

Kingston Planning Scheme
Referral 53: 16 Ball Road, Heatherton

Priority Projects Standing Advisory Committee Referral 53 Report

Planning and Environment Act 1987

9 July 2026

Planning Panels Victoria acknowledges the Wurundjeri Woi Wurrung People as the traditional custodians of the land on which our office is located. We pay our respects to their Elders past and present.

Planning and Environment Act 1987

Priority Projects Standing Advisory Committee Report Referral 53 Report

Kingston Planning Scheme

16 Ball Road, Heatherton

9 July 2026

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David Merrett, Chair

A handwritten signature in dark ink, featuring a prominent vertical stroke and a long horizontal line extending to the right.

Mandy Elliott, Member

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Glossary and abbreviations

2022 Audit	section 53X environmental audit ¹ of the subject land completed by Salient GeoEnvironmental Consulting Pty Ltd in partnership with Environmental Resources Management Australia (ERM) September 2022
ACM	Asbestos containing material
C2Z	Commercial 2 Zone
CEMP	Construction Environmental Management Plan
CGGMP	Construction Gas and Groundwater Management Plan
Concept plan	<i>Concept Masterplan</i> , Genton, 9 April 2024
Council	Kingston City Council
DCMP (Building)	<i>Design and Construction Management Plan (Building)</i> , Golder Associates, 6 June 2022 as included in Appendix N of the 2022 Audit
DCMP (Civil)	<i>Design and Construction Management Plan (Civil Works)</i> , Golder Associates, 5 August 2022 as included in Appendix O of the 2022 Audit
development plan	A development plan to be prepared under the Development Plan Overlay schedule provisions
DPO	Development Plan Overlay schedule
DTP	Department of Transport and Planning
EMS	<i>Environmental Management Strategy</i> , Prensa, February 2025
EPA	Environment Protection Authority Victoria
EP Act	<i>Environment Protection Act 2017</i>
GDS	<i>Geotechnical Development Strategy</i> , WSP, 28 February 2025
GRMS	Gas Risk Mitigation System
GRZ	General Residential Zone
Landfill BPEM	EPA Publication 788.3 <i>Best practice Environmental Management, Siting Design, Operation and Rehabilitation of Landfills</i> (2015)
LFG	landfill gas

¹ A section 53X audit is a statutory environmental audit undertaken by an independent auditor appointed under the Environment Protection Act 1970 to assess the condition of the land and form an opinion about its suitability for beneficial uses. The audit results in either a certificate or statement of environmental audit. A certificate is unconditional and certifies the auditor's opinion that the land is suitable for any beneficial use. A statement indicates there may be some restrictions on the use of the land (or parts thereof), or conditions to be met. In this case, a Statement of Environmental Audit was issued.

LGBMS	Landfill Gas Boundary Mitigation System
MICLUP	Melbourne Industrial and Commercial Land Use Plan
PDSMP	<i>Post Development Site Management Plan</i> , Golder Associates, 6 June 2022 as included in Appendix P of the 2022 Audit
PE Act	<i>Planning and Environment Act 1987</i>
PFAS	per- and polyfluoroalkyl substances
Planning Scheme	Kingston Planning Scheme
Proponent	Leaf Corporation Pty Ltd
SRL	Suburban Rail Loop
SRLA	Suburban Rail Loop Authority
VPP	Victoria Planning Provisions

Overview

Referral summary

Referral date	29 January 2026
Referral description	Referral 53: 16 Ball Road, Heatherton
Common name	16 Ball Road, Heatherton
Brief description	A combined planning permit application and amendment to the Kingston Planning Scheme to facilitate the residential development and subdivision of the subject land
Subject land	16 Ball Road, Heatherton
The Proponent	Leaf Corporation Pty Ltd
Responsible Authority	Kingston City Council

Committee process

The Committee	David Merrett (Chair) and Mandy Elliott
Supported by	Lauren Sharpe, Planning Panels Victoria
Site inspection	Accompanied, 25 May 2026
Directions Hearing	Planning Panels Victoria, 4 March 2026
Consultation sessions	Planning Panels Victoria, 26, 27, 28, 29 May and 1 and 2 June 2026
Parties and authorities consulted	For the Proponent, Susan Brennan SC and Alexandra Guild of Counsel, instructed by Mark Naughton/Scott Edward of Planning and Property Partners who called evidence from: - Dr Stuart Colls of WSP on Geotechnical - Jason Walsh of Traffix Group on Traffic Engineering - Ian Kluckow of Prensa on Environment/Landfill - Iain Cowan of Zephyr Environmental on Environmental Amenity - Darren Tardio of Enfield Acoustics on Acoustics - Mark Woodland of Urbis on Town Planning - Andrew Clarke of Urban Planning Collective on Town Planning For the Kingston City Council, Nicola Collingwood of Counsel, instructed by Stefan Fiedler of Russell Kennedy who called evidence from: - Craig Johnson of Tetra Tech Coffey on Geotechnical - Chas Shinkfield of Paroissien Grant & Associates on Civil Engineering - Ken Mival of EHS Support on Environment/Landfill - John Glossop of Glossop Town Planning on Town Planning

Committee process

For the **Environment Protection Authority Victoria**, Suganya Pathan of Counsel by direct brief

For the **Suburban Rail Loop Authority**, Anna Raftery

Representatives from the Development Facilitation branch of the Department of Transport and Planning attended Day 1 of the consultation sessions in an observing role and provided an introductory process presentation

Citation	Priority Projects Standing Advisory Committee Referral 53 [2026] PPV
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Date of this report	9 July 2026
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Executive summary

Leaf Corporation Pty Ltd (the Proponent) proposes to create a residential development on a former municipal landfill and sand quarry site at 16 Ball Road, Heatherton. The proposed development would deliver 400 two and three storey dwellings, up to 20 per cent of which will be affordable housing.

The Proponent requested the Minister for Planning to:

- prepare an amendment to rezone the land from part Public Park and Recreation and part Commercial 2 zones to the General Residential Zone, and to apply a Development Plan Overlay Schedule (DPO) to guide the redevelopment of the land
- approve a planning permit for the development and subdivision of the land.

The land was used as a sand quarry prior to being used as a landfill site (domestic putrescible waste) between 1964 and 1984. The buried waste at the site also include asbestos-containing material. The site has since been capped and remains undeveloped. As a result of its former use as a landfill, the site's landform drops steeply along most of its western edge and otherwise slopes generally to the south.

The site adjoins a large building format commercial and warehouse precinct identified as regionally significant industrial land to the north and west and an established residential area to the south and east. The site is located north of the Cheltenham Suburban Rail Loop (SRL) Planning Area Declaration boundary and to the west of the SRL Heatherton Stabling facility, with the SRL tunnel alignment located to the south of the subject land.

A Statement of Environmental Audit (2022 Audit) has been issued for the site, which concluded the land is suitable for beneficial uses associated with medium and high density residential land uses, commercial (including retail, office) land uses, industrial uses and public open space subject to 24 conditions. These conditions relate to:

- management and monitoring
- future development works (buildings, site infrastructure and utilities)
- occupation of the developed site
- management of change.

A draft Environmental Management Strategy (EMS) and draft Geotechnical Development Strategy (GDS) have been prepared to implement the conditions of the 2022 Audit. Additionally, some acoustic and traffic analysis has been undertaken.

Noting the complex environmental and geotechnical conditions of the site and issues of land use compatibility including reverse amenity considerations, the Minister referred the amendment and permit request to the Committee for advice on the following matters:

- the strategic planning merits of the proposal including land use compatibility
- whether the environmental risk mitigation measures in relation to landfill gas management, contamination controls and odour prevention are sound and implementable

- whether the geotechnical strategies are sufficient to manage long-term settlement, ground movement and structural risk including across fragmented land ownership
- the proposed owners corporation and s173 agreement governance model
- practicality of residential use of the site and whether a more suitable zoning/land use outcome would be more appropriate
- the potential impacts of SRL tunnelling works on site landfill gas migration, contamination spread or ground stability.

The Committee invited the views of the Proponent, Kingston City Council (Council) and other referral authorities or government agencies consistent with its Terms of Reference including:

- Department of Energy, Environment and Climate Action
- Head, Transport for Victoria
- Environment Protection Agency Victoria (EPA)
- Melbourne Water
- Suburban Rail Loop Authority (SRLA).

The EPA and the SRLA were the only authorities that attended the Committee's consultation sessions. The Department of Transport and Planning (DTP) attended the first day.

Committee's approach

The Committee approached its task recognising that the site is complex and high risk and it was the responsibility of the Proponent to demonstrate issues the Minister for Planning seeks advice on can be adequately addressed. The Proponent completed a considerable amount of work to support the rezoning of the land, and it and Council have responded to all referred issues. The submissions of the EPA and SRLA were an important part of the Committee's consideration.

The focus of the Council and Proponent submissions and evidence was whether the environmental and geotechnical mitigations measures were theoretically sound and could be practically implemented. The Committee also adopted this approach to effectively respond to the referred issues.

The approach to theoretical soundness and practical implementation is different. Theoretically sound requires the Proponent to demonstrate that a mitigation measure can address a risk. The Committee is generally satisfied that mitigation measures are theoretically sound. Practical implementation requires a focus on the particular risk profile of the land and a demonstration that a mitigation measure can individually and cumulatively address the land's risks.

Demonstrating practical implementation is more onerous because it requires a detailed understanding of what the specific risk is and, in most circumstances, this should be assessed against what is proposed on the land. Broadly the Committee considers there is a lack of detail and site-specific assessment for some key risk areas to confirm measures can be practically implemented.

The approach of the Proponent to let the Statement of Environmental Audit with its 24 conditions and a significantly updated DPO schedule do the work, after the Amendment

had been approved, does not effectively address practical implementation. This approach defers a key part of advice the Minister for Planning has sought – whether individually and cumulatively the mitigation measures can be practically implemented.

Committee's advice on referred matters

In regard to the referred issues, the Committee provides the following advice based on its findings:

The strategic planning merits of the proposal:

A residential zone is the most suitable zone for the site.

The General Residential Zone and Development Plan Overlay are appropriate planning controls to guide the future development of the land.

The Committee's preferred drafting of the Development Plan Overlay Schedule is included in Appendix C.

Any future planning process prior to the approval of the Amendment should include community engagement.

Environmental risk mitigation measures:

The proposed environmental risk mitigation measures (such as landfill gas management, contamination controls, and odour prevention) are theoretically sound. However, there is insufficient detail to confirm whether the mitigation measures are practically implementable in the long-term to mitigate risks to human health and amenity.

Further work to inform a future development concept should include:

- technical assessments on odour risk, noise and vibration impacts from piling and construction, understanding of waste volumes and movement across the site during development and fire risk
- a draft Construction Environmental Management Plan to be included in the revised Environmental Management Strategy.

Geotechnical strategies:

The proposed geotechnical solutions are sufficient to manage long-term settlement, ground movement and structural risks.

Additional tests to reduce geotechnical uncertainty regarding the geotechnical solutions such as piling trials, should be undertaken to inform the future planning process.

Governance model:

An owner's corporation is appropriate to suitably manage the risks in perpetuity and it will be required as a result of land subdivision. The owner's corporation should be responsible for:

- all internal roads
- all service infrastructure such as water supply, sewer and electricity
- retardation drainage basins
- landscaping within road reserves
- perimeter gas ventilation system

- proposed landfill gas management system such as ventilation protection measures beneath buildings, venting riser pipes constructed on the outside of buildings, venting systems along service corridors.

The use of a section 173 agreement to manage the ongoing maintenance or management of the land is appropriate.

Practical implementation and cumulative impacts:

There is insufficient information to conclude that the proposed residential use of the site is practicality implementable, given that the cumulative impact of environmental, geotechnical and land use compatibility challenges.

There is insufficient information to conclude that the proposed residential development of the site is practically implementable, given that the cumulative impact of environmental, geotechnical and land use challenges were not satisfactorily addressed during the consultation sessions.

Suburban Rail Loop tunnelling works:

The Suburban Rail Link tunnelling works will not exacerbate any environmental risk at the subject site or mitigation measures or governance strategies.

1 Introduction

1.1 The Project

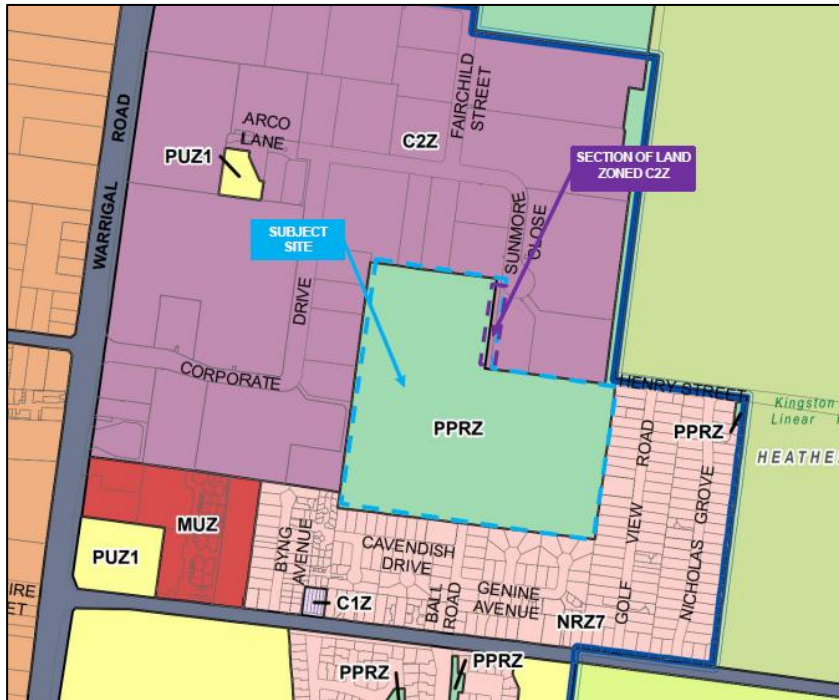
(i) Introduction

Leaf Corporation Pty Ltd (the Proponent) proposes to develop a 12 hectare former sand quarry and municipal land fill site to provide up to 440 dwellings, including an affordable housing component.

(ii) Amendment description

The request for a planning scheme amendment proposes to:

- rezone the subject land from the Public Park and Recreation Zone and Commercial 2 Zone (C2Z) to the General Residential Zone (GRZ) (refer Figure 1) with a site-specific schedule providing for Clause 54 and Clause 55 variations for street setback and site coverage standards
- apply a Development Plan Overlay schedule (DPO) to the site with a site-specific schedule providing for the:
 - provision of the following documents with a permit application:
 - technical specifications for earthworks
 - a Construction Environmental Management Plan (CEMP)
 - a Construction Gas and Groundwater Plan (CGGMP)
 - preparation of a development plan which includes:
 - a site analysis and design response
 - a site master plan
 - a landscape masterplan
 - an integrated transport and access plan
 - a pedestrian network strategy
 - an environmentally sustainable design plan
- exempt the site from a public open space contribution under Clause 53.01.

Figure 1 Subject land and adjoining land zoning

Source: Development Facilitation Submission Figure 2.2

(iii) Planning application proposal

The request for a planning scheme amendment proposes a section 96A process to include a planning permit for the development and subdivision of the site comprising up to 440 two and three storey townhouse dwellings (refer to Figure 2) including the provision of up to 20 per cent of those dwellings as affordable housing, areas of open space, pedestrian connections (including to adjacent Oasis Park to the west and the Chain of Parks to the north-east) and retarding basins.

Figure 2 Concept Masterplan

Source: Development Facilitation Submission Figure 3.1 (Masterplan Diagram 02)

1.2 The subject land and surrounds

(i) Subject land

The proposed Amendment applies to land at 16 Ball Street, Heatherton as shown in Figure 3 and which is approximately 15 kilometres southeast of Melbourne's Central Business District. The subject land, comprising two lots, is around 12 hectares in area and was previously used as a sand quarry and a municipal landfill until 1984 when it closed. It has since been capped and remains vacant except for some small sheds. A section 53X environmental audit² of the subject land was completed by Salient GeoEnvironmental Consulting Pty Ltd in partnership with Environmental Resources Management Australia (ERM) September 2022 (2022 Audit), and the Environmental Audit Overlay (EAO) applies to the whole site.

The landfill has created an unnatural topography compared to surrounding land that is characterised by higher ground levels. This is particularly evident in the northern part where adjoining land to the west is located 6-7 metres lower than the landfill. Other adjoining land has levels like or slightly lower than that of the landfill. There is a general slope down to the south. The site is grassed other than for scattered trees and shrubs

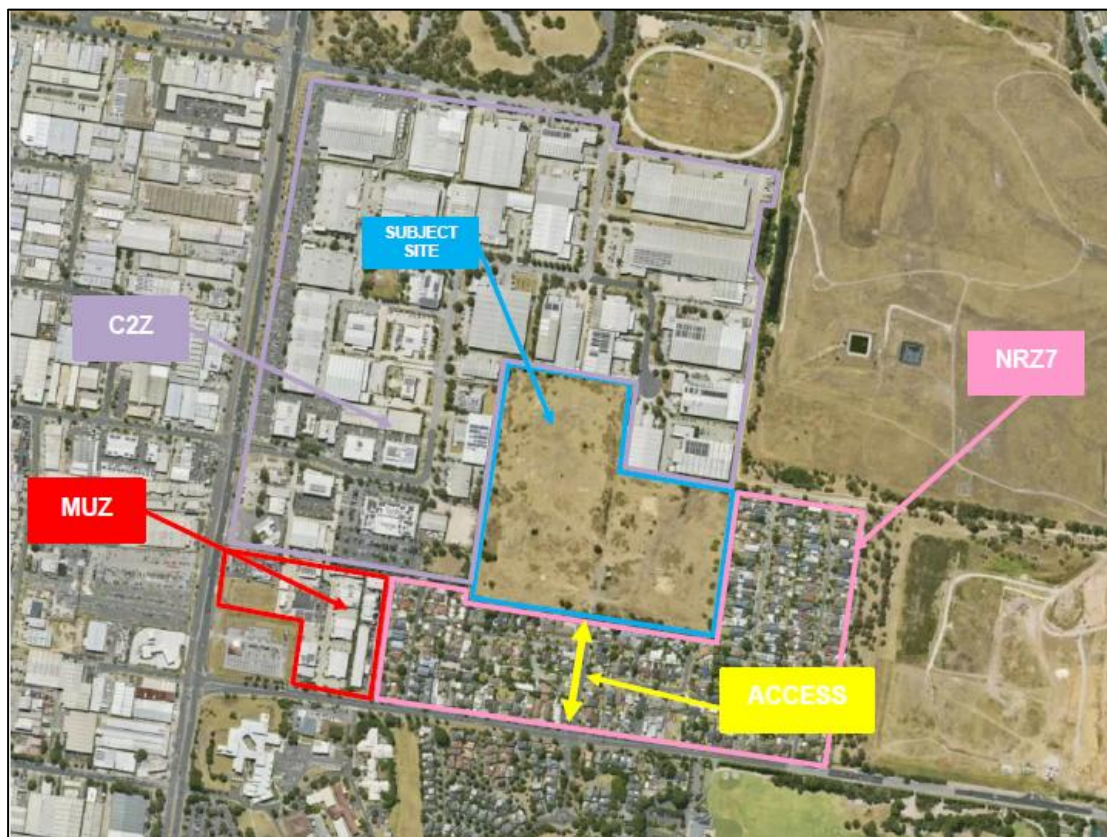
² A section 53X audit is a statutory environmental audit undertaken by an independent auditor appointed under the Environment Protection Act 1970 to assess the condition of the land and form an opinion about its suitability for beneficial uses. The audit results in either a certificate or statement of environmental audit. A certificate is unconditional and certifies the auditor's opinion that the land is suitable for any beneficial use. A statement indicates there may be some restrictions on the use of the land (or parts thereof), or conditions to be met. In this case, a Statement of Environmental Audit was issued.

predominantly located towards the edges of the site. The site is currently used for horse grazing.

Vehicular site access is from Ball Road to the south of the site. The site has no other street access.

The subject land has been in private ownership since 1985 following its use by the former City of Brighton as a landfill.

Figure 3 Subject land and surrounds



Source: Development Facilitation Submission Figure 2.1

(ii) Surrounds

The subject land adjoins:

- to the north and west an industrial and commercial precinct comprising large floorplate commercial and warehouse buildings (within the C2Z) which is accessed via roads off Warrigal Road to the west and identified as regionally significant industrial land by the Melbourne Industrial and Commercial Land Use Plan (MICLUP). This has been described as a large format business park
- to the south and east an established residential area comprising mostly single storey detached dwellings (within the Neighbourhood Residential Zone) which is accessed from several local streets including Ball Road, off Kingston Drive. All dwellings have rear yards that back onto the subject site.

To the south-west of the site (fronting Warrigal and Kingston Drive) is a small Mixed Use Zone node of warehouse, office and food and drink premises.

Land to the north-east of the subject land is located within the Green Wedge A Zone and referred to as the 'Henry Street former landfill' that is part of Council's Chain of Parks.

The subject land is located to the east of the Cheltenham SRLA Planning Area Declaration boundary and 750 metres to the west of the Heatherton Stabling facility with the SRL tunnel alignment located to the south of the subject land.

1.3 The referral

Noting the complex environmental and geotechnical conditions of the site and its location adjacent to land identified as regionally significant industrial land with associated land compatibility and reverse amenity considerations, the Minister referred the amendment request to the Committee on 29 January 2026 for *"advice prior to the Minister determining how the request should proceed."*

The referral letter seeks advice and recommendations on:

- i. the strategic planning merits of the proposal, including land use compatibility and whether residential development is appropriate and justified, having regard to the requirements of section 12 of the PE Act
- ii. whether the proposed environmental risk mitigation measures (such as landfill gas management, contamination controls, and odour prevention) are not only theoretically sound but also practically implementable in the long-term to mitigate risks to human health, amenity and future development, in accordance with the requirements of section 12(2)(b) of the PE Act and the objectives of Clause 13 of the Victoria Planning Provisions
- iii. whether the proposed geotechnical strategies are sufficient to manage long-term settlement, ground movement and structural risks, and to consider the feasibility and appropriateness of implementing these measures across a multi-lot residential subdivision in fragmented ownership, managed by an owners' corporation
- iv. the governance model proposed (i.e. owners' corporation under a section 173 agreement) and its ability to suitably manage the risks in perpetuity and identify any challenges, risks and limitations
- v. overall practicality of the proposed residential use of the site, given the cumulative impact of environmental, geotechnical and land use compatibility challenges, and whether there may be more suitable zoning/uses for the Land that align more closely with section 12 of the PE Act and Clause 13 of the VPPs
- vi. whether, and the degree to which, the proximity of the proposed Suburban Rail Loop (SRL) tunnelling works to the south of the Land could potentially exacerbate landfill gas migration, contamination spread or ground stability issues, and whether these tunnelling activities might influence the effectiveness of the proposed mitigation measures and governance strategies.

A copy of the referral letter is contained in Appendix A.

1.4 Referred information

A full list of documents considered by the Committee is contained in Appendix B.

