Information sheet for environmental audits and preliminary risk screen assessments (PRSAs)

Publication 2009 June 2021

Victoria's audit system

An environmental audit system has operated in Victoria since 1989. The *Environment Protection Act 2017* (the Act) provides for the appointment of environmental auditors. It also provides for Environment Protection Authority (EPA or the Authority) to have a system of preliminary risk screen assessments (PRSAs) and environmental audits. These are used in the planning, approval, regulation and management of activities, and in protection of human health and the environment.

Under the Act, the functions of an environmental auditor include to:

- conduct PRSAs and environmental audits
- prepare and issue PRSA statements and reports, and environmental audit statements and reports.

The purpose of a PRSA is to:

- assess the likelihood of the presence of contaminated land
- determine if an environmental audit is required
- recommend a scope for the environmental audit if an environmental audit is required.

The purpose of an environmental audit is to:

- assess the nature and extent of the risk of harm to human health or the environment from contaminated land, waste, pollution, or any activity
- recommend measures to manage the risk of harm to human health or the environment from contaminated land, waste, pollution, or any activity
- make recommendations to manage any contaminated land, waste, pollution or activity.

Upon completion, all PRSAs and environmental audits require preparation of either a PRSA statement, accompanied by a PRSA report, or an environmental audit statement, accompanied by an environmental audit report.

A person may engage an environmental auditor to conduct a PRSA or an environmental audit.

EPA administers the environmental audit system and ensures an acceptable quality of environmental auditing is maintained. This is achieved by assessing auditor applications and conducting a quality assurance program. These measures ensure that PRSAs and environmental audits that environmental auditors undertake are completed in accordance with the relevant sections of the Act or any other Act, and with the guidelines the Authority or other government agencies have published.

Environment Protection Authority Victoria
GPO BOX 4395 Melbourne VIC 3001
1300 372 842 (1300 EPA VIC) **epa.vic.gov.au**

File structures

EPA stores digital statements and reports from PRSAs and environmental audits in three parts:

- Part A, the PRSA or environmental audit report
- Part B, report appendices
- Part C, the PRSA statement and executive summary or environmental audit statement and executive summary.

Report executive summaries, findings and recommendations should be read and relied upon only in the context of the whole document, including any appendices and the PRSA statement or environmental audit statement.

Currency of PRSAs and environmental audits

PRSAs and environmental audits are based on the conditions encountered and information reviewed at the time of preparation. They don't represent any changes that may have occurred since the completion date. As it's not possible for the PRSA or audit report to present all data that could be of interest to all readers, consideration should be made to any appendices or referenced documentation for further information.

When information about the site changes from what was available at the time the PRSA or environmental audit was completed, or where an administrative error is identified, an environmental auditor may amend or withdraw PRSA or environmental audit statements and/or reports. Users are advised to check EPA's website to ensure documents' currency.

PDF searchability and printing

EPA can only provide PRSAs and environmental audit statements, reports and appendices that the environmental auditor provided to EPA via the EPA portal on the EPA website.

All statements and reports should be in a Portable Document Format (PDF) and searchable; however at times some appendices may be provided as image-only PDFs, which can affect searchability.

The PDF is compatible with Adobe Acrobat Reader, which is downloadable free from Adobe's Website (www.adobe.com).

Further information

For more information on Victoria's environmental audit system, visit EPA's website or contact EPA's Environmental Audit Unit.

Web: www.epa.vic.gov.au

Email: environmental.audit@epa.vic.gov.au

EPA VICTORIA

senversa

Preliminary Risk Screen Assessment

2 Paterson Street, Hawthorn

4 March 2022

Document Information

Preliminary Risk Screen Assessment,
2 Paterson Street, Hawthorn

Prepared by:
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Revision	Date	Approved	Detail
0	4 March 2022	Doug Ahearne	Final

Project Manager: Kim Shearman

Doug Ahearne
Environmental Auditor
Appointed pursuant to the *Environment Protection Act 2017*

Disclaimer and Limitations:

Senversa prepared this document in a manner consistent with the level of care and skill ordinarily exercised by members of Senversa's profession practising in the same locality under similar circumstances at the time the services were performed.

Senversa requires that this document be considered only in its entirety and reserves the right to amend this report if further information becomes available. This document is issued subject to the technical principles, limitations and assumptions provided in **Section 6.0**.

Senversa acknowledges the traditional custodians of the land on which this work was created and pay our respect to Elders past and present.

Senversa is a carbon neutral company and accredited BCorp.

This preliminary risk screen assessment (PRSA) report and PRSA statement (see **Appendix A**) were prepared by Doug Ahearne, an employee of Senversa Pty Ltd and an Environmental Auditor, appointed pursuant to the *Environment Protection Act 2017*.

The site subject to the PRSA is located at 2 Paterson Street, Hawthorn, Victoria, as shown in **Figure 1**. Information relating to the site and the PRSA process is summarised as follows:

Table 1: Summary of PRSA Information

Item	Relevant Site Information
Auditor	Doug Ahearne
Auditor account number	250906
Name of person requesting PRSA	Yolanda Wosny
Relationship of person requesting PRSA	Representative of Swinburne University of Technology which owns the site
Name of site owner	Swinburne University of Technology
Date of auditor engagement	14 January 2022
Completion date of the PRSA	4 March 2022
Reason for PRSA	To support rezoning and divestment
Elements of the environment assessed	Land, water (groundwater and surface water)
Planning permit number or requirement detail if applicable	N/A
EPA Region	Northern Metro
Municipality	Bundoora City Council
Dominant - Lot on Plan	Lot 1 TP137079
Additional - Lot on Plan(s)	-
Site / premises name	-
Building/complex sub-unit No.	-
Street/Lot - Lower No.	2
Street/Lot - Upper No.	-
Street Name	Paterson
Street type	Street
Street suffix	-
Suburb	Hawthorn

Item	Relevant Site Information
Postcode	3122
Site area (m^2)	Approx. 640
Plan of site/premises/location showing the PRSA site boundary attached	Figure 1
Members and categories of support team utilised	None
Further work or requirements	The site has a high likelihood of being contaminated from an offsite source (as defined in *Planning Practice Note 30 – Potentially Contaminated Land*) to a level that may pose unacceptable risks to any future sensitive uses. The offsite source is underground storage tanks at a nearby property that have the potential to cause soil vapour contamination at the site given the proximity of the tanks and likely direction of groundwater flow. Assessment of potential soil vapour risks is required.
Nature and extent of continuing risk of harm	Based on the historical uses of adjacent properties including the presence of underground storage tanks, specifically 468 Burwood Road, there is the potential for impacts to human health at the site if hydrocarbon contaminated groundwater extends beneath the site.
Outcome of the PRSA report	An environmental audit limited to potential vapour risks from offsite sources is recommended.

Table 2: Physical Site Information

Item	Relevant Site Information
Historical site use	Predominantly used as a car park, with a small building associated with the adjacent church once present.
Current land use	Carpark
Proposed land use	Not known, but likely to include residential use
Current land use zoning	PUZ2
Proposed land use zoning	Not confirmed but likely to be consistent with surrounding zoning - NRZ3
Surrounding land use - north	Commercial properties and then Burwood Road
Surrounding land use - south	A car park and then low density residential use
Surrounding land use - east	Paterson Street then low density residential and commercial use.
Surrounding land use - west	St Columbs church and then St Columbs Street
Has EPA been notified about the site under Section 40 of the *Environment Protection Act 2017*?	No
Nearest surface water receptor - name	Yarra River
Nearest surface water receptor - direction	Southwest
Site aquifer information	Silurian aged mudstone, siltstone and sandstone (inferred)
Groundwater segment	A1 (inferred)

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List of Acronyms

Acronym	Definition
ACM	Asbestos containing material
AS	Australian Standard
ANZECC	Australian and New Zealand Environment and Conservation Council
BTEX	Benzene, toluene, ethylbenzene, xylenes
CoPC	Contaminant of potential concern
CSM	Conceptual site model
EPA	Environment Protection Authority (Victoria)

Acronym	Definition
m AHD	Metres Australian Height Datum
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
NHMRC	National Health and Medical Research Council
PAH	Polycyclic aromatic hydrocarbons
TRH	Total recoverable hydrocarbons
UST	Underground storage tank

1.0 Introduction and Objectives

Swinburne University of Technology (SUT) engaged Doug Ahearne of Senversa Pty Ltd, in his capacity as an environmental auditor appointed under the *Environment Protection Act 2017,* to conduct a Preliminary Screen Risk Assessment Investigation (PRSA) for 2 Paterson Street, Hawthorn as depicted in **Figure 1** ('the site').

1.1 Objective

The objective of this PRSA was to consider the likelihood of the presence of contaminated land at the site for a current and proposed use, and recommend whether an environmental audit is required for the site. In accordance with the EPA PRSA Guidelines, the three possible outcomes of a PRSA are as follows:

- Unlikely that contaminated land is present, and no environmental audit required. The assessment has found it unlikely that the site is contaminated land. "*Therefore, an environmental audit would not be required for the use or proposed us of the site identified in the PRSA*" (EPA, 2022); or
- Likely that contaminated land is present, but no environmental audit is required. This is where the site is, or likely to be contaminated, however, the contamination is not expected to be (or found to be) at levels that will "*prevent or restrict the use or proposed use of the site. As a result, no further investigation is necessary"* (EPA 2022); or
- Likely that contaminated land is present and an environmental audit is required. "*The results of the assessment for the PRSA have indicated that there is, or is likely to be, contamination present that requires further assessment through an appropriately scoped environmental audit.*" (EPA, 2022)

1.2 Scope of Work

Section 206(1)(a) of the *Environment Protection Act 2017* (the Act) outlines what must be included in the scope or a PRSA. The scope of this PRSA is detailed in **Table 1.1**.

Table 1.1: PRSA Scope

Item	Detail
Site Details	
Site/premises name	N/A
Address	2 Paterson Street, Hawthorn
Title details	Lot 1 on TP137079
Area (hectares)	0.064

Item	Detail
Use or Proposed Use for Which the Site is Being Assessed	Unknown, but likely to include residential based on rezoning.
Sensitive use (including land used for residential use, a child care centre, pre-school, or primary school) and secondary schools and children's playgrounds	☒ high density ☒ other (lower density)
Recreation/open space	☐
Parks and reserves	☐
Agricultural	☐
Commercial	☐
Industrial	☐
Other	☐
Elements of the environment assessed in the PRSA	☒ Land. ☒ All environmental values that apply to the land use category to be considered OR; ☐ All environmental values that apply to the land use category, other than the following, to be considered: ☒ Water (Surface water). ☒ All environmental values that apply to the applicable segment to be considered OR; ☐ All environmental values that apply to the applicable segment, other than the following, to be considered: ☒ Water (Groundwater). ☒ All environmental values that apply to the applicable segment to be considered OR; ☐ All environmental values that apply to the applicable segment, other than the following, to be considered:
Elements of the environment excluded	Ambient air and ambient sound were excluded as they are not relevant to the assessment of the likelihood of the presence of contaminated land.
Standards and reference documents considered:	• *Environment Protection Act 2017.* • *Environment Protection Regulations 2021.* • *Environment Reference Standard 2021.* • Environmental Auditor Guidelines – Provision of statements and reports for environmental audits and preliminary risk screen assessments (EPA Publication 2022), August 2021. • Guidelines for conducting preliminary risk screen assessments (EPA Publication 2021), February 2022. • National Environment Protection Council, 1999. National Environment Protection (Assessment of Site Contamination) Measure (as amended 2013). • Standards Australia, 2005, AS 4482.1-2005, Australian Standard: Guide to the Investigation and Sampling of Potentially Contaminated Soil. Part 1: Non-volatile and Semi-volatile Compounds. • Standards Australia, 1999, AS 4482.2-1999, Australian Standard: Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 2: Volatile Substances.

Item	Detail
Assumptions made or limitations on the PRSA:	Nil.
Exclusions from the PRSA and rationale for these:	The purpose of the PRSA was to support rezoning and divestment requirements and to assess the likelihood of contaminated land being present at the site. The ambient air and ambient sound elements of the environment are not considered relevant in this context.
Supporting documentation:	N/A

The scope of work undertaken is summarised below:

- Review of site history reports prepared for the site (see **Section 1.3**).
- Physical site inspection (site walkover).
- Summary of regional and local (site) conditions.
- Development of an initial conceptual site model (CSM) to identify potential sources of contamination, understand their likely fate and transport in the environment and assess the possible exposure pathways associated with the current and/or proposed use of the site.
- Determine whether there is a risk posed to the relevant environmental values of land, groundwater. If there is an unacceptable risk, provide an appropriate scope for an environmental audit.
- Determine whether sufficient information is available to make the conclusions necessary for the PRSA statement.
- Determine whether further investigation of the site in an environmental audit is required to consider the risk of harm that may be posed by the contamination to the proposed use of the site and recommend a scope for any required environmental audit.
- Preparation of this PRSA report outlining the procedure followed and the findings of the PRSA.

1.3 Documentation Reviewed

As part of PRSA the following report has been reviewed:

- Prensa. *Preliminary Site Investigation: 2 Paterson Street, Victoria.* February 2022 (“the PSI” - Prensa 2022).The report is provided as **Attachment 1**.

2.0 Site Description and Environmental Setting

2.1 Site Details

The PRSA has been prepared for the site defined by the boundaries illustrated on **Figure 1**. **Table 2-1** summarises the relevant details that describe the site.

Table 2-1: Site Description

Item	Relevant Site Information
Site Address	2 Paterson Street, Hawthorn.
Title Plan Identifier	Lot 1 on TP 137079.
Site Area	640 m^2
Municipality	Bundoora City Council.
Current Zoning	Public Use Zone (PUZ4).
Overlays	Heritage (HO).
Current Site Occupier and Use	Car park.
Surrounding Land Uses	**North**: Commercial properties and then Burwood Road. **South**: A car park and then low density residential use. **East**: Paterson Street then low density residential and commercial use. **West**: St Columbs church and then St Columbs Street.

2.2 Environmental Setting

2.2.1 Topography, Drainage and Nearest Waterbodies

The PSI indicated that the site was generally flat (at approximately 37 m above the Australian height datum (AHD)) (see Section 6.3).

The PSI stated that the site was covered with gravel and that minor puddles were present during the site inspection (Section 7.1). The auditor notes that as the site is currently unsealed it might be expected that stormwater from lighter rainfalls may be absorbed into the site soils, whereas heavier rainfall is expected to flow overland to the municipal stormwater system to the east of the site.

The nearest waterbody as stated by Prensa is the Yarra River located 1.5 km to the southwest of the site (Section 5.2).

2.2.2 Regional Geology

The PSI (Section 5.4) states that the site was likely to be located on Silurian-aged mudstone, siltstone and sandstone.

2.2.3 Regional Hydrogeology

The PSI (Section 5.5.2) indicates that the groundwater is expected to be present at approximately 5-10 m below ground level.

Groundwater salinity is likely to range between 501 to 1,000 mg/L. This would classify the groundwater most conservatively as Segment A1 as defined under the *Environmental Reference Standard*, 2021.

Under the *Environmental Reference Standard*, Segment A2 groundwater is protected for a range of environmental values including:

- Water dependent ecosystems and species.
- Potable water supply.
- Potable mineral water supply.
- Agriculture and irrigation (irrigation).
- Agriculture and irrigation (stock watering).
- Industrial and commercial use.
- Water-based recreation (primary contact recreation).
- Traditional Owner cultural values.
- Buildings and structures.
- Geothermal properties.

The (Sections 5.6.2 and 5.6.5) reviewed surrounding audit reports, including Groundwater Quality Restricted Use Zones, to interpret groundwater flow direction. Groundwater flow direction was variable but included several sites within 300 m whether the flow direction was documented as being west, southwest and northwest. There was also one site where it was documented as being north.

2.2.4 Groundwater Bore Search

The PSI (Section 5.5.2) indicated there were 17 registered groundwater bores within a 500 m buffer of the site boundary. 15 of these were registered for observation and 2 for unknown use.

3.0 Site Investigations

This PRSA was based on the findings of a Preliminary Site Investigation (PSI) (Prensa, 2022). This section summarises the scope and findings of the PSI and soil assessment and the auditor's assessment of adequacy.

3.1 Site History

A building was present on the site in an aerial photograph from 1956. It's use was unknown and it had been removed by 1970. The site has been used as a car park from approximately that date. It has remained undeveloped apart from maintenance of a gravel surface, installation of a parking ticket machine and maintenance of perimeter fencing.

Notable potential off site land uses included former fuel merchants at two adjacent properties, as follows:

- 462 Burwood Road – listed as fuel merchants from 1955 to 1975, currently an office building (see **Section 3.3** for site inspection details).
- 468 Burwood Road, listed as fuel merchants from 1955 to 1974, currently an automotive service centre (see **Section 3.3** for site inspection details).

Further details of the site history review are available in Section 6 of the PSI (Prensa, 2022).

3.2 Auditor's Opinion on the Adequacy of Site History

The auditor has reviewed the Prensa PSI (2022) against the recommended elements of a site history set out in:

- Schedule B2 of the *National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1):* National Environment Protection Council, 2013.
- Section 3 of *AS4482.1-2005 Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil, Part 1: Non-Volatile and Semi-Volatile Compounds.* Standards Australia, 2005.

The auditor's review is provided in **Appendix B.** The following minor issues were noted:

- Some usual sources of site history information such as an historical society search were not obtained. Prensa noted that these sources were unlikely to include further information than that already included in the PSI.
- No information on the former site layout was available. The auditor notes that on the basis that the former building was unlikely to be a significant source of contamination, this data gap is not considered to impact on his ability to form an opinion regarding the potential for the presence of site contamination.

In summary, the auditor considers the historical review undertaken by Prensa provided an adequate understanding of the history of the site and potentially contaminating historical activities and was sufficient for the purposes of the PRSA.

3.3 Auditor's Site Inspection

Doug Ahearne of Senversa inspected the site on 21 February 2022 to identify potential sources of contamination. The inspection results are summarised in **Table 2.1** and photographs are provided in **Appendix C**.

Table 2.1: Site Inspection Observations

Inspection Item	Feature Identified (from (AS4482.-2005, S3.3)	Detail
A	Areas of discoloured soil, polluted water, affected plant growth and animal populations and significant odours.	No discoloured soil or odours were observed.
B	The presence of any stockpiled material, imported soil or fill material such as slag, ashes, potential asbestos containing materials, scrap and industrial or chemical waste, as well as any signs of settlement, subsidence and disturbed ground.	There was no stockpiled material or evidence of imported waste material. The ground surface was flat, with no evidence of settlement or subsidence.
C	Assessment of soil loss or deposition that has occurred in the past and evaluation of the future erosion potential.	There were no signs of significant soil loss or deposition due to erosion.
D	The direction of the flow of water run-off from the site and adjacent properties.	The site is generally flat and expected to drain to the east, to the roadway.
E	The depth of any standing water, the direction and rate of flow of rivers, streams or canals, together with their flood levels and any tidal fluctuations	No standing water was present on-site, and none was noted in the surrounding area.
F	Any differences between the present conditions and the information obtained from the site history.	The condition of the site was as expected given the known site history.
G	Location and condition of all visible features, including foundations, positions of former buildings, tanks, pits, wells, drains and bores	There were no visible features apart from a parking ticket machine. There was no sign of where the former building was located.
H	Condition and type of ground cover, e.g. bare ground, asphalt, concrete, gravel, etc.	The site surface was entirely covered with gravel, suitable for vehicle parking. Some small white plastic markers on the ground were visible, which defined the parking areas. Refer to Photohgraphs 1 to 4.
I	Chemical storage and transfer areas, including the presence of waste or chemical containers.	There were no chemical storage areas.

Inspection Item	Feature Identified (from (AS4482.-2005, S3.3)	Detail
J	The apparent condition and use of adjacent properties	North: A small laneway then adjacent to the site was a commercial building (offices), a restaurant, and an apartment building. Further north was Burwood Road then commercial buildings including shops and restaurants on the north side of the roadway. South: Another gravel-surfaced parking area at 4 Paterson Street. Residences to the south of that parking area. East: A vehicle servicing centre (JAX Tyres and Auto – 468 Burwood Road) directly to the northeast (corner of Paterson Street and Burwood Road). There was evidence of multiple underground storage tanks (USTs) at that business. Vent pipes and gatic covers were visible at the eastern end of the business in the outdoor parking area. It is possible USTs were also present within the building in the car service area. The USTs did not appear to be currently in use (i.e. there were no bowsers) but they did appear to still be in place. There was no sign of investigations having taken place around the USTs such as installation of monitoring wells. Refer to photographs 5 to 7. Residences and a church were located further to the east. West: A church and other buildings associated with St Columbs Anglican Church. Further west were residences and commercial buildings including a vehicle service centre on St Columbs St.
K	Location of settlement ponds	No settlement ponds were present on-site.

4.0 Initial Conceptual Site Model

4.1 Potential Sources of Contamination

Table 4-1 summarises the potential sources of contamination identified by the PSI. The mechanisms of contamination and typical laboratory analysis parameters used to indicate the presence of the identified chemicals of potential concern (CoPC) are also summarised.

Table 4-1: Potential Sources of Contamination

Potential Contamination Source /Activity	Potential Mechanism(s) of Contamination	Potential Contaminants
Importation of fill material (on site)	Residual contaminant concentrations in any imported fill soils.	Various depending on the material origin – commonly identified contaminants include metals, petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), coke, ash and asbestos containing material (ACM). Less commonly encountered include pesticides, herbicides, phenolic compounds, cyanide wastes, solvents, polychlorinated phenols, and nutrients.
Former fuel storage (off site)	Leaks from underground storage systems and associated infrastructure transported to groundwater. Vapour intrusion into buildings located above the groundwater plume.	Petroleum hydrocarbons

4.2 Human and Ecological Receptors

The future use of the site is not known. Human receptors may include the following:

- Occupiers and visitors to the site.
- Construction and maintenance workers.

Potential ecological receptors of any site derived contamination are expected to be primarily limited to the following:

- Soil Invertebrates.
- Plants.
- Wildlife.
- Stormwater.
- Groundwater.

Surface water receptors are considered unlikely to be impacted from site derived soil or groundwater contamination, due to the distance to surface water from the site; the nearest surface water receptor is the Yarra River, approximately 1.5 km southwest of the site at its nearest point.

Groundwater bores in the vicinity of the site are not registered for extractive purposes. Groundwater quality (Segment A1 and A2) and depth (5-10 m bgl) indicate that extractive use is possible but it is unlikely to be realised given the lack of registered use and availability of a reticulated water supply in the township.

4.3 Potential and Complete Exposure Pathways

Future use of the site may permit direct contact with soil. During construction or sub-surface maintenance exposure to soil is also likely. Further construction of buildings on site will result in the potential for vapours that may be associated with contaminated groundwater to accumulate indoors. For the receptors detailed above, the potential exposure pathways may include the following:

- Site users directly contacting, ingesting and/or inhaling dust from surface soils.
- Construction and maintenance workers' direct contact with site soils, inhalation of dust and ingestion through poor hygiene.
- Accumulation of vapours within buildings. Vapours are potentially associated with contaminated groundwater from off-site sources.
- Plant and invertebrate health within contaminated site soils.
- Wildlife directly contacting, ingesting and/or inhaling dust from surface soils.

5.0 Preliminary Risk Screen Assessment

The findings of the PSI (**Section 3.0**) have been used by the auditor to perform a PRSA of the site in accordance with the proposed *Guideline for Conduct of Preliminary Risk Screen Assessments* (EPA, 2022).

5.1 PRSA Details

The details of the site, environmental auditor who performed the PRSA, the site owner and PRSA timeframe are presented in the **Executive Summary**.

5.2 Background and Reason for PRSA

This PRSA was undertaken at the request of DELWP and EPA to support potential rezoning of the site.

5.3 PRSA Scope and Methodology

The PRSA scope and methodology is summarised as follows:

- The PRSA was conducted in accordance with the guideline: *Guideline for Conduct of Preliminary Risk Screen Assessments* (EPA, 2022).
- The future use of the site is unknown, but it has been assumed residential development is possible.
- The scope included reviewing the information regarding site history and potential for contamination and a site inspection by the auditor.

5.4 Documentation Reviewed

The auditor reviewed the following reports:

- Prensa. Preliminary Site Investigation: 2 Paterson Street, Victoria. February 2022 (The PSI - Prensa 2022).

The auditor also provided comments on earlier versions of the Preliminary Site Investigation report.

5.5 Quality and Completeness of Prior Assessment(s)

The auditor's review of the completeness of the PSI and with reference to the requirements of the ASC NEPM (NEPC, 2013) is documented in **Appendix B**.

5.6 Summary of Historical Land Use Activities

A building was present on the site in an aerial photograph from 1956. Its use was unknown and it had been removed by 1970. The site has been used as a car park from approximately that date.

5.7 Assessment of Site Condition

5.7.1 Likelihood of Contamination

The former use of the site for a building associated with the adjacent church, current use of the site as a carpark and potential importation of fill material are potential sources of contamination. There was no evidence of significant disturbance of the site surface and widespread importation of fill. Based on the history of land use at and observations made during the site inspection, the likelihood of contamination attributable to the site is considered to be low, in accordance with *Planning Practice Note 30 – Potentially Contaminated Land* (DELWP, 2021).

However, evidence of multiple in-situ USTs at 468 Burwood Road to the northeast of the site and historical use of 462 Burwood Road as a fuel merchant, indicate potential off site sources of groundwater and vapour contamination that may impact the site. Those potential sources are further discussed as follows:

- Historical records indicate that 468 Burwood Road has been a fuel merchant since the 1950s. It is not known when USTs were first installed or how long they were in use but the site inspection confirmed that at least several USTs are still in-situ (see **Section 3.3**). The known USTs at 468 Burwood Road are approximately 35 m from the nearest point of the site boundary, with the Paterson Street roadway separating the two properties. If there are other USTs at 468 Burwood Road they would be closer to the site boundary. The historical underground storage and dispensing of fuel and the current presence of the USTs are considered a potential source of groundwater and associated soil vapour contamination that could impact the site. A review of surrounding audit sites indicated there is the potential for groundwater flow to the west and southwest. That is, there is potential for groundwater flow from 468 Burwood Road to the site. Given the proximity of the USTs (within 35 m) it is possible that contaminated groundwater from 468 Burwood Road would reach the site. Therefore, there is potential for contaminated land at the site due to soil vapour emanating from groundwater flowing from 468 Burwood Road.
- Historical records indicate that 462 Burwood Road was a fuel merchant from the 1950s to the 1970s. The current office building had been constructed by the 1980s. The building is adjacent to the site to the north, separated by a laneway. Given the time since 462 Burwood Road operated as a fuel merchant (likely >40 years), on its own it is not considered to be a significant potential off site source of contamination that would warrant further investigation.

The likelihood of contamination attributable to the above offsite sources is considered to be high, in accordance with *Planning Practice Note 30 – Potentially Contaminated Land* (DELWP, 2021).

The auditor's assessment of the likelihood of contamination is consistent with the conclusions of the PSI (Prensa, 2022). The auditor agrees that the conclusions in the PSI are appropriate based on the information presented and reviewed.[1]

5.7.2 Results of Site Characterisation Sampling and Analysis

No sampling was undertaken. Due to the proximity of a potential source of groundwater and soil vapour impacts at 468 Burwood Road (see **Section 5.7.1**) the option to confirm an absence so soil vapour contamination via a soil vapour and/or groundwater investigation was considered. However, the site owner (Swinburne University of Technology) did not wish to undertake that investigation as part of this PRSA.

[1] Amendment by Doug Ahearne, 10 May 2022

5.7.3 Potential Impacts on Environmental Values

Assessment of possible impacts on environmental values associated with the proposed use of the site are documented in **Table 5-2** and **Table 5-3**.

Table 5-1: Potential Impacts on Applicable Environmental Values of Land

Environmental Value	Comment
Maintenance of Ecosystems **Production of Food, Fibre and Flora**	Based on historical and current uses of the site the environmental values of maintenance of ecosystems and production of food, flora and fibre are not considered likely to be impacted by any potential contaminants of concern at the site.
Human Health	Based on the historical uses of adjacent properties including the presence of USTs, specifically 468 Burwood Road, there is the potential for impacts to human health at the site if hydrocarbon contaminated groundwater extends beneath the site.
Buildings and Structures	Based on historical and current uses of the site the environmental value of buildings and structures is not considered likely to be impacted by any potential contaminants of concern at the site.
Aesthetics	Based on historical and current uses of the site the environmental value of aesthetics is not considered likely to be impacted by any potential contaminants of concern at the site

Table 5-2: Potential Impacts of Site on Applicable Environmental Values of Groundwater

Environmental Value	Comment
Water dependent ecosystems and species	The nearest surface water to the site is Yarra River, 1.5 km to the southwest. This surface water is considered too distant from the site to be affected if contamination was derived from the site.
Potable water supply	Based on historical and current uses of the site, the site is considered unlikely be a potential source of groundwater contamination.
Potable mineral water supply	Potable mineral water supply is not considered to be an environmental value for the site as the site is not within or near a mineral water springs area and groundwater is not likely in its natural state to contain carbon dioxide and other soluble matter in sufficient concentration to cause effervescence
Agriculture and irrigation (irrigation and stock watering)	Based on historical and current uses of the site and the results of soil sampling, the site is considered unlikely be a potential source of groundwater contamination.
Industrial and commercial	Based on historical and current uses of the site and the results of soil sampling, the site is considered unlikely be a potential source of groundwater contamination.

Environmental Value	Comment
Water-based recreation (primary contact recreation)	Based on historical and current uses of the site and the results of soil sampling, the site is considered unlikely be a potential source of groundwater contamination.
Traditional Owner cultural values	Based on historical and current uses of the site and the results of soil sampling, the site is considered unlikely be a potential source of groundwater contamination.
Buildings and structures	Based on historical and current uses of the site and the results of soil sampling, the site is considered unlikely be a potential source of groundwater contamination.
Geothermal properties	Based on historical and current uses of the site and the results of soil sampling, the site is considered unlikely be a potential source of groundwater contamination.

Potential Impacts on Protected Environmental Values of Surface Water

The nearest surface water to the site is Yarra River, approximately 1,500 m southwest of the site. This surface water is considered too distant from the site to be affected if contamination was derived from the site.

Potential Impacts on Proposed Use or Development / Need for Environmental Audit

Whilst the potential development is not known it is understood that it will include construction of buildings, likely including residential use. There is the potential for contaminated land due to soil vapour contamination associated with a potential off site source. Therefore, an environmental audit assessing contaminated land is required to confirm the site suitability. This outcome is consistent with the definition of contaminated land in the *Environment Protection Act 2017* under section 35(1)(b) which considers the creation of a risk of harm to human health or the environment regarding the environmental values of land and water.

5.8 Auditor Support Team Used

The auditor did not use any of his expert support team in conducting this PRSA.

6.0 Technical Report Limitations/Disclaimers

This PRSA was prepared for the Person requesting the PRSA in accordance with Part 8.3 of the *Environment Protection Act 2017*. The PRSA report has been prepared to satisfy a requirement for the development the site.

The PRSA is based on a review of the subsurface condition of the site at the time of assessment, as described in the assessment reports attached to the PRSA report and site inspections conducted by the auditor and their representatives. PRSA reports are based on the conditions encountered and information reviewed at the time of preparation, and do not represent any changes that may have occurred since the date of completion.

In reaching their conclusions about the site, Swinburne University of Technology and EPA Victoria may use this PRSA report and Preliminary Risk Screen Assessment Statement. The scope of work performed as part of the PRSA process may not be appropriate to satisfy the needs of any other person. Any other person's use of, or reliance on, the PRSA document and report, or the findings, conclusions, recommendations or any other material presented or made available to them, is at that person's sole risk.

In drawing conclusions, the auditor used reasonable care to avoid reliance upon data and information that may be inaccurate, however a degree of uncertainty is inherent in all subsurface investigations and there remains the possibility that variations may occur between sample locations. The PRSA and this report are limited by and rely upon the scope of the review, and the information provided by Swinburne University of Technology and its consultants and representatives through documents provided to the auditor. The auditor's conclusions presented in this report are therefore based on the information made available to them and arising from their own observations conducted during the PRSA.

7.0 References

Legislation and Regulations

State of Victoria, *Environment Protection Act 2017*.

State of Victoria, *National Environment Protection Council (Victoria) Act* 1995.

State of Victoria, *Environment Protection Regulations* 2021, S.R. No. 47/2021 (25 May 2021).

State of Victoria, *Environment Reference Standard,* Victoria Government Gazette No. S245 (26 May 2021).

General References

Department of Environment, Land, Water and Planning (2021) Potentially Contaminated Land, Planning Practice Note 30, July 2021.

EPA (2021a) *Guide to the Environment Protection Regulations,* Publication 1753.2, Environment Protection Authority Victoria.

EPA (2021b) *Contaminated Land Policy*, Publication 1915, Environment Protection Authority Victoria.

EPA (2021c) *Contaminated Land: Understanding Section 35 of the Environment Protection Act 2017*, Publication 1940, Environment Protection Authority Victoria.

EPA (2021d) *Guide to the Environment Reference Standard*, Publication 1992, Environment Protection Authority Victoria.

EPA (2021e) *Guidance for the Cleanup and Management of Contaminated Groundwater*, Publication 2001.1, Environment Protection Authority Victoria.

EPA (2022), *Guideline for Conducting of Preliminary Risk Screen Assessments,* EPA Publication 2021, dated February 2022, Environment Protection Authority Victoria.

Ministerial Direction No. 1 – Potentially Contaminated Land 2021.

NEPC (2013) *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013)*, Adelaide: National Environment Protection Council.

Standards Australia (1999) *Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 2: Volatile Substances,* Australian Standard: AS4882.2-1999.

Standards Australia (2005) *Guide to the Investigation and Sampling of Potentially Contaminated Soil. Part 1: Non-volatile and semi-volatile compounds,* Australian Standard: AS4882.1-2005.

Standards Australia (2009) *Piling - Design and Installation,* Australian Standard: AS2159-2009.

Site-specific Reference

Prensa (2022) *Preliminary Environmental Site Assessment*, 2 Paterson Street, Hawthorn, Victoria, ref no. 98740M, February 2022.

Figures

Legend

Site Boundary

Notes:
Aerial Imagery (24/12/2021) © Nearmap

Created:	S. Wong	Date:	2/03/2022
Reviewed:	K. Shearman	Revision:	0
Approved:	K. Shearman	Scale:	1:500 (A3)
File:	M19495_003_Site Location Plan		

0 2.5 5 10 15 20 25 Metres

Coordinate System: GDA 1994 MGA Zone 55

Figure No: 1

Title: Site Location

Project: PRSA

Location: 2 Paterson Street, Hawthorn VIC, Australia

Client: Swinburne University of Technology

Path: S:\01_Jobs\3.VIC_Jobs\M19495_SWINBURNE_HAWTHORN_PRSA\APRX\M19495_003.aprx

Appendix A: Preliminary Risk Screen Assessment Statement

Preliminary risk screen assessment statement

Under Part 8.3 of the *Environment Protection Act 2017*

Publication F1031.1 published February 2022

The purpose of a preliminary risk screen assessment is:

(a) to assess the likelihood of the presence of contaminated land; and

(b) to determine if an environmental audit is required; and

(c) if an environmental audit is required, to recommend a scope for the environmental audit.

It is important to note that a PRSA statement is not an environmental audit statement or an environmental audit report. It should not be construed as an environmental audit conducted to assess the suitability of land use.

This statement is a summary of the findings of a preliminary risk screen assessment conducted under Part 8.3 of the *Environment Protection Act 2017* for:

2 ~~Peterson~~ Paterson[1] Street Hawthorn

Further details are provided in the preliminary risk screen assessment report that accompanies this statement.

Section 1: Preliminary risk screen assessment overview

Environmental auditor details

Name:	Doug Ahearne
Company:	Senversa Pty Ltd
Address:	Level 6, 15 William Street, Melbourne
Phone:	03 9606 0070
Email:	doug.ahearne@senversa.com.au

Site owner/occupant

Name:	Yolanda Wosny (site owner representative)
Company:	Swinburne University of Technology

Environmental auditor engaged by

Name:	Yolanda Wolsny
Company:	Swinburne University of Technology
Relationship to site owner:	Employee

[1] Amendment by Doug Ahearne, 10 May 2022

Reason for preliminary risk screen assessment

Planning scheme:	N/A
Permit details (if applicable):	N/A
Other:	To support rezoning and divestment
☐ Permit is attached (if applicable):	

Section 2: Assessment scope

Site details

Address:	2 Paterson Street, Hawthorn
Title details:	Lot 1 TP137079
Area (m^2):	640

☒ a plan of the site is attached

Use or proposed use assessed

The below section details which land uses (current and proposed) the PRSA has assessed. Note, this is not a suitability of land use audit, rather an assessment to determine if an environmental audit is required for the land uses that apply to the specific PRSA.

Sensitive land use categories

Note that sensitive land uses in the *Environment Reference Standard 2021* (ERS 2021) are categorised as lower and high density. Lower density is where there is generally substantial access to soil and high density is restricted to developments that make maximum use of available land space, and there is minimal access to soil. For planning purposes, the *Ministerial Direction No. 1* (MD No.1) considers secondary schools and children's playgrounds to be sensitive land uses.

☒ High density
☒ Residential land use
☐ Child care centre
☐ Pre-school
☐ Primary school
☐ Secondary school

☒ Other (lower density)

☐ Children's playground (indoor)
☐ Children's playground (outdoor)

Other land use categories

☐ Recreation/open space
☐ Parks and reserves
☐ Agricultural
☐ Commercial
☐ Industrial
☐ Other land uses not captured by the above as described here:

Preliminary risk screen assessment statement

Environmental elements assessed

☒ Land
- ☒ all environmental values that apply to the land use category were considered **OR**
- ☐ all environmental values that apply to the land use category, other than the following, were considered:

☒ Water
- ☒ Surface water
  - [2]☒~~☐~~ all environmental values that apply to the applicable segment were considered **OR**
  - ☐ all environmental values that apply to the applicable segment, other than the following, were considered:
- ☒ Groundwater
  - ☒ all environmental values that apply to the applicable segment were considered **OR**
  - ☐ all environmental values that apply to the applicable segment, other than the following, were considered:

Standards considered

Environment Reference Standard 2021
National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended from time to time
Guide to the Investigation and Sampling of Potentially Contaminated Soil. Part 1: Non-volatile and semi-volatile compounds, Australian Standard: AS4882.1-2005 (Standards Australia 2005)
Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 2: Volatile Substances, Australian Standard: AS4882.2-1999 (Standards Australia 1999)

Assumptions made during the assessment or any limitations

None

Exclusions from the assessment and the rationale for these

Ambient air and ambient sound environmental values have not been considered, because they are not relevant to the assessment of contaminated land.

This statement is accompanied by the following preliminary risk screen assessment report

Title:	Preliminary Risk Screen Assessment:2 Paterson Street, Hawthorn
Report no:	M19495_003_RPT_Rev0
Date:	4 March 2022

[2] Amendment by Doug Ahearne, 10 May 2022

Section 3: Assessment outcome

Based on my assessment, I am of the opinion that an environmental audit is **required** for the following land uses, **including** the use or proposed use for which the site has been assessed:

Sensitive land use categories

Note that sensitive land uses in the ERS 2021 are categorised as lower and high density. Lower density is where there is generally substantial access to soil and high density is restricted to developments that make maximum use of available land space, and there is minimal access to soil. For planning purposes, the MD No.1 considers secondary schools and children's playgrounds to be sensitive land uses.

☒ High density
☒ Other (lower density)

☒ Residential land use
☒ Child care centre
☒ Pre-school
☒ Primary school
☒ Secondary school

☒ Children's playground (indoor)
☒ Children's playground (outdoor)

Other land use categories

☐ ~~Recreation/open space~~
☐ ~~Parks and reserves~~
☐ ~~Agricultural~~
☐ ~~Commercial~~
☐ ~~Industrial~~
☐ ~~Other land uses not captured by the above as described here:~~

Other information

N/A

Reason for environmental audit

Multiple underground storage tanks are present at 468 Burwood Road to the northeast of the site, which is approximately 35 m from the site. Historical records indicate that property operated as a fuel merchant since the mid-1950s. The underground storage tanks are currently disused and the property operates as an automotive service centre. There is evidence from assessments at nearby properties that groundwater may flow to the west and southwest, so there is potential for groundwater from 468 Burwood Road to flow towards the site. In addition, historical records indicate that 462 Burwood Road, immediately to the north of the site, was formerly used as a fuel merchant. The historical uses, the presence of the underground storage tanks, the proximity of 468 Burwood Road and the likely direction of groundwater flow indicate there is a potential for offsite groundwater contamination which may extend beneath the site and present a potential vapour risk to use of the site for sensitive uses.

Proposed scope of environmental audit

Site to be audited:	
Site/premises name	
Address	2 Paterson Street, Hawthorn
Title details	Lot 1 on TP137079
Area (m^2)	640
Use or proposed use of the site to be audited:	Sensitive land use categories ☒ High density ☒ Residential land use ☐ Child care centre ☐ Pre-school ☐ Primary school ☐ Secondary school ☒ Other (lower density) ☐ Children's playground (indoor) ☐ Children's playground (outdoor) Other land use categories ☐ Recreation/open space ☐ Parks and reserves ☐ Agricultural ☐ Commercial ☐ Industrial ☐ Other land uses not captured by the above as described here:
Elements of the environment to be assessed in the environmental audit:	☒ Land ☐ all environmental values that apply to the land use category to be considered **OR** ☒ all environmental values that apply to the land use category, other than the following, to be considered: ~~Maintenance of Ecosystems~~Land Dependent Ecosystems and Species[3], Production of Food, Fibre and Flora, Human Health (other than risks associated with vapour intrusion), Buildings and Structures, Aesthetics
	☐ Water ☐ Surface water ☐ all environmental values that apply to the segment to be considered **OR** ☐ all environmental values that apply to the segment, other than the following, to be considered: ☐ Groundwater ☐ all environmental values that apply to the segment to be considered **OR** ☐ all environmental values that apply to the segment, other than the following, to be considered:

[3] Amendment by Doug Ahearne, 10 May 2022

Preliminary risk screen assessment statement

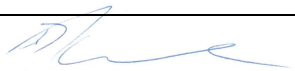
Site to be audited:	
Standards and reference documents to be considered:	*Environment Protection Act 2017* *Environment Reference Standard 2021* EPA Publication 2022, *Environmental Auditor Guidelines – Provision of statements and reports for environmental audits and preliminary risk screen assessments* National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended from time to time Australian Standards 4482.1 and 4482.2 EPA Publication 2041, *Guidelines for conducting environmental audits* CRC CARE, Technical Report 23: Petroleum hydrocarbon vapour intrusion assessment - Australian guidance. 2013 Vapor Intrusion Pathway: A Practical Guideline. ITRC, 2007 Vapour Intrusion Technical Guidance Note. NSW DECCW, 2010
Exclusions from the environmental audit and rationale for these:	The purpose of the audit is to assess risks from potential vapour contamination associated with potential groundwater contamination. Therefore, the audit will include the environmental value of Land (Human health and aesthetics (odours from vapours)) but will excluded other environmental values of land. It will also exclude groundwater and surface water on the basis that the site history and auditor site inspection indicate a low likelihood of contamination attributable to the site.
Assumptions made or limitations on the environmental audit:	None

Note: An assessment that an environmental audit is not required does not include any comment on as to whether responsibilities under section 39 of the *Environment Protection Act 2017* (duty to manage contaminated land) exist for the person in management or control of the land. Please refer to EPA publication 1977, *Assessing and controlling contaminated land risks: A guide to meeting the duty to manage for those in management or control of land* (https://www.epa.vic.gov.au/about-epa/publications/1977*).*

Section 4: Environmental auditor's declaration

I state that:

- I am appointed as an environmental auditor by the Environment Protection Authority Victoria under the *Environment Protection Act 2017*.
- The findings contained in this statement represents a true and accurate summary of the findings of the preliminary risk screen assessment that I have completed.

Date:	4 March 2022
Signed:	
Name:	Doug Ahearne
	Environmental Auditor

Legend

Site Boundary

Notes:
Aerial Imagery (24/12/2021) © Nearmap

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Figure No: 1

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Path: S:\01_Jobs\3.VIC_Jobs\M19495_SWINBURNE_HAWTHORN_PRSA\APRX\M19495_003.aprx