



Victorian Distillery and Silos Owners Consortium

Site Management Plan – SMP

21 Northumberland and 26 Wellington Streets,
Collingwood, Victoria 3066

August 2021

Client	Victorian Distillery and Silos Owners Consortium c/o Joel Snyder
Project	Vapour Risk Assessment and Site Management Plan
Document Title	Site Management Plan – SMP
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Role	Name/Title	Signature	Date
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Distribution

The Site Management Plan (SMP) is subject to a document control procedure, to ensure that all SMP stakeholders have the current document version.

The Site owner or the Owners Corporation/appointed representative is responsible for ensuring that the SMP is kept up to date and must sign below to confirm the latest version.

Version	Date of Issue	Recipient	Prepared By
20200047-R-02_DRAFT	06/08/2021	Environmental Auditor	Edge Group Pty Ltd
		Joel Snyder	
20200047-R-02_DRAFT_v2	16/08/2021	Environmental Auditor	Edge Group Pty Ltd
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20200047-R-02_v2	18/08/2021	Environmental Auditor	Edge Group Pty Ltd
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Roles

The SMP has been received by the parties / stakeholders noted below. All residents, staff, companies, contractors, subcontractors and suppliers associated with current or future development or maintenance works at 21 Northumberland and 26 Wellington Streets, Collingwood must adhere to this SMP (responsibilities outlined in **Section 5**).

Role	Recipient	Name	Signature	Date
Owners Corporation	Select	Shaun O'Connell and Ben Harewood		
Occupier (Care of Owners Corporation)				
Maintenance Contractor <i>(includes trades: plumbing, electrical, carpentry, landscaping, etc.)</i>				
Environmental Consultant	Edge Group Pty Ltd	Scott Davis		18/08/21

Maintenance contractor to read and sign this document before undertaking soil penetrating works at the Site.

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Abbreviation List

ACM	Asbestos-Containing Material
AST	Above-Ground Storage Tank
CoPC	Contaminant of Potential Concern
DSI	Detailed Site Investigation
EPA	Environment Protection Authority
GED	General Environmental Duty
mAHD	Metres with respect to the Australian Height Datum
PPE	Personal Protective Equipment
PSI	Preliminary Site Investigation
SMP	Site Management Plan
SV	Soil Vapour
SVRA	Soil Vapour Risk Assessment
UST	Underground Storage Tank
VDSOC	Victorian Distillery and Silos Owners Consortium
VRA	Vapour Risk Assessment

1 Introduction

Edge Group Pty Ltd (Edge) was engaged by Victorian Distillery and Silos Owners Consortium (VDSOC) (the Client) to prepare a Site Management Plan (SMP) for the site located at 21 Northumberland and 26 Wellington Streets, Collingwood (the Site). The Site comprises multiple lots (approximately 2,875 m² combined total area), which were redeveloped for partial commercial and partial residential land uses. A large portion of the ground floor is used for car parking. Refer to **Figure 1** for the Site Layout.

1.1 Background

VDSOC submitted a Planning Scheme amendment request to the Yarra City Council (Council) in order to acknowledge the Site use for commercial and residential purposes. Prior to the amendment request, Edge completed a Preliminary Site Investigation (PSI) and Detailed Site Investigation (DSI) (Edge Ref: **20170561-R-02** and **20170561-R-03**, respectively), which, noting two isolated occurrences of lead and benzo(a)pyrene above high-density residential soil assessment criteria, indicated that the Site was suitable for mixed commercial/residential use.

A peer review of the above reports indicated further investigation and assessment would be required before the Site could be considered suitable for the current residential dwellings. Additionally, Council received advice from the Environmental Protection Authority Victoria (EPA) (5010153) in November 2019 that an Environmental Audit was required due to the change in land use.

Following discussions between Council and the EPA in February 2020, the EPA recommended a Vapour Risk Assessment (VRA) and an SMP be completed at the Site and the works be verified by an EPA appointed Auditor. The EPA indicated that the requirement to undertake an Environmental Audit could be deferred until after the Planning Scheme amendment was approved, should the VRA and SMP indicate that there was no unacceptable risk to human health or the environment under the current land use and Site layout.

Edge completed a Soil Vapour Risk Assessment (Edge Ref: **20200047-R-01**) in August 2021, which included assessment of soil, soil vapour and indoor air. The SVRA found that, in its current layout, there was no unacceptable risk to human health from soil vapour at the Site (including high density residential, commercial and intrusive maintenance worker receptors).

1.2 Purpose

Due to the presence of soil contamination at the Site, this SMP details controls to protect residents (and conservatively, workers conducting in-ground works such as excavations or trenching) from the identified soil contamination risks at the Site.

2 Objectives

Table 1: SMP Objectives

Objective	To protect residents and workers from exposure to contaminants in the soil.
When	SMP to be implemented from date of endorsement and in-place for all future residential occupation and work at the Site.
Summary	Management measures relevant to the excavation and handling of soil at the Site, particularly regarding installation and maintenance of sub-surface utilities.
Who	• Owners Corporation • Occupier (Tenants and Members of the Owners Corporation) • Maintenance Contractor (includes trades: plumbing, electrical, carpentry, landscaping etc.) • Environmental Consultant

3 Site History and Contamination

3.1 Previous Assessments

3.1.1 Preliminary Site Investigation – Edge, 2017

A PSI was conducted previously by Edge in March 2018 (Edge ref: **20170561-R-02**), which identified:

- The Site was used as a distillery from the mid-1800s to 1992. In 1997, the Site was redeveloped for commercial and residential land use.
- Historical information indicated the potential for contamination of soil, groundwater and/or soil vapour sourced from on-Site activities:
 - Use of the Site as a distillery from mid-1800s to 1992;
 - Identification of a ‘Tank’ (unknown to be UST or AST) historically in the north west corner of the Site; and
 - Potential presence of imported fill.
- Historical information indicated the potential for contamination of soil, groundwater and/or soil vapour sourced from off-Site activities:
 - Historical Brewers and Grain Merchants located to the west, east and south of the Site;
 - Historical Electrical Welders and Oxy-acetylene previously located west of the Site; and
 - Historical Textile Manufacturers located to the west of the Site.
- The PSI identified a high potential for impacted soil to be present on-Site, however in the current Site setting there is considered to be a low risk to current Site users.

3.1.2 Detailed Site Investigation – Edge, 2019

Subsequent to the PSI, in January 2019, Edge conducted a DSI which focussed on the key risk to residents in soil and soil vapour (Edge ref: **20170561-R-03**) (excluding groundwater as it was not abstracted on Site). Key details are as follows:

- Nine boreholes were advanced across the Site and 17 samples were analysed for contaminants of potential concern (CoPC).
- Two soil vapour bores and three Soil Vapour Pin™ locations were installed at the Site with soil vapour samples collected and analysed from each location.
- Lead and benzo(a)pyrene in soil exceeded adopted high density residential assessment criteria at two locations, however direct human contact with impacted soils was considered unlikely to occur.
- The soil assessment did not identify gross contamination, and soil impacts were delineated at depth.
- The soil vapour assessment indicated the presence of two CoPC which required further assessment (Bromodichloromethane in SVP03 and Chloroform in SVB01, SVB02 & SVP03). A specialist risk assessor (EnRiskS) indicated that there was no concern for the use of the Site for high density residential purposes in the current Site setting.
- As such, the findings of the DSI indicated that the soil and soil vapour at the Site did not pose an unacceptable risk to human health or the environment.

3.1.3 Vapour Risk Assessment

In response to the request of the EPA and Council, Edge undertook further Soil Vapour Risk Assessment at the Site in January 2021 (Edge ref: **20200047-R-02**). The details of the assessment are as follows:

- Eight boreholes were advanced across the Site in September 2020. Soil was logged and sampled, and each borehole was converted into a soil vapour bore (SVB03 – SVB10).
- Concentrations of CoPC in soil were below the adopted assessment criteria at all locations.
- Vapour concentrations of isopropyl alcohol, trichloroethene and bromodichloromethane exceeded adopted assessment criteria at three locations.
- Due to the soil vapour exceedances of the soil vapour human health criteria, Edge appointed a specialist Risk Assessor to provide a Risk Assessment which determined that the CoPCs

detected in soil vapour would not be considered of concern for the use of the Site for high-density residential purposes in the current Site layout (or by extension, the less sensitive land use of commercial/industrial).

- The Site in its current layout was considered suitable for commercial/industrial and high density residential uses.

3.2 Summary of Contamination

Figure A and **Table 2** provide a brief summary of where residual contamination is present at the Site, based on all data available.



Figure A: Soil Assessment Criteria Exceedances

Table 2: Summary of Current Site Contamination

Media	Exceeds criteria	Analytes	Location	Year / reference
Soil	✓	Lead and benzo(a)pyrene	SB08 and SB02	2018, 20170561-R-03
Soil vapour (SV)*	✓	Isopropyl alcohol, trichloroethene, bromodichloromethane and chloroform	SVP01, SVP02 and SVP03	2018, 20170561-R-03 2019, 20170561-R-03 2020, 20200047-R-02
Indoor Air	X	None	None	2020, 20200047-R-02

****As noted above, following an expert risk assessment, there was no unacceptable risk to human health from soil vapour or indoor air at the Site (including residential, commercial and intrusive maintenance worker receptors).***

As such, this SMP addresses the risk posed to residents (and conservatively, workers conducting in-ground works such as excavations or trenching) through direct contact/ingestion from the noted concentrations of contaminants in soil at the Site.

4 Environmental Regulatory Requirements

4.1 Environment Protection Act

The *Environment Protection Act (EP Act)* 1970 prohibits the pollution of the atmosphere, land and waters and alteration of conditions of the environment that make it:

- Noxious or poisonous;
- Harmful or potentially harmful to the health, welfare, safety or property of humans;
- Poisonous, harmful or potentially harmful to water, animals, birds, and aquatic life;
- Poisonous, harmful or potentially harmful to plants; and
- Detrimental to any Beneficial Use of a specific segment of the environment.

A general environmental duty (GED) was introduced in the EP Act 2017, which came into effect in July 2021 and which requires all parties to take “reasonably practicable” steps to eliminate risks of harm to human health and the environment from pollution or waste. Breach of the GED is an offence, regardless of whether any harm actually occurs. What constitutes a “reasonably practicable” step will depend on the circumstances, and the actual state of affairs at the time the risk arises.

4.2 Environment Reference Standard

The Victorian Government *Environment Reference Standard* 2021 (ERS 2021) provides a framework for the protection of ambient air, ambient sound, land and water environments and their associated Environmental Values in Victoria.

4.3 Purpose of Environmental Regulatory Requirements

Regarding all activities carried out during any soil handling at the Site; all Contractors must comply with the requirements of all legislations, Acts, Regulations, Policies and Guidelines. The key regulatory documents applicable to the works are, but not limited to, the following:

- Environment Protection Act (2017).
- EPA Victoria Publication 1828.2, *Waste disposal categories – characteristics and thresholds*, March 2021.
- Industrial Waste Resource Guidelines 2009.
- Industrial Waste Resource Guideline IWRG701, *Sampling and analysis of waters, soils and wastes*, June 2009.
- Industrial Waste Resource Guideline IWRG702, *Soil sampling*, June 2009.
- Occupational Health and Safety Act 2004 (WorkSafe Victoria).
- WorkSafe Victoria, *Industry Standard: Contaminated Construction Sites (Construction and Utilities)*, June 2017.

5 Roles and Responsibilities

This Section outlines the requirements of this SMP in relation to roles and responsibilities. The SMP applies to all buildings, open spaces, carpark, underground utilities and common property within a title boundary.

Table 3 provides a summary of roles and responsibilities for the SMP.

Table 3: Roles and Responsibilities

Role	Responsibility
Owners Corporation	- Preparation, implementation and maintenance of this SMP (or delegation to an Owners Corporation or Environmental Consultant as appropriate). - Maintain a copy of the SMP including appendices. - Ensure a procedure is in place that would identify a potential activity / site work / maintenance that could result in a change in the current Site layout. - If a change in the Site layout is indicated, liaise with the Environmental Consultant. - Notify / induct all contractors / maintenance workers on respective properties with regards to the environmental risks (e.g. lead and benzo(a)pyrene). - Conduct information session for affected tenants of buildings and ensure systems are in place so that all tenant's employees / staff are aware of protective measures in place and potential risks associated with incorrect maintenance works at the Site. - Distribution of SMP to existing and new tenants. - Update tenants of any risk changes as advised by the Environmental Consultant. - Requirement to conduct inspections to ensure compliance with the SMP (i.e., during or after works). - Keep a record of all inductions on an induction register. - Maintain soil barriers on Site.
Occupier (Tenants and Members of the Owners Corporation)	- Abide by the building rules (or Owners Corporation rules). - A member of the Owners Corporation, or an occupier of a property, must not: - Dig, or excavate below the surface of the landscaped areas and gardens on a Lot or Common Property unless appropriate health, safety and environment controls are in place and the Owners Corporation formally approves. - Interfere with, penetrate, breach the lowest floor slab of a Building. - Interfere with, penetrate, breach the sub-slab other than for the purpose of maintenance, replacement or repair authorised by the Owners Corporation. - Drill any bores within the Common Property or any Lot. The drilling of bores or the installation of water wells on a Lot or the Common Property is not permitted without testing its suitability for the proposed use.
Maintenance Contractor (includes trades: plumbing, electrical, carpentry, landscaping, etc.)	- Acknowledging and abiding by the environmental and safety requirements within this SMP (Table 4) and acknowledging the risks associated with activities atop, or within close proximity to the Site. - Communicating the relevant responsibilities of this SMP to all personnel within their company working on-Site, including their sub-contractors. - Maintenance contractors must seek advice and approval from the Owners Corporation before: - They dig or excavate below the surface of the landscaped areas and gardens on a Lot or Common Property. - Interfere with, penetrate, breach the lowest floor slab of a Building. - Interfere with, penetrate, breach the sub-slab other than for the purpose of maintenance, replacement or repair authorised by the Owners Corporation. - Any excavated soil should be stockpiled and returned to the excavation with appropriate inert cover at surface. If it is not possible to return soil to the excavation, then it should be disposed off-Site in accordance with the EPA waste guidance.
Environmental Consultant	- Review and update the SMP (if required). - Provide feedback to the Owners Corporation on any changes to the current Site layout.

6 SMP Controls

This section provides the management required to protect occupiers from the presence of contaminants (lead and benzo(a)pyrene) in soil at the Site.

Given there is no unacceptable risk to receptors from soil vapour at the Site, this SMP does not consider any controls for vapour intrusion hazards. Should the Site layout change, then (in accordance with the roles and responsibilities outlined in **Table 3**) the Environmental Consultant must be contacted by the Owners Corporation to assess the planned change.

6.1 Barrier

Due to the presence of lead in all of the five unpaved areas of the main courtyard (shown in **Attachment 1**), a barrier must be installed to prevent access to these soils by residents. It is possible that sensitive receptors (such as children) could play in this area and be exposed to lead-impacted soils. The only covering that currently exists is a thin layer of pebbles, which is not a sufficient barrier. Acceptable barrier options include:

- Paving/bricks;
- Installing a permanent water permeable soil barrier (<http://curtisbarrierintl.com/>) over the soil (which is stronger than typical geotextile); or
- Excavating the contaminated soil down to 0.5 m depth and placing clean soil in the excavated areas.

6.2 Soil Management

Table 4 details the standard protocols to be implemented during any excavation or soil movement during any soil excavation/maintenance activities, including all underground utility work.

Table 4: Summary of Soil Management Requirements

Activity	Management Controls
Excavations	• While the soil contamination at the Site is limited to lead (non-volatile) and benzo(a)pyrene, direct contact with soil must be avoided. During any excavation works or underground utility maintenance, use of appropriate personal protective equipment (PPE) is required, such as full-length shirt, pants and gloves. • Reinstatement of the concrete slab or excavated surfaces is required.
Stockpile Management	• Any topsoil/soil stripped will be stockpiled separately in clearly designated areas and where stockpiling extends for more than one day, shall be covered by a tarpaulin or similar. • Any soil stockpiles shall be managed to minimise dust generation or sediment runoff. Soils must be tracked on-Site with regards to source and final placement; • The application of water to soils for the purpose of dust control must not generate surface water runoff.
Contaminated Soils	• Identify specific areas of existing soil that may be impacted by contamination; • Ensure workers wear the correct PPE (gloves, full length shirt and trousers, eye protection and P2 dust mask where necessary); and • Determine the requirements for disposal of impacted soil. • Establish a soil management programme that controls and documents the following: ○ Location soil impact was noted; ○ Volume excavated; ○ Area where impacted soil is placed; ○ Date and person responsible for soil sampling; ○ Soil classification as per EPA waste guidance; and ○ Final destination of soil and evidence of off-Site disposal where applicable. ○ The soil tracking system should be readily auditable when required.
Spoil Disposal	• All excess spoil generated at the Site is to be tested by an appropriately qualified environmental consultant and managed in accordance with EPA guidance.

Activity	Management Controls
Fill Importation	All fill will be subject to evaluation for suitability in accordance with EPA guidance prior to being carted to Site. Seek Environmental Consultant advice.

6.3 Potentially Contaminated Soils and Unexpected Finds Management

Protocols which shall be implemented for contaminated soil movement is discussed here. Specific protocols and control measures when unexpected contamination is identified or suspected during works are also described.

Signs of contamination in soil include odour, sheen, buried waste and asbestos fragments.

Contaminated soil is to be reported to the Owners Corporation. Contact the Environmental Consultant to seek advice on the nature of contamination and whether laboratory testing or visual assessment is required. The volume and location of the material should be documented. Any soil identified as being contaminated or odorous shall be contained in a specific location and at a safe distance from Site users.

In the event that off-Site disposal is required, contaminated soil shall be categorised, transported and disposed in accordance with EPA Victoria Publication 1828.2 (2021). Documentation demonstrating the soil classification must be forwarded to an appropriately licensed receiving facility. Transport of soil shall be in accordance with the Environment Protection (Industrial Waste Resource) Regulations 2009 with an EPA Waste Transport Certificate available for all soil transported off-Site.

6.4 Review of This SMP

It is recommended that this SMP shall be reviewed by the Owners Corporation every five years, or whenever there is a significant change to the site use/layout.

Should the soil in the vicinity of SB08 be remediated, then the relevance of this SMP is considered low and cessation of its use may be considered, noting any subsurface activities should follow industry practice relating to spoil management.

7 Summary

The SMP details the scope of roles, responsibilities, methodology to be completed during occupancy at the Site for Site Owners Corporation with regards to specific environmental issues as identified during the previous Environmental Assessments, as listed in **Section 3.1**.

The SMP was developed in general accordance with relevant National and State regulations and guidelines and was reviewed by an EPA Victoria Environmental Auditor appointed pursuant to the Environmental Protection Act (2017).

8 Limitations

Edge performed the services in a manner consistent with the expected level of care and expertise exercised by those in the environmental profession.

No other warranty, expressed or implied, is made as to the professional advice included in this report. It is prepared in accordance with the scope of work and for the purpose outlined in the Proposal.

Although normal standards of professional practice have been applied, the methodology adopted and sources of information used by Edge are outlined in this report. Edge has made no independent verification of this information beyond the agreed scope of works and assumes no responsibility for any inaccuracies or omissions. No indications were found during our investigations that information contained in this report as provided to Edge was false.

All conclusions and recommendations made in the report are the professional opinions of the Edge personnel involved with the project and, while normal checking of the accuracy of data has been conducted, Edge assumes no responsibility or liability for errors in data obtained from regulatory agencies or any other external sources, nor from occurrences outside the scope of this project.

References

DIPNR NSW (2004) *Guideline for the Preparation of Environmental Management Plans*. Department of Infrastructure, Planning and Natural Resources (DIPNR). NSW, 2004.

Edge Group Pty Ltd (2021). *Soil Vapour Risk Assessment – 21 Northumberland and 26 Wellington Streets, Collingwood, VIC, 3066*. Edge Reference: 20200047-R-01.

Edge Group Pty Ltd (2019). *Detailed Site Investigation 21 Northumberland and 26 Wellington Streets, Collingwood, VIC, 3066*. Edge Reference: 20170561-R-03.

Edge Group Pty Ltd (2019). *Preliminary Site Investigation 21 Northumberland and 26 Wellington Streets, Collingwood, VIC, 3066*. Edge Reference: 20170561-R-02.

Environment Protection Authority (EPA), *Waste Disposal Categories – Characteristics and Thresholds (Publication 1828.2)*, March 2021.

Environment Protection Authority (EPA), *Soil Sampling (Publication 702)*, Environment Protection (Industrial Waste Resource) Regulations 2009.

Environment Protection Authority (EPA), *Environment Protection Act (2017)*, July 2021.

National Environmental Protection Council, *National Environmental Protection (Assessment of Site Contamination)*, 1999 (as amended 2013) (NEPM 2013).

Victorian Government, *Environment Reference Standard*, No. S 245, 2021 (ERS).

WorkSafe Victoria, *Occupational Health and Safety Regulations* (2017)

Figure



Legend:

Site Boundary

Ground Floor Use

1 - Residential

2 - Commercial

3 - Foyer

4 - Parking

5 - Storage & Facilities



GDA2020
MGA Zone 55



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Site Layout
Victorian Distillery and Silos Owners Consortium
21 Northumberland & 26 Wellington Streets, Collingwood, Vic

A3	Drawn: ND	Date: 24/02/2021	Figure 1
	Rev.: 0	Project No.: 20200047	

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Attachment 1

Attachment 1 - Soil Protect Areas