The Development Facilitation Program of the Department of Transport and Planning (DTP) referred the following material to the Committee:

- draft Amendment and permit application materials, including:
 - cover letter to Minister for Planning, Planning & Property Partners, 19 May 2025
 - Development Facilitation Submission, Contour, May 2026 (Revision 2)
 - Concept Masterplan, Genton and Ors, 9 April 2024

- Plan of Subdivision PS931629G (Edition 1, Version A), Hellier McFarlane, undated and version with superimposed site plan diagrams
- draft GRZ schedule and DPO schedule (Documents 1(a) and 1(b))
- background documents, including:
 - section 53x Environmental Audit of Land, ERM, 9 September 2022 (2022 Audit)
 - Environmental Management Strategy, Prensa, February 2025 (EMS)
 - Geotechnical Development Strategy, WSP, 28 February 2025 (GDS)
 - Preliminary Amenity Screening Assessment, WSP, May 2025
 - Acoustic advice, Acoustic Logic, 13 May 2025
 - Acoustic modelling (Industrial Noise prediction), Acoustic Logic, 22 July 2022 Rev 2
 - Traffic memorandum, Traffix Group, 8 April 2024
- Background correspondence, including:
 - letter regarding Environmental Audit 9 September 2022 – Ball Road Heatherton. Kingston City Council, 28 December 2022
 - letter Draft Planning Scheme Amendment – 16 Ball Road, Heatherton, EPA Victoria, 16 February 2024
 - letter to DTP from Kingston City Council, 28 January 2026.

1.5 Process

The referral letter states the Committee:

... should conduct its proceedings in accordance with the Priority Projects Standing Advisory Committee terms of reference and may seek the views of relevant referral authorities, responsible authorities or government agencies in accordance with Clause 12 of those terms of reference.

For this matter, this may include:

- Kingston City Council
- Environment Protection Authority Victoria
- Department of Transport and Planning
- Suburban Rail Loop Authority.

Public consultation will not be undertaken as part of this referral.

The Committee wrote to the above stakeholders in addition to Melbourne Water on 9 February 2026 indicating that it proposed to hold a consultation session process to explore the technical issues on which it has been asked to provide advice. Parties were invited to nominate any additional parties they considered should be invited to the consultation session. No additional parties were nominated.

The Committee wrote again to the invited stakeholders on 24 February 2026 to confirm the information referred to it and to identify a range of matters including proposed consultation process to be confirmed at a Directions Hearing. The consultation session was originally scheduled to commence on the 15 April 2026 and was deferred to commence on the 25 May 2026 at the Proponent's request. The Proponent, Council, EPA and DTP attended the Directions Hearing on 4 March 2026.

Participating stakeholder parties were asked to provide written submissions addressing the referred matters only (as relevant). It also directed the Proponent to provide:

- any additional or updated documents it will rely on during the consultation process (aside from any evidence and submissions)
- all reports referenced in the Environmental Audit Report requested by Council as attached to its outline of preliminary views (Document 16a).

Table 1 outlines the experts called by the Proponent and Council.

Table 1 Experts

Expert	Field	Called by
Ian Kluckow of Prensa	Environmental amenity	Proponent
Iain Cowan of Zephyr Environmental	Environmental amenity	Proponent
Ken Mival of EHS Support	Environmental	Council
Stuart Colls of WSP	Geotechnical	Proponent
Craig Johnson of Tetra Tech Coffey	Geotechnical	Council
Chas Shinkfield of Paroissien Grant	Civil Engineering	Council
Mark Woodland of Urbis	Town Planning	Proponent
Andrew Clarke of Urban Planning Collective	Town Planning	Proponent
John Glossop of Glossop Town Planning	Town Planning	Council
Jason Walsh of Traffix Group	Traffic	Proponent
Darren Tardio of Enfield Acoustics	Acoustics	Proponent

1.6 Versions of the Development Plan Overlay schedule

While the land is proposed to be rezoned to the GRZ, the schedule to the DPO is the primary control to guide the future development of the land.

The referral letter does not explicitly seek advice on the DPO, but the DTP confirmed on Day 1 of the consultation sessions that it expected the Committee to provide advice on the drafting of this control.

The Proponent submitted several versions of the DPO schedule to address issues from other parties. The final version was provided on the last day of the consultation sessions as Document 68a. The Committee provided a 'without prejudice' further comment period to the EPA³, which Council and the SRLA (Documents 76a and 75a) could comment on, followed by a final reply (Document 77b) by the Proponent. The Committee has considered these responses and adopts the Proponent version of the DPO (Document 77b) as a basis for its recommended DPO in Appendix C of this Report.

³ The EPA raised several issues with the DPO but did propose changes to the DPO so the Committee offered a final opportunity to do so, which the EPA accepted.

1.7 Procedural issue

The letter of referral did not allow the Committee to invite community views of the proposal. However, Council confirmed at the consultation session it had made the community aware of it with a bulletin (Document 69c) it sent to 840 surrounding landowners. The Committee received a request from community members (Document 67a) to access the background reports, expert witness reports, conclave statements and submissions from parties.

Clause 19 of the Committee's Terms of Reference states:

Any written submission or other supporting documentation provided to the Committee must be available for public inspection until the submission of its report, unless the Committee specifically directs that the material is to remain confidential. A document may be made available for public inspection electronically.

The Committee sought the views of the DTP which, in summary, did not support the release of documents to the community. In part the DTP said (Document 67b):

Releasing documents before any decision to authorise exhibition would risk creating public confusion and misunderstanding, as there is no settled proposal and no statutory basis for public consultation at this point. Premature release could also prejudice the Minister's decision-making by placing partial or untested information into the public domain and potentially creating expectations that the proposal will proceed in its current form.

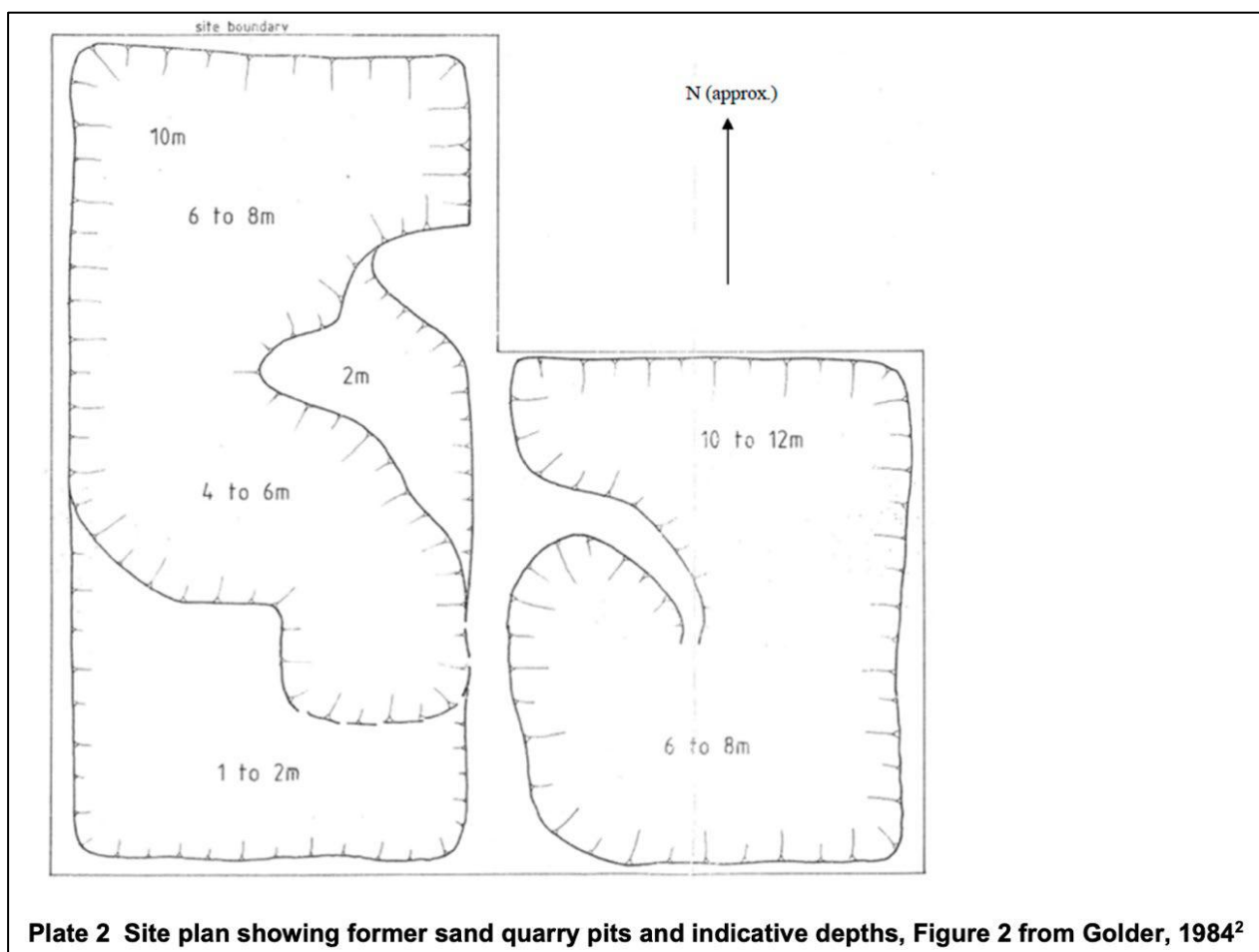
Based on the advice from DTP, the Committee made an oral ruling on Day 6 not to release documents to the community. This was confirmed in written advice to the community member (Document 67a).

2 The risks

2.1 Background

The subject land was used as a sand quarry in the 1950s and early 1960s prior to its use as a municipal landfill (domestic waste) between 1964 and 1984 when it closed. Figure 4 identifies the extent of and depth of site filling. It is estimated there is 1.7 million tonnes of waste on the land.

Figure 4 Depth and location of waste



Source: Johnson evidence statement, para 26

2.2 Assessment and remediation to date

Since 2010 multiple environmental investigations and reports have been prepared for the site including:

- extensive soil, groundwater and landfill gas (LFG) monitoring by various consultants from 2010 to 2022 from 89 soil sampling locations, 20 groundwater monitoring wells and 55 LFG monitoring bores
- *Former Brighton Landfill Aftercare Management Plan*, Golder Associates Pty Ltd, 2018 (Document 22b) prepared in response to Pollution Abatement Notice 90006941

- *Aftercare Management Plan*, Prensa September 2025 (Document 22c)
- the 2022 Audit (Document 2b) and supporting information including:
 - *Detailed Site Investigation*, Golder Associates Pty Ltd, 27 June 2022 (Document 24ii)
 - *Vapour and Landfill Gas Risk Assessment*, Golder Associates Pty Ltd, 23 June 2022 (Document 24kk)
 - *Groundwater clean up to the extent practicable*, Golder Associates Pty Ltd, 23 June 2022 (Document 24jj).

(i) The 2022 Audit

The 2022 Audit concluded the land is suitable for beneficial uses associated with medium and high density residential land uses, commercial land uses, industrial uses and public open space subject to 24 conditions. These conditions (Table 2 contains a summary) relate to:

- management and monitoring
- future development works (buildings, site infrastructure and utilities)
- occupation of the developed site
- management of change.

The 2022 Audit confirms that for a Certificate of Environmental Audit to be issued it would require:

- removal of all buried wastes from the site so protected uses of the land are restored
- groundwater pollution on and offsite would need to be cleaned up so that protected beneficial uses of groundwater are restored
- subsurface LFG, on and offsite, would need to be cleaned up to background levels.

During the consultation sessions, the Proponent confirmed it has no intention to pursue a Certificate of Environmental Audit as it is cost prohibitive to entirely clean up the land which would involve off-site disposal of most, if not all, buried waste.

Table 2 Summary of 2022 Statement of Environmental Audit conditions

Conditions	Requirements
Management and Monitoring (conditions 1-11)	- Implement <i>Aftercare Management Plan</i> - Maintenance of the current cover soil - Groundwater cannot be used except for monitoring - Preparation of an Occupational Health and Safety plan prior to development - All civil works as part of the site development must be designed in accordance with the Design and Construction Management Plan (Building) (DCMP (Civil)) - An environmental auditor must review and verify any capping earthworks design prior to commencement of development - Prior to capping earthworks: - the engineering design, specifications and Quality Assurance Plan to be reviewed and approved by an environmental auditor

Conditions	Requirements
	- the person in management or control of the land ensure the <i>Aftercare Management Plan</i> is replaced by a Construction Gas and Groundwater Monitoring Plan (CGGMP) which is verified by an environmental auditor and the verification is provided to the EPA and the planning authority - the person in management or control of the land implement and maintain the CGGMP. - The CGGMP to remain in place until an environmental auditor advises the planning authority it is no longer required - The person in management or control of the land to decommission all bores and wells to ensure they do not provide a pathway for ground gas migration - Within 60 days of completion of the capping works, an Environmental Auditor must verify the construction of the capping
Future development works (conditions 12-19)	- All buildings and structures are designed and constructed in accordance with the Design and Construction Management Plan (Building) (DCMP - Building) included in Appendix O of the audit report. - Any concrete structures or structures fabricated from unprotected steel or underground services that are likely to encounter buried wastes shall be designed in accordance with durability requirements for the site conditions - Trenches for buried services and below ground level confined spaces to be designed and constructed consistent with the DCMP (Civil) - Basements or cellars may not be constructed other than semi-recessed spaces constructed consistent with DCMP (Building) - The DCMP (Building) must provide for detailed engineering of gas protection systems including a Gas Risk Migration System (GRMS) prior to occupation of habitable buildings and a Landfill Gas Boundary Migration System (LGBMS) - The detailed engineering designs and technical specifications for GRMS and LGBMS to be accepted by an Environmental Auditor - Prior to occupation of a habitable building, basement or cellar an Environmental Auditor must confirm that the GRMS and the LGBMS have been constructed to its satisfaction and in compliance with the Auditor approved design
Occupation of the developed site (conditions 20-22)	- Any occupied portion of the site must be maintained and monitored by an Owners Corporation in accordance with the Post Development Site Management Plan (PDSMP) included in Appendix P of the audit report. - PDSMP to remain in force until an environmental auditor advises the planning authority it is no longer required. - The person in management or control of land to ensure any part of a GRMS beneath a habitable building, basement or cellar and the LGBMS is maintained, reinstated if damaged and remains in place until an environmental auditor advises the EPA and responsible authority it is no longer required.

Conditions	Requirements
Management of change (conditions 23-24)	- Review DCMP (Civil), DCMP (Building), CGGMP and PDSMP on a 24-month basis for legislative changes or resulting from EPA notice or order. - Revisions to above documents to be reviewed and approved by an environmental auditor.

Source: Document 2e, Draft EMS Table 2

(ii) Landfill Aftercare Management Plan

At the time of the 2022 Audit, the land was subject to Post-Closure Pollution Abatement Notice No. 90012101 dated 22 February 2021. Among other issues, it required compliance with the latest version of the '*Lots 1 and 2, 16 Ball Road, Heatherton, Former Brighton Landfill – Aftercare Management Plan, (Golder Associates, 2017)*'. The Aftercare Management Plan is required to be consistent with the EPA *Landfill Best Practice Environmental Management - Siting, design, operation and rehabilitation guideline*, August 2015, (Landfill BPEM) and contains the following:

- inspections and maintenance of the landfill cap to prevent, control and remediate erosion, restore depressions, seal cracks and maintain vegetation
- inspection, maintenance and operation of the leachate collection and treatment system
- inspection, maintenance and operation of the landfill gas management system
- inspection, maintenance and operation of surface water control and collection infrastructure
- an environmental monitoring program for the landfill, verified by an environmental auditor appointed pursuant to the EP Act.

The EPA advised the Committee that there are currently no EPA Notices in place and that, in respect of conditions 1 and 2 of the Statement of Environmental Audit, implementation of the Aftercare Management Plan will continue to be required under the owner's duty to manage contaminated land, as well as the General Environmental Duty (GED), under the EP Act.⁴

2.3 Environmental risks

2.3.1 Risks to human health and amenity

(i) Soil contamination

Soil contamination can present risks to the health and safety of construction workers, onsite residents and offsite receptors if they are exposed to the contamination.

The 2022 Audit identified buried wastes at the site including putrescible wastes and asbestos-containing materials (ACM) beneath a soil cover layer. The buried waste is encountered from as shallow as 0.1 metre below ground level although is typically encountered at 1 metre.

⁴ Document 60, p22

The results of the soil assessments indicated the presence of contaminated soil in the cover soil, or surrounding fill soil across the site. Contaminants detected included polycyclic aromatic hydrocarbons, total recoverable hydrocarbons, copper, zinc and polychlorinated biphenyls at low concentrations. In addition, small amounts of potential ACM were observed.

(ii) Groundwater contamination

Groundwater contamination can present risks to the health and safety of construction workers, onsite residents and offsite receptors if they are exposed to the contamination.

Based on the groundwater assessments completed on and off the site:

- groundwater in the vicinity of site was estimated to be flowing generally to the southeast
- concentrations of iron in offsite locations, arsenic, copper, manganese, nickel, zinc, total dissolved solids, sodium, chloride, nitrate and potential of hydrogen were detected at concentrations exceeding the adopted guidelines, but are associated with regional, diffuse pollution or are naturally occurring
- concentrations of iron, ammonia and per- and polyfluoroalkyl substances (PFAS) considered to exceed the adopted guidelines in on-site groundwater locations only
- the environmental value of groundwater dependent ecosystems and species is not precluded by contamination. There are no precluded environmental values on or off the site which are identified as being likely to be realised either on or offsite except for irrigation
- the registered irrigation bores downgradient of the site are generally installed in the deeper formations and the downgradient bores suggest little to no off-site migration of contaminants sourced from the landfill. The irrigation beneficial use is potentially precluded by iron and PFAS in onsite groundwater locations only.

Capping and surface drainage works to be undertaken as part of the site development works are anticipated to reduce the potential for rainfall infiltration to the waste, limiting the generation of leachate within the landfill.

(iii) Landfill gas

In large concentrations, LFG presents risks to human health and amenity because it can cause odours. Methane is a potent greenhouse gas that contributes to climate change. In extreme cases, LFG can present explosion and asphyxiation risks if concentrations are allowed to build up in enclosed spaces.

The 2022 Audit identified the buried waste on site extends to depths of up to 12 metres, is predominantly landfill mass (comprising about 98 per cent of the site area) and waste was placed without engineering lining of the walls or base of the former quarry.

The Vapour and Landfill Gas Risk Assessment concluded:

- on-site: LFG continues to be generated within the waste mass however, the risk assessment demonstrated that the likelihood of unacceptable risk to the

proposed development from vertical and lateral migration of LFG is low with identified mitigation measures

- off-site: the likelihood of unacceptable risk from the lateral migration of LFG affecting the residential and commercial properties located outside of the landfill boundaries is very low. However, LFG migration patterns may change with the construction of improved landfill capping.

(iv) Odour

The buried waste at the site includes putrescible wastes in the subsurface which is known to be a source of odours. The 2022 Audit states that the material is not considered to represent a health or ecological risk but may exhibit a noticeable (and potentially an offensive) odour if exposed during excavation works, development or occupation of the site⁵. The results of the 2019 Groundwater Monitoring Report suggest that putrescible waste odours of various strengths were reported at all leachate monitoring wells⁶ and various odours from soil samples have also been observed during sampling.⁷

(v) Noise

The site is surrounded to the north and west by commercial land uses. These uses include a very broad cross-section of predominantly office, commercial and warehouse uses in the balance of the C2Z not fronting Warrigal Road. The land uses comprise a mix of offices (up to 4 storeys) including Government offices such as Services Australia (Commonwealth Government), NDIS (Commonwealth Government), VicRoads licensing and registration (State Government), various warehouse/office, E-commerce distribution centres (warehouse), small factoryettes (various uses), plumbers/builders depots, panel beaters/mechanical repairs, a gymnasium/swim centre, a restaurant/bar, transport depot/distribution/freight centres.⁸

The purpose of considering noise impacts from an established commercial, industrial or trade interface is less to do with meeting a specific noise amenity target for future residents, but rather to protect those established uses from reverse amenity impacts via enforcement policy.⁹

2.3.2 Risks to development

Soil and groundwater contamination can pose risks to structures and services infrastructure that encounter the contamination. Some contaminants are corrosive and can weaken the structural integrity of foundations and services infrastructure. LFG can pose risks to structures if it is allowed to accumulate in confined spaces, presenting explosion risks.

⁵ Document 2e Audit report, p32

⁶ Ibid, p64

⁷ Ibid, p77

⁸ Document 41, p10

⁹ Document 34, p7

2.4 Geotechnical issues

2.4.1 Risks to human health and amenity

The geotechnical conditions on site present risks to future development rather than risks to human health and amenity.

2.4.2 Risks to development

Several stages of geotechnical investigation or assessment have been undertaken at the site between 1984 and 2022 by Golder. A surface surcharge trial commenced in June 2021 to assess the settlement characteristics of the landfill materials. The most recent survey measurements associated with this trial were undertaken by WSP in December 2024. Table 3 sets out the key geotechnical considerations for the proposed redevelopment in the GDS.

Table 3 Geotechnical considerations and key risks

Considerations	Key risks
Strength and compressibility of the landfill materials	Potential for excessive total or differential settlement, especially in areas with a significant change in the fill thickness over a short horizontal distance, such as near the former quarry pit walls, or where significant change in the ground surface level and loading of the underlying fill is expected due to earthworks Relatively low strength of the fill materials, including the potential for voids to be present in the waste, with respect to the design of the footings of buildings or other structures, and ground support conditions and trafficability during construction works Potential for the rate of decomposition of putrescible materials to change over time
Bulk levelling earthworks	Impact of the expected ongoing settlement of landfill materials and associated ground improvement works on design grades and the volume of fill materials required Construction difficulties associated with the exposure and replacement of gross waste materials during surface reshaping Potential for unsuitable materials to be present in cover soils that require significant processing Availability of suitable imported fill materials for use in the engineered clay fill Potential for odour, noise, dust, vibration etc associated with earthworks and ground improvement works to affect surrounding properties or existing service infrastructure in the central corridor of the site Potential for staging of bulk earthworks and associated ground improvement works to impact previous development stages Variability in the settlement characteristics observed during ground improvement works and potential impacts to the ground improvement method Potential for instability or erosion of unsupported batter slopes Potential for weather conditions to adversely affect the earthworks

Considerations	Key risks
Ground improvement	Noise and vibration issues associated with ground improvement techniques may be problematic given the residential land use nearby Ground improvement will not eliminate the ongoing settlement associated with deep uncontrolled fill or landfill materials, for example settlement associated with the decomposition of putrescible waste
Foundation systems	Obstructions in fill materials or steep former quarry pit slopes may lead to out of position or broken piles that require replacement Refusal or termination of piles within fill (before reaching suitable natural founding materials) due to poor construction control may result in excessive total or differential settlement Potential for odour, noise, dust, vibration etc associated with piling to affect surrounding properties, existing service infrastructure in the central corridor of the site, or previous stages of development at the site Potential to encounter landfill gas during piling Potential for differential settlement at the interface between piled buildings that are not expected to experience significant ongoing settlement and surrounding non-piled areas
Pavement and service infrastructure	Potential for excessive total or differential settlement leading to damage to pavements or service infrastructure Potential for instability of trench walls Potential to encounter waste in excavations Potential for stormwater runoff or perched groundwater to adversely impact infrastructure works
Batter slopes	Potential for instability of over-steep unsupported batter slopes Potential for excessive total or differential settlement to adversely affect retention structures Similar risks as for foundation piling if piling is required to support retention structures (e.g. due to the height of the slope to be retained and the depth of the landfill materials)

Source: Document 2f, Draft GDS, Chapter 7

2.5 Site comparators

The Committee was referred to other sites where landfill repurposing had occurred or been approved and sites where LFG and fire risk had not been managed appropriately. These included:

- Talbot Village in the City of Monash which was the subject of Priority Projects Standing Advisory Committee Referrals 41 and 51 for its redevelopment into a residential development of 1,100 dwellings and open space. Approximately 20 per cent of the site was a former quarry and landfill site (Priority Projects Standing Advisory Committee Referrals 41 and 51)

- Cavanagh Street, Cheltenham in the City of Kingston which was repurposed for residential development over a former landfill site that contained mainly inert and solid waste
- New Epping in the City of Whittlesea which was the subject of Amendment C213 for a mixed-use development of a former quarry and landfill
- Quarry and brickworks redevelopment in City of Knox (Priority Projects Standing Advisory Committee Referral 50)
- Brookland Greens residential estate in Cranbourne where landfill gas migrated horizontally into a residential estate from an unlined landfill
- Kealba landfill fire in 2019 which started within the waste body and burned for several years
- Bulla landfill fire in 2022 which was a surface waste fire.

While these examples provided some background context for the Committee in terms of proposed geotechnical and environmental risks and mitigation measures, it ultimately does not provide much weight to these when considering the referred issues as each proposal inevitably has its own complexities and different risk profiles. That said, the Committee does consider the Ball Road site is at the higher end of the risk spectrum because:

- close to the whole site is a former landfill, not part of it, with significantly varying depths of landfill waste
- residential development immediately abuts the site to the south and east
- immediate adjacency of commercial development to the west and north.

The Committee has approached its task with this in mind.

2.6 How the risks are to be managed

The draft Environmental Management Strategy (EMS) describes how the environmental risks (predominantly LFG and soil and groundwater contamination) are proposed to be managed. These are discussed further in Chapters 3.2 and 9.2.1. The draft Geotechnical Management Strategy (GDS) describes how the geotechnical risks (settlement, ground movement and structural risks) are proposed to be managed. These are discussed further in Chapters 4.2 and 9.2.2.

The planning policy and land use impacts are discussed in Chapters 5 and 9.1.

3 The environmental management strategy

3.1 Overview

Item ii) of the referral letter sought advice from the Committee on:

whether the proposed environmental risk mitigation measures (such as landfill gas management, contamination controls, and odour prevention) are not only theoretically sound but also practically implementable in the long-term to mitigate risks to human health, amenity and future development, in accordance with the requirements of section 12(2)(b) of the PE Act and the objectives of Clause 13 of the Victoria Planning Provisions.

The draft EMS provides information regarding the current site contamination status and contamination risks as identified by the 2022 Audit and summarises how the 24 audit conditions are proposed to be implemented as part of the site development.

The draft EMS summarises the key design elements related to the contamination management required under the Statement of Environmental Audit. These elements are:

- site reshaping to achieve the required landform to support the development. Some of the reshaping works may expose the underlying waste materials. Condition 6 of the Statement of Environmental Audit requires auditor verification of the design of the shaping and capping works to manage the reshaping
- construction of a compacted clay cap to separate the site users from the underlying waste materials
- installation of a Landfill Gas Boundary Mitigation System (LGBMS) to manage potential landfill gas migration beyond the site boundary
- construction of a Gas Risk Mitigation System (GRMS) comprising a subfloor gas mitigation system beneath each building to manage landfill gas migration from the underlying materials
- installation of specific gas mitigation measures associated with underground utilities to reduce the risk of these underground utilities becoming a pathway for gas migration.

The design elements outlined above are described in concept in the:

- DCMP (Civil)¹⁰
- DCMP (Building)¹¹.

The management conditions of the 2022 Audit have been documented in a series of plans in the draft EMS that support and are attached to the 2022 Audit. An environmental document map (Figure 5) is presented in the DCMP (Civil)¹² and outlines the key environmental documents. The environment document map presents the key stages through assessment, remediation, design, construction and post development and the key environmental documents that must be in place to manage the

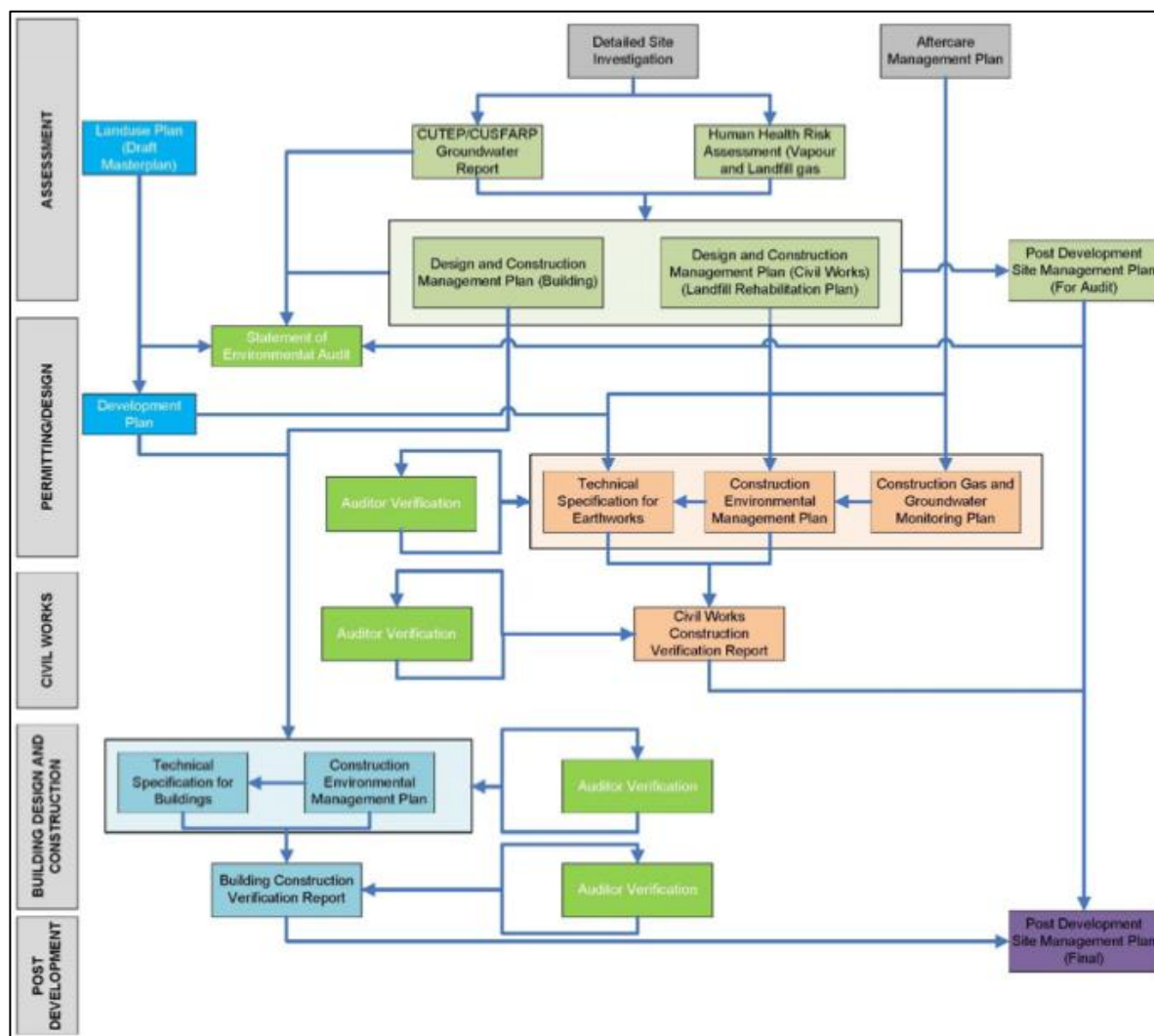
¹⁰ Document 24 II

¹¹ Document 24 mm

¹² Document 24 II, p3

contamination through the various phases and how they are related. It also includes the required Auditor verification steps.

Figure 5 Environmental document map



Source: Design and Construction management Plan (Civil works)

3.2 Proposed environmental risk mitigation measures

3.2.1 Landfill gas

Several LFG management measures are identified in the draft EMS and DCMP (Civil). The measures are designed to manage LFG risks both onsite and offsite, during and post construction.

(i) Perimeter venting

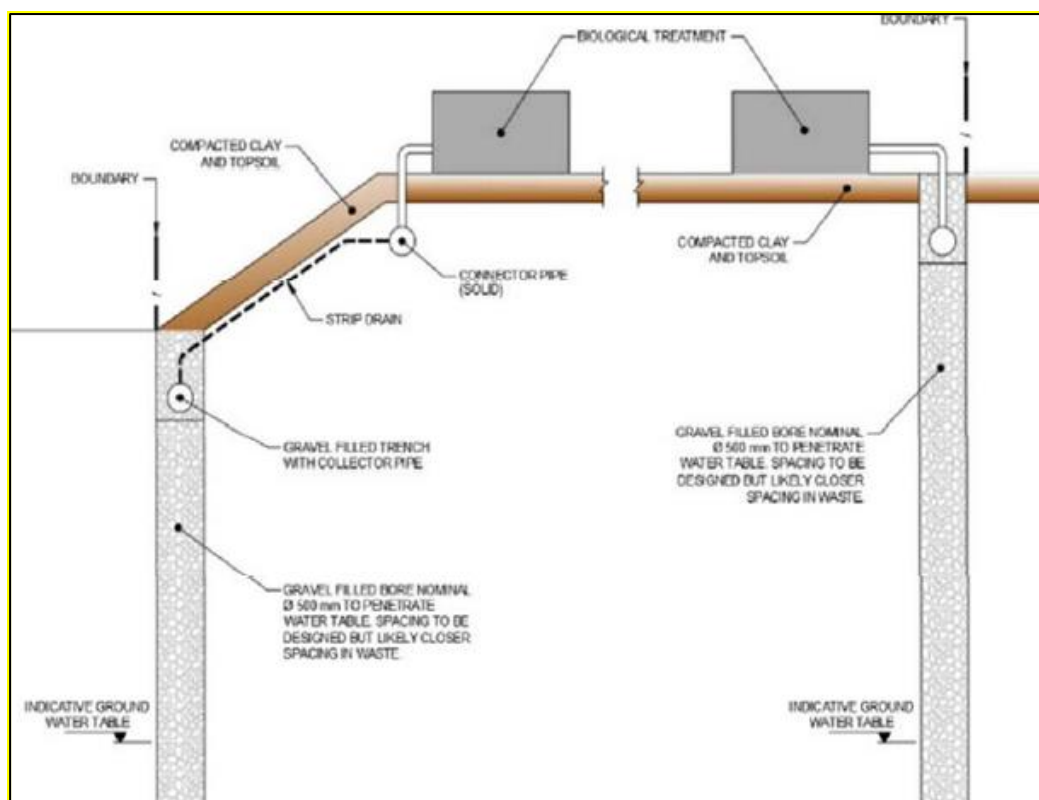
The perimeter landfill gas venting system is proposed to extend around the entire perimeter of the site and is likely to be constructed in stages. The final construction design, methodology and schedule of these works is to be completed during detailed design works.

The key components of the perimeter landfill gas venting system outlined in the DCMP (Civil) include¹³:

- Vertical gravel filled bores nominally 0.5 metre diameter extending to below the groundwater table with spacing to be decided during detailed design. While spacing of gravel filled bores will be selected during detail design and monitoring during staged development of the site, it is expected that spacing between bores will not be more than 5 metre centre to centre. Design of the mitigation system should make provision for upgrading of the system, if and when, required.
- Gravel filled bores to be connected to a gravel filled trench around the perimeter of the site with horizontal collector pipe in the trench directing landfill gas to a treatment system.
- Landfill gas treatment could include a biological treatment system, possibly involving in-ground compost beds. Depending on the number of treatment areas and travel distance, mechanical extraction of the landfill gas may be needed.
- Consideration will also need to be given for subsurface collection of landfill gas on the batters of the development platform. Batters are typically where gas breakout could occur and collection may be needed.

A perimeter landfill gas collection system (Figure 6) concept is provided in the DCMP (Civil) to illustrate how the system may be designed.

Figure 6 Perimeter gas collection system



Source: DCMP (Civil), page 3498

(ii) Clay capping

Following surface preparation, including replacing the existing cover soil layer across the site with not less than 0.5 metre thickness, and perimeter landfill gas venting system construction, compacted clay capping is to be installed across the entire site surface.

¹³ Document 2b, p141

The DCMP (Civil) stated that compacted clay capping should be installed across the site with expected thicknesses as follows¹⁴:

- 0.5 metre thickness of compacted clay over 0.5 metre thickness of compacted site-won materials, with a wear layer of granular material constructed over the compacted clay for construction access and to protect the compacted clay
- 0.5 metre thickness of compacted clay over 0.5 metre thickness of compacted site-won materials with an appropriate growth medium of topsoil over the compacted clay in areas outside roads and pavements
- 0.5 metre thickness of compacted clay underlying the road pavement design. Compacted clay capping should be placed in road areas after removal of preload material. In the area of roads and pavements a wear layer of granular material should be constructed over the compacted clay for construction access and to protect the compacted clay.

(iii) Design and construction

The building construction works are understood to include the construction of concrete slabs suspended on driven piles to natural ground below the waste body with depths up to 25 metres. With six piles per townhouse there is the potential for at least 2,400 driven piles across the site. Key components of the pile design and construction are found in the DCMP (Building) which specified that the piles would penetrate and be in contact with the existing landfill waste and therefore should be designed to meet the requirements of Australian Standard AS2159-2009 'Piling – Design and Installation' (AS2159-2009).

The current key mitigation measures that are proposed to be implemented for the proposed residential building construction include:

- construction of compacted clay capping (completed during the civil works)
- large void venting layer
- gas membrane
- reinforced concrete slab with minimal penetrations.

(iv) Post Development Monitoring

The final LFG management system design is to be consolidated during detailed design works. The key components of the LFG management system are expected to include:

- a compacted clay capping layer across the site including under buildings
- ventilation protection measures beneath buildings expected to involve formation of a large void space (gravel and PVC collector pipes) covered by a gas membrane and suspended concrete slab
- venting of the void to atmosphere through riser pipes constructed on the outside of buildings
- venting along services corridors to provide gas migration breaks.

A PDSMP is proposed to be developed as part of the ongoing environmental management measure for the site to inform future site users and occupiers of the site of the control mechanisms required for the management of risks to human health and the environment associated with the environmental condition of the site.

¹⁴ Document 24 II, s7.6

3.2.2 Site contamination

(i) Soil

The history of filling with municipal waste and contamination investigations at the site over a decade from approximately 2012 to 2022 found that the site was contaminated with buried wastes which may pose an unacceptable risk to human health and the environment unless remediated or managed. The waste is contaminated with ACM, metals such as copper, lead, zinc as well as organic contamination such as polycyclic aromatic hydrocarbons (PAH) and total recoverable hydrocarbons (TRH). Groundwater contaminants for which the site may be a source or contributing source included iron, ammonia and PFAS.

The DCMP (Civil) outlines the standard protocols which will be implemented while managing any soil on the site, whether considered to be contaminated or not.

Based on initial designs, there is a significant amount of cut and fill and reshaping across the site. The soils and wastes are to be excavated and managed to minimise environmental impacts such as water, odour and dust as set out in the proposed Contractor's CEMP contained in the DCMP (Civil).

(ii) Groundwater

Groundwater investigations were conducted between 2012 and 2021. Four monitoring wells were installed onsite within the waste and four outside of the waste. Twelve groundwater monitoring wells were installed offsite. Based on the groundwater assessments completed, the following conclusions are presented in the 2022 Audit:¹⁵

- Concentrations of arsenic, copper, manganese, nickel, zinc, TDS, sodium, chloride and pH were detected at concentrations exceeding the adopted guidelines, however are considered to be associated with background groundwater conditions or are naturally occurring.
- Concentrations of iron, nitrate, ammonia and sum of PFHxS and PFOS were detected at concentrations exceeding the adopted guidelines, which preclude beneficial uses of groundwater onsite.

Prior to commencement of site development/construction works, a groundwater management program must be implemented to monitor changes in groundwater conditions during construction and following the development of the site.

Any construction below 35 metres AHD could intersect groundwater or leachate-impacted groundwater. Should groundwater need to be extracted during the development at the site, a Groundwater Management Plan must be put in place by the Civil Contractor, prepared by an Environmental Consultant and approved by the Environmental Auditor.

(iii) Contractor's Construction Environmental Management Plan

The 2022 Audit documents include consideration of general requirements for a CEMP within the DCMP (Civil). A contractor would need to consider in its CEMP traffic

¹⁵ Document 24II, section 3.2

management, soil management and stockpiling, asbestos management, soil and waste disposal, stormwater and groundwater management, air quality management (dust and odour), noise and vibration and management of community issues.

3.2.3 Noise

The acoustic modelling report (Document 2a) presented several noise mapping scenarios that included acoustic walls between three and six metres high along the north and western boundaries with the commercial and industrial land uses. An acoustic memo (Document 2h) stated that the proposed residential development will, likely, be impacted by noise emission from the operation of adjoining industrial/commercial premises. The acoustic memo stated that compliance with EPA noise protocols could be achieved by measures such as acoustic fences and design measures in the dwellings.

The site is surrounded to the north and west by commercial land uses and residential properties to the east and south of the site. Noise impacts from the established commercial and industrial interface needs to be considered for future residents, but more so to protect those established uses from reverse amenity issues.

Potential construction noise impacts (bulk earthworks, civil works and piling) to surrounding existing residents from any future development of the site will need to be considered.

3.2.4 Evidence and submissions

(i) LFG measures

The 2022 Audit concluded that the site represented a 'low LFG risk' due to its concentration and flow rate. Several of the Auditor's conditions related to the appropriate LFG measures to be implemented and verified by an Auditor.

In the joint expert statement (Document 47), the environmental experts agreed:¹⁶

- a) The Environmental Audit provides a high level of confidence that the site is suitable for the development subject to the successful implementation of the Statement Conditions. In particular the Statement Conditions requires detailed design and verification of the design by an Environmental Auditor prior to construction
- b) Residential development over landfills has been undertaken before in Melbourne with similar environmental management elements (cap, boundary gas mitigation and sub floor mitigation) so successful development can be achieved. The main difference with the Ball Road site from other sites is the extensive site reshaping which has the potential to excavate and move a large volume of landfill waste with the attendant risks of odour generation and possible ignition
- c) Mr Mival emphasised that construction of the boundary interception trenches for LFG must be constructed before any additional capping is placed over the wastes as this was not clear in the draft environmental management strategy document.

Mr Kluckow suggested in his evidence that the development of the site plays an important part in improving the current environmental impacts associated with the site. Specifically, he stated:¹⁷¹⁸

¹⁶ Document 47, p3

¹⁷ Document 35, p15

¹⁸ Ibid, p18

The proposed environmental risk mitigation measures that have been recommended are all passive, simple management elements that have been designed and installed before on other landfill sites where residential development has occurred. Development will improve the environmental condition of the site to reduce its impact on the environment and surrounding community whilst providing a solution that manages the contamination risk for the future users of the site.

and

...the proposed environmental risk mitigation measures are both theoretically sound and can be practically implemented to mitigate contamination risks to human health and the environment as part of the proposed development. In addition, the development will enhance the rehabilitation of the site environment over and above its current state by better managing its current contamination risks.

In regard to LFG, Mr Mival explained that formation of landfill gas, particularly methane, follows a well understood pathway and that the generation of LFG may occur between 30-50 years until it reaches a point of minimal generation of methane. He stated:¹⁹

Landfill closure at the Ball Road Heatherton site is relatively old at approximately 42 years since closure in 1984 and capping. It is therefore likely to be well down the pathway of the landfill gas generation cycle. So, it is accepted that some consideration for the re-development of the site is reasonable.

Mr Mival gave evidence that the development of the site proposed by the Proponent is of significant concern due to:²⁰

- a. The likely result of significant odours during the earthworks program
- b. The potential for an underground fire to be triggered by the machinery
- c. The lack of suitable detailed designs as to how settlement and piles will be managed to avoid damage to any LFG protection measures
- d. The lack of sufficient boundary monitoring measures to protect neighbouring properties
- e. The lack of any detailed design of how individual residences will be constructed to manage the potential for vapour/gas intrusion.

Mr Mival considered that, while the environmental risk mitigation measures may be theoretically sound and potentially may be feasible, there remains large elements of concern relating to the management and mitigation of those risks. He considered that the information provided was insufficient to provide any assurance that the measures proposed in the documentation are feasible at this site, both in the short-term during development and in the long term when occupied.

The Proponent submitted that it is Mr Mival's preference that there should have been more detail in relation to proposed mitigation measures and that as an Auditor himself, Mr Mival would have required detailed designs however Mr Pump (the Auditor for the 2022 Audit) did not require them. Either way, the Proponent submitted that there is ongoing auditor involvement to ensure an appropriate outcome.

Council submitted that there were too many critical elements relating to risk mitigation and management that are either "*unclear, unresolved or inappropriately deferred*." It was Council's view that important matters such as the proposed excavation into large areas of waste have the potential to cause serious environmental and human health

¹⁹ Document 33, p8

²⁰ Document 33, p1

hazards, amenity impacts and that future development constraints have not been properly considered.

The perimeter LFG management and the sub-floor management systems will be subject to review and satisfaction of the auditor in relation to all matters concerning not only design but associated environmental management through conditions 16 and 17 of the Statement of Environmental Audit.

The Committee asked the environmental experts if the draft EMS should be verified by the Auditor and they all agreed it should, to give effect to the LFG and contamination mitigation and management strategies proposed in the various documents that were subject to the 2022 Audit.

The Proponent amended the DPO (Document 77b) to require the draft EMS to be updated *"generally in accordance with the EMS prepared by Prensa dated February 2025 for the whole site"*.

(ii) Design and construction

Mr Mival stated that the DCMP (Building) did not have sufficient detail regarding building design plans however he acknowledged that the plan does present general concepts for LFG management and monitoring as part of building design. Similarly, he said that the Earthworks Concept Design drawings (Document 30b) did not provide significant detail regarding the vapour protection required for the individual houses except for a gravel layer beneath the slabs for LFG capture.

The Committee asked several questions about the amount of cut and fill and general waste stockpiling (and timing) that might occur during construction activities across the site. The Proponent submitted that although detailed design has not been finalised, the expectation is that the quantum of waste to be impacted is likely to be closer to 10,000 cubic metres than the 31,000 cubic metres estimated in the Ball Road Concept Bulk Earthworks Civil Drawings (Document 30) due to master planning for the site being further refined.

Council criticised the Proponent for the lack of detail and its *"planning on the run"* about design and construction details for the proposed development across the site.

The Committee asked the Proponent whether trenching required for the LFG perimeter system would need to be within the waste body or natural soils. The Proponent provided responses from Mr Klucklow (Document 72) and Mr Colls (Document 73). Mr Klucklow explained that the perimeter landfill gas venting system included vertical gravel filled bores to be connected to a gravel trench around the perimeter of the site with horizontal collector pipe in the trench directing landfill gas to a treatment system. The DCMP (Civil) included a figure showing this design.²¹ Specifically, Mr Kluckow stated:²²

... the design of the system comprises a series of 0.5 metre diameter bores drilled to the depth of base of the landfill (varies around the site perimeter), spaced around the perimeter and connected at their top by a gravel filled trench which transmits the gas for localised treatment or discharge.

²¹ Document 2b, Figure C

²² Document 72, p1, 2 and 7

The purpose of the perimeter gas system is to control lateral gas migration via passive venting. Currently, some of the landfill gas vents through the cap material which is quite thin in areas and of a higher permeability compared with the proposed compacted clay cap. When the site is capped, this will effectively lower the permeability of the cap and reduce this pathway for the gas to escape through the cap. The gas will need to find an alternative pathway and the concern is that with the pressure build up from continued gas generation after capping, the gas may find pathways to move laterally through the natural soils forming the walls of the old quarry towards the nearby houses.

I confirm that the perimeter gas mitigation system at the Ball Road site is designed as a passive venting system and as such is designed for the gas collection wells to be installed in the waste (or in some areas within natural soils immediately adjacent to the waste given the former quarry batter). The collection wells will be installed to the full depth of the waste in the adjacent area to provide pressure relief and as such a pathway for landfill gas to vent to the surface and to reduce the risk of gas migration offsite to the adjacent properties.

Mr Colls supported Mr Kluckow's view above but noted he was not an environmental expert.

In relation to staging and timing of works across the site, the experts generally agreed that:

- the capping (including relocation of waste prior to capping) of the site could take place in up to two stages, with one stage to the east of the former Ball Road reserve, and one to the west
- a perimeter LFG management system for each stage would need to be installed prior to capping for that stage
- a single developer should be responsible for all piling and subfloor LFG system installation.

In response, the Proponent amended the DPO at Clause 4.0 'requirements for development plan' that an updated EMS would now:

- identify how environmental and geotechnical works would be staged and coordinated across the site
- include the updated EMS to be verified by the environmental auditor.

(iii) Odour

Dr Cowan gave evidence that:²³

Excavation, handling and replacement of waste material at this former municipal landfill during construction presents an inherent risk of odour impact to surrounding land. An inherent risk is not the same as an actual risk; rather, it recognises the potential for odour impact that must be appropriately considered.

In addition, Dr Cowan considered that if this land was to be developed in any form and the waste material exposed, the inherent risk would be the same regardless of the proposed end use, and he suggested that further investigations and planning would be required to evaluate the actual risk and if necessary, reduce that risk to an acceptable level.

Mr Mival gave evidence that the scale of earthworks proposed presents a significant odour generation risk and potential for fire in the exposed waste. He concluded the proposed earthworks were *"high-risk operation and should be reconsidered."*

²³ Document 39, p3

In terms of potential odour from operational activities of the site development, Dr Cowan gave evidence that:²⁴

Landfill gas vent risers and other atmospheric discharge points have the potential to cause odour impacts to both future residents and surrounding land uses. No odour risk assessment of those sources has been completed. I consider that assessment of odour risk from atmospheric discharge points, including building downwash effects on vent riser emissions and the effectiveness of the biological treatment system for perimeter bores, should form part of the Environmental Auditor's design review under Condition 17 of the Section 53X Environmental Audit. With appropriate design, I am satisfied the operational odour risk can be managed to an acceptable level.

The experts agreed that there was a potentially significant risk of odour as part of the site reshaping works where there is the potential to expose large amounts of landfill waste and that the odour investigation, risk assessment and management process recommended by Dr Cowan in his expert report represents a reasonable process that must be adopted to manage the potential construction odour risk.

Council submitted that it was concerned about potential for ongoing, persistent and serious amenity impacts arising from odour emissions and that the proposed odour mitigation and management measures are "*at a highly generalised level*" and inadequate and that no odour assessment has been undertaken.

The EPA agreed with Dr Cowan that the auditor-approved plans at Appendix N of the DCMP (Civil) and Appendix O of the DCMP (Building) of the 2022 Audit should be updated as recommended by Dr Cowan and agreed to by the environmental experts. The EPA suggested that any such update should be auditor-verified.

The Proponent amended the DPO at Clause 4.0 'requirements of development plan' that an updated EMS would now include the following requirement:

Preparation of an odour risk assessment and a waste excavation management plan (including without limitation to address odour and fire risk associated with waste excavation) prior to excavation and placement of waste.

(iv) Landfill fire

The 2022 Audit did not address the risk of landfill fire, and it was not considered by the environment experts except by Mr Mival.

The risk of landfill fire primarily arises from the potential movement of exposed waste and introduction of oxygen into the waste mass as part of the surface reshaping works where contact with earthmoving equipment may trigger a fire. The experts agreed that processes for dealing with a fire at the site would need to be in place and ready for use should any fire occur so that no fire in the waste mass would occur where it would be very difficult to manage or extinguish.

(v) Noise

Mr Tardio suggested changes to Clause 4.0 (noise management provision) of the DPO to strengthen these controls.

²⁴ Document 39, p4

Regarding the proposed residential dwelling development, Mr Tardio stated that the acoustic memo is *"relatively vague in its findings and recommendations"* and that the memo *"does not provide any specifics about where noise monitoring was undertaken, the number of monitoring locations or how the noise mapping was calibrated."*

Council submitted that there was an absence of detailed consideration of noise impacts during construction to residential neighbours in the referred material. There may be 2,400 driven piles across the site (based on six piles per dwelling). Council sought to ensure that the noise and vibration provisions of the DPO respond appropriately to the amenity impacts of construction.

The EPA recommended substantial amendments to the noise and vibration management provision of the DPO. The EPA suggested:

- it be replaced with less detailed acoustic report requirement at Clause 3.0
- edits to Clause 4.0 to replace wording with the EPA Publication 1834: Civil construction building and demolition guide
- amendments to noise management section in Clause 4.0.

In regard to referencing EPA Publication 1834, the EPA submitted it preferred this rather than DPO's seeking to *"cherry pick"* guidance from other jurisdictions.

The Proponent did not support the proposed EPA changes to the Noise and Vibration Management Plan requirement of the DPO, and the Proponent relied on the evidence of Mr Tardio. This included that the proposed DPO changes would remove drafting intended to address gaps in the Victorian regulatory regime and would dilute the effect of the drafting and associated protection of residents. Council submitted that it generally disagreed with the proposed DPO changes put forward by the EPA. Council submitted that the EPA changes sought to over-simplify the DPO to require compliance with EPA Publication 1834: Civil construction building and demolition guide, which Mr Tardio identified is a less onerous standard.

Mr Tardio gave evidence that although there is potential for reverse noise amenity impacts from the C2Z land, in his view, the impacts could be managed. His evidence was that there would be options to manage noise impacts on the site including the three – six metre noise walls, subject to a more detailed noise assessment being undertaken once detailed design has occurred.

(vi) Construction Environmental Management Plan

The environment experts had differing views as to the timing of the preparation of a detailed CEMP. The DCMP (Civil) required a CEMP to be prepared by a contractor, and it was not prepared as part of the 2022 Audit documentation.

Mr Mival gave evidence that it was insufficient to transfer responsibilities to an earthworks contractor to prepare a suitable CEMP when large sections of the former landfill are planned to be excavated, exposing surrounding residents to releases of odour and increased infiltration of rainwater producing leachate with significant impacts on groundwater quality which may require a re-appraisal of the clean up to the extent practical by the EPA.

The EPA recommended that there be auditor verification of the site-specific CEMP, which the 2022 Audit states "*is expected*" to be prepared by the Civil Contractor incorporating the DCMP (Civil) and the DCMP (Building). Mr Kluckow agreed with the EPA that auditor verification of the CEMP was appropriate.

The Proponent amended the DPO at Clause 4.0 'requirement for development' that an updated EMS would now include:

preparation of a construction environmental management plan prior to commencement of development. Separate construction environmental management plans may be provided for civil works and construction works.

This is consistent with the evidence of Mr Mival and submissions from Council.

4 The geotechnical development strategy

4.1 Overview

Item iii) of the referral letter sought advice from the Committee on:

whether the proposed geotechnical strategies are sufficient to manage long-term settlement, ground movement and structural risks, and to consider the feasibility and appropriateness of implementing these measures across a multi-lot residential subdivision in fragmented ownership, managed by an owners' corporation.

The current surface level at the site is undulating and ranges between about RL 35 metres AHD and RL 45 metres AHD, generally sloping down from north to south. The depth of the quarry hole varied across the site. Broadly, there was an eastern pit and a western pit either side of a central north-south corridor that was not quarried along the Ball Road alignment. Quarrying extended close to all site boundaries. The former quarry pit walls are steeply sloping.

Landfill waste and cover or capping soils were placed in the west side of the site from the mid-1960s to the mid-1970s and in the east side of the site from the mid-1970s to the mid-1980s. The landfill covers 98 per cent of the site.

Figure 7 includes photographs that show the cover or cap fill and the waste fill underneath.

Figure 7 Depth of current cap to existing waste



Source: draft GDS, page 17

Outside the central corridor, the depth of fill encountered in boreholes drilled as part of environmental investigations at the site ranges between six metres to 19.5 metres (typical depth of about 10 metres to 15 metres). In the central corridor, the depth of fill is typically less than 3.5 metres.

4.2 Draft Geotechnical Development Strategy

The draft GDS presents the design philosophy to address the key geotechnical issues to allow residential development of the site. It draws upon the detailed and comprehensive geotechnical investigations conducted at the site by consultants since 1984. The draft GDS presents the site history, the geotechnical investigations and presents the proposed geotechnical strategy for redevelopment of the site for proposed residential use.

The draft GDS states that the key geotechnical considerations for the proposed redevelopment of the site are expected to include:

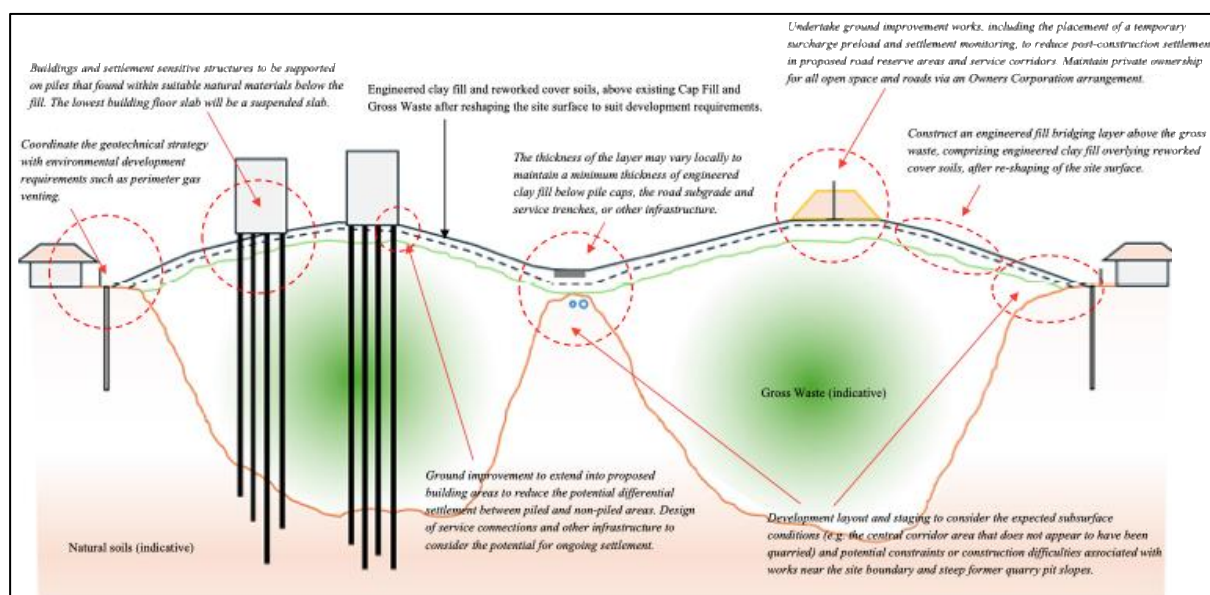
- the relatively low strength and high compressibility of the landfill materials, and requirements for ground improvement works to reduce post-construction ground settlement
- the approach to bulk earthworks for levelling the site as part of the development
- foundation systems required to support the proposed buildings
- infrastructure (e.g. pavements and services) design considering the potential to encounter landfill materials in excavations and the potential for ongoing total and differential settlement
- the stability of proposed batter slopes
- coordination with the environmental development requirements.

The draft GDS includes a comprehensive suite of strategies to reduce post-development settlement to acceptable levels, provide a sound foundation for buildings (concrete piles) and minimise the impacts of post-development settlement (particularly differential settlement).

Table 2 in section 2.2.1 of the Committee's report sets out the key geotechnical considerations for the proposed residential redevelopment in the draft GDS.

It is estimated each townhouse would require six piles driven deep into the ground past the waste body at depths of 20-25 metres. With a potential 400 townhouse development there is potential for up to 2,400 piles across the site. This number is an estimate and would need to be confirmed during detailed design.

Figure 8 contains a summary of the main components of the draft GDS. It shows the main elements of the proposed GDS including ground improvement works, capping, and piling works.

Figure 8 GDS summary

Source: draft GDS, page 49

4.2.1 Proposed geotechnical solutions

(i) Site preload/temporary fill surcharge

Placement of temporary fill surcharge is a common technique that involves the temporary placement of fill to a level above the design final surface level to preload the underlying materials with a higher load than will be applied once the surcharge is removed. The thickness and duration of the fill preload is dependent on the target rate for ongoing settlement to be achieved once the fill surcharge is removed. Generally, the thicker the fill surcharge and the longer the duration of the surcharge, the more settlement that will occur while it is in place. It is important to monitor the settlement that occurs during the surcharge period by accurate survey to assess its effectiveness and confirm the expected rate of ongoing settlement once the surcharge is removed. The settlement that occurs while the surcharge is in place is settlement that will not subsequently occur over the development design life.²⁵

The author of the draft GDS, WSP, conducted a preload trial at selected locations across the site to assess the consolidation characteristics of the landfill material to allow prediction of future settlement which meets settlement design criteria for the proposed site use.

The results of the preload trial suggest the following typical settlement characteristics for the landfill materials at this site are in the order of 60 millimetres to 90 millimetres per log cycle of time after fill placement, with a continuation of this trend resulting in about 160 millimetres to 280 millimetres of settlement in the 50 years after fill placement.

Ground improvement works will be required as part of bulk earthworks to reduce the amount of post-construction settlement that occurs beneath infrastructure such as roads or stormwater drains. Potential ground improvement options relevant to

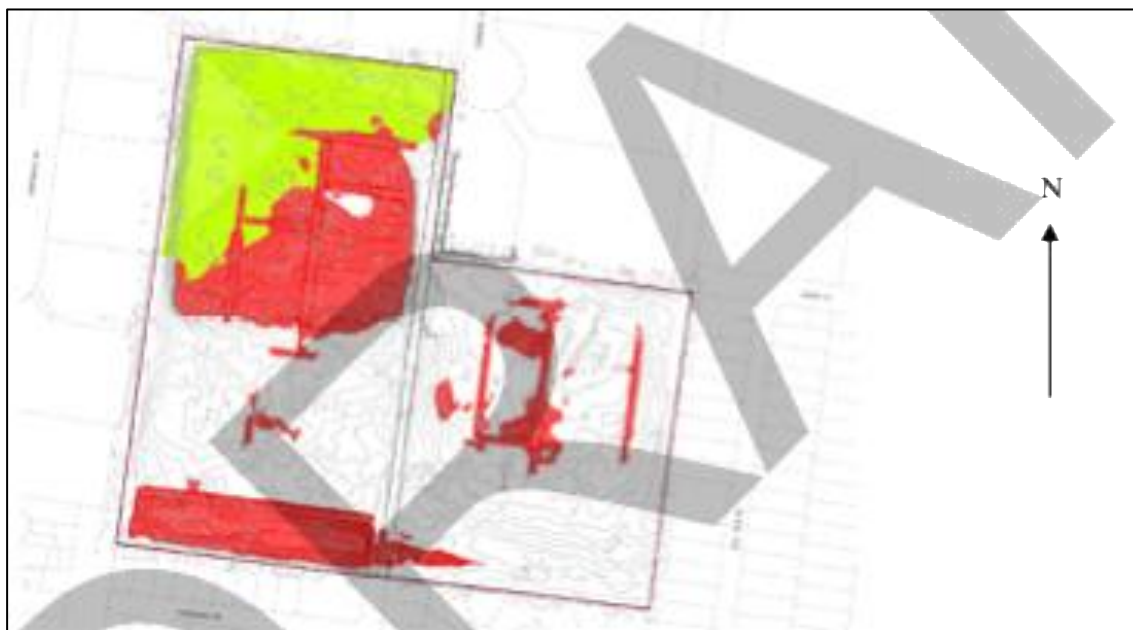
²⁵ Document 2f, p38

pavement and service infrastructure construction that could be considered include the placement of a temporary surcharge preload and the use of impact rolling, deep dynamic compaction or rapid impact compaction.

(ii) Bulk levelling earthworks

Reshaping of the site surface as part of the redevelopment will be required. Indicative areas for waste excavation and filling (subject to confirmation as part of detailed design) are shown in Figure 9. Proposed excavation is shown in red and proposed filling is shown in green.

Figure 9 Indicative areas for waste excavation and filling



Source: draft GDS, page 34

The DCMP (Civil) proposed civil works includes penetrations into the existing cover soil and exposure of the sites waste material that are considered to represent a risk to potential human health and ecological receptors. These potential risks include exposure to soil vapour and to landfill gas (asphyxiation and explosion), unless risks are properly managed, through several principals in the DCMP (Civil).

The design and implementation of the reshaping across the site must be undertaken in accordance with the DCMP (Civil) which sets out specific requirements for issues such as reuse of excavated materials to be replaced back in areas needing fill prior to placing of the existing cover soil and removal of ACM that might be identified. The cutting and filling process is likely to result in the need to dispose of some materials (waste and contaminated soils) offsite.

The DCMP (Civil) states that based on the concept design at the time of preparation, there is significant cut to fill required to form the intended surface shape. It is noted that the document predicts a soil deficit of 23,000 cubic metres based on the initial concept and soil will need to be imported. Soil to be imported, including preload material, must be classified as Fill Material as per EPA Publication 1828.2, March 2021, prior to importation to the site.

The draft GDS states that details of the bulk earthworks and ground improvements will need to be developed as part of detailed design.

(iii) Foundations/piling

Buildings and other settlement sensitive structures will need to be supported by piles founding on or within the natural materials below any landfill. The draft GDS states that the lowest floor slab of buildings constructed over the landfill materials will need to be suspended between piles/pile caps. Key geotechnical considerations include depths of piles, variability of geotechnical characteristics, potential for obstructions in landfill materials, noise and vibration, and management of LFG that may be encountered.

The draft GDS considers that driven precast concrete or driven steel piles (displacement piles) founding within the natural materials could potentially be used to support buildings or other structures. Piles would probably be installed on a grid below the suspended ground floor slab.²⁶

The 2022 Audit states that for any concrete structures, including steel reinforced concrete structures, or structures fabricated from unprotected steel, including building footings, piled foundations or underground services, that are likely to come into contact with buried waste at the site (that is, below the capping layer) must be designed in accordance with material durability requirements set out in AS2159 – Piling – Design and Installation and AS3600 – Concrete Structures (as applicable), to take account of contaminants in the buried waste.

4.2.2 Evidence and submissions

(i) Proposed geotechnical solutions

The geotechnical joint expert statement (Document 48) confirmed there was agreement that the strategies proposed to manage settlement are generally appropriate, provided there are engineering controls on further design and implementation.

The geotechnical and engineering experts agreed that an approach to monitoring settlement will need to be confirmed during detailed design in advance of construction works. They also agreed that it is important to coordinate the geotechnical investigation and design approach with environmental, civil and structural design requirements and overall project coordination.

Mr Colls gave evidence that the proposed geotechnical strategies set out in the draft GDS are sufficient to manage long-term settlement, ground movement and structural risks. From a geotechnical perspective Mr Colls considered it is feasible and appropriate to implement these measures across a multi-lot residential subdivision in fragmented ownership, managed by an owners' corporation. His evidence is based upon the following strategies:²⁷

- The placement of an engineered fill bridging layer and use of temporary surcharge preloading, with the duration and thickness of the preload informed in part by survey monitoring while it is in place, are common geotechnical engineering approaches to

²⁶ Document 2f, p42

²⁷ Document 36, p22

managing the risk associated with ongoing total and differential settlement below infrastructure that can either tolerate the expected movement or be designed with the expectation that periodic maintenance will be required.

- The use of suitably designed piles (e.g. precast concrete piles), driven a sufficient depth into suitable natural materials below the landfill, is a standard geotechnical engineering approach to managing the risk of excessive settlement below structures such as buildings that have low tolerance for total or differential settlement.

Mr Johnson's evidence was that, although there are geotechnical risks that may impact site development, the ground improvement works and foundation solutions are suitable to allow development for residential purposes and that the ground improvement methods should incorporate appropriate construction quality assurance controls and field trials and ongoing monitoring of the site to confirm the adopted solutions will satisfy the design performance criteria.

Mr Johnson stated that the draft GDS must be considered in conjunction with the EMS which outlines the environmental risks at the site and how they will be addressed to satisfy the conditions presented in the Statement of Environmental Audit.

Mr Shinkfield provided general commentary on the proposed civil works. He stated that the development on top of a former deep landfill poses a high risk. His evidence included several matters that he considered should be addressed, including:²⁸

- a. Identify strategy and sequences for preloading of surcharge material.
- b. Source and assess preloading material for usage.
- c. Identify strategy and sequences for moving material around – topsoil, existing fill capping, landfill judged to be excess in particular locations for the design strata envisaged, acceptance of materials, what to do with rejected or hazardous materials, control of odour during construction, compaction strategies for materials, testing of compaction, monitoring of settlement across the site, site control and approvals.
- d. Specifically detail the bulk earthworks strategy for;
 - i. Roads, drainage and sewerage as a result of an updated civil design, with iteration to that design from geotechnical considerations.
 - ii. Land in between roads for the building blocks and green spaces.
 - iii. Land around the perimeter of the site between edge roads and the title boundary.
 - iv. The landfill gas perimeter bores, collection trench and pipeline connecting to the treatment area.

The Proponent submitted that Mr Shinkfield's evidence should be given little to no weight as, in its view, his evidence was not informed by relevant expertise or experience in environmental engineering, implementation of environmental audit conditions, or redevelopment of landfills.

Council had concerns with the generalised nature of solutions within the DCMP (Civil). Mr Shinkfield's evidence was that the geotechnical strategy for bulk earthworks must be coordinated closely with environmental management to ensure that implementation minimises the amount of landfill that is exposed at any one time and to minimise impacts to residents.

²⁸ Document 38, p22

The Proponent submitted that the evidence clearly supports a conclusion that the proposed geotechnical strategies are sufficient to manage long-term settlement, ground movement and structural risks.

(ii) Bulk earthworks

The experts acknowledged that there would be significant earthworks required for the site and that the reshaping works will include the exposure and relocation of some waste materials.

The Committee asked several questions about the amount of cut and fill and general waste stockpiling (and timing) that might occur during construction activities across the site.

The 2022 Audit²⁹ references a total of 150,000 cubic metres for all material (capping, waste and clean fill) required to be moved or reshaped across the site for development and of that, 40,000 cubic metres is estimated to be waste material. The Proponent submitted that although detailed design has not been finalised, the expectation is that the quantum of waste is likely to be closer to 10,000 cubic metres than the 31,000 cubic metres estimated in the Ball Road Concept Bulk Earthworks Civil Drawings (Document 30) due to master planning for the site being further refined since the Concept Bulk Earthworks Civil Drawings.

The Committee asked whether there had been any consideration of the feasibility of extracting and disposing of the waste and proceeding with a clean site. The Proponent replied that the 2022 Audit considered and rejected removal of the landfill waste as it would not be feasible due to the volume of approximately 1.7 million tonnes of waste covering 120,000 square metres and a depth of up to 15 metres would have been required to be removed. The Auditor agreed³⁰ and the Proponent submitted that removal of all waste would be prohibitively expensive and *“in the order of many tens of millions of dollars”* and that removal of all waste would also involve greater risk of odour, fire, dust and many truck movements.³¹

Council submitted that it is critical to have at least a clear understanding of the key development parameters such as:

- (a) the extent, depth and area of gross waste to be excavated, relocated or removed from the land and related staging and timing
- (b) the propensity for odour emissions relative to the proposed excavation, the attribution of related responsibilities, and actual proposed (not generally available) mitigation measures
- (c) planned coordination and staging of environmental and geotechnical works, with responsibilities and details properly recorded
- (d) the preparation of a CEMP which identifies how the Audit conditions are to be practically implemented
- (e) Staging and timeframes