is submitted, the *"responsible authority to document consideration of potential for contamination to impact proposal."*

5.3.3 Low Potential for Contamination

Both Investigation Sites assessed were not classified as having a low PFC and as such, further actions may need to be taken in accordance with PPN30.

[2]EPA Victoria, *Preliminary screen risk assessments*, 17 July 2020, obtained from https://www.epa.vic.gov.au/for-business/find-a-topic/environmental-audit/preliminary-risk-screen-assessments

6 Conclusions and Recommendations

6.1 Conclusions

Meinhardt has reviewed information relevant to each of the Investigations Sites to assess the risk of contamination affecting each property and any further works required to assess the level of contamination.

The desktop review indicates the Investigation Sites are zoned as Priority Development Zones for development. A review of the historical aerial imagery for the Investigation Sites identified that the Sites were largely unoccupied, with a few buildings or structures constructed on the sites over the last 90 years.

Overlays affecting the Investigation Sites include Development Contributions Plan Overlays (**DCPO**), Environmental Audit Overlays (**EAO**) and Special Building Overlays (**SBO**). In addition, areas to the north and east of the Investigation Sites were subject to EAOs and St Georges Road to the west was subject to a Heritage Overlay associated with the Yan Yean Water Supply System.

The underlying geology of the Investigation Sites was anticipated to consist of thinly-bedded siltstones and sandstones of the Silurian-aged Melbourne Formation. Based on the underlying geology, it is not considered likely that geotechnical constraints will hamper future development of the Investigation Sites, however confirmation should be sought prior to development.

The aerial photography assessment covering the Investigation Sites identified potential contaminating activities for the Sites including:

- Use of the Northern Investigation Site for boot and shoe repair;
- Construction use (Stockpiling of imported fill / excavated material / Construction and Demolition (C&D) Waste / Scrap Metal); and
- Car parking.
- In areas of the Investigation Areas where there is a history of development and redevelopment, there may be a risk of the presence of buried building and demolition wastes being present through soils in the areas where this activity has occurred.

Based on the findings of the desktop review, both Investigation Sites were rated as having a ‘Medium’ Potential for Contamination. This rating was largely based on the PPN30 requiring consideration to be given to historical land use in the site surrounds where surrounding land uses are considered to have a ‘High’ Potential for Contamination. In this case, the former tannery that operated to the east of the Preston Railway Station is deemed close enough to the Investigation Sites to designate a ‘Medium’ Potential for Contamination rating.

Due the high-level nature of this assessment (time between the aerial photographs, poor resolution of some imagery and no intrusive investigations forming part of this assessment), there is potential for actual or assumed activities not listed as occurring at an individual property to have taken place. The list of potentially affected Sites and Contaminants of Potential Concern (**CoPC**) as assessed in ***Table 4-1*** of this LCA Report is not considered to be comprehensive, and further activities may be assessed as having taken place in a more detailed and property-specific assessment that should be conducted to confirm that individual properties are in fact fit for proposed redevelopment.

Further, where potentially contaminating activities have been identified at an individual Investigation Site, Meinhardt’s observations should be considered as subjective and that there is no definitive evidence that contamination actually exists or has occurred at any property. The list of potentially affected sites and CoPC may be downgraded or upgraded as further information becomes available through more detailed and property-specific assessment.

Properties with a ‘Medium’ potential for contamination rating were classified as requiring an Assessment Level ‘B’ as per the PPN30 guidance. Under Assessment Level ‘B’, a Preliminary Risk Screen Assessment is recommended to determine whether an audit is necessary for the site. For non-sensitive land use, the planning or responsible authority must document the consideration of PFC to impact any planning proposal.

6.2 Recommendations

Based on the conclusions detailed in ***Section 6.1***, Meinhardt makes the following recommendations:

Potential Contamination of Sites

- In consideration of the PPN30 guidance, the application of an Environmental Audit Overlay is recommended for the Investigation sites. This would trigger the need for a PRSA, and if deemed necessary, an Environmental Audit.
- Completion of a PRSA for both the Northern and Southern Investigation Sites should the land be proposed for a sensitive future use, or consideration should be given and documented about the PFC to impact any planning proposal.
- During development works any contaminated soil (including those with aesthetic impacts including odour) must be managed as a Prescribed Industrial Waste where they are to be removed from site. Producers of contaminated soil must categorise their waste into one of four categories, Category A, B, C or clean fill (EPA Publication IWRG621, *Soil Hazard Categorisation and Management,* 2009) (**EPA 2009**). Descriptions of the threshold limit values (upper limits) of contaminants for these categories are outlined in the EPA 2009.
- Should the future development at the Investigation Sites require deep excavations (for car parking, footings or basement layers), it is expected that groundwater will be intersected. Where groundwater is intersected, management options will need to be considered with respect to design of buildings (e.g., tanked basements), the management of water during excavation, and disposal of water if it is intersected. If groundwater is intersected, the future landholder may wish for groundwater to be tested for a common suite of potential contaminants prior to it being pumped for disposal or reused elsewhere.

7 References

- Australian and New Zealand Environment and Conservation Council (ANZECC) and the National Health and Medical Research Council (NHMRC), *Australian and New Zealand Guideline for the Assessment and Management of Contaminated Sites,* January 1992;
- Department of Environment, Land, Water and Planning, *Spatial Datamart Victoria – VicMap Easements*, obtained 14/02/2022 from https://services.land.vic.gov.au/SpatialDatamart/
- DELWP, *Potentially Contaminated Land Planning Practice Note 30*, 2021;
- EPA Victoria, *EPA Publication 1828.2, Waste disposal categories – characteristics and thresholds,* 2021;
- LotSearch, *Enviro Professional Report – Preston Market, Preston VIC 3072 (LS028662 EP)*, 31 January 2022.
- National Environment Protection Council, *National Environment Protection (Assessment of Site Contamination) Measure*, 1999 (as amended 2013);
- Standards Australia, *Australian Standard AS4482.1-2005: Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil – Part 1: Non-Volatile and Semi-Volatile Compounds*, 2005;
- Victorian Government, *Environment Protection Act 2017*, 2017;
- Victorian Government, *Environment Reference Standard*, Victoria Government Gazette No. S245, 2021.

8 Limitations

The assessment in this report was restricted to the agreed scope of works and is subject to the limitations set out below or elsewhere within this report.

The assessment has been undertaken and performed in a professional manner consistent with the skill and care ordinarily exercised by reputable consultants under similar circumstances. No other warranty, expressed or implied, is given.

Where Meinhardt Infrastructure & Environment Pty Ltd (Meinhardt) has relied on verbal information and/or documentation provided by the client and/or third parties, Meinhardt did not attempt to independently verify the accuracy or completeness of that information. To the extent that the conclusions or recommendations in this report are based in whole or in part on such information, they are contingent on its validity. Meinhardt assume no responsibility for any consequences arising from any information or condition that was inaccurate, concealed, withheld, misrepresented, or otherwise not fully disclosed or made available to Meinhardt.

Other than the visual observations and analytical data as stated in this report, no representations or warranties are made concerning the nature or quality of the soil, groundwater, surface water and/or soil vapour on the Site. On all sites varying degrees of non-uniformity of the vertical and horizontal, groundwater, surface water and/or soil vapour/landfill gas conditions are encountered. Hence no sampling technique can completely eliminate the possibility that samples are not totally representative of soil and/or groundwater conditions on a site.

It should also be recognised that site conditions, including contaminant extent and concentrations can change with time. Hence, the information in this report is only accurate as at the date of issue. If this report is used after a protracted delay, further investigation of the Site may be necessary.

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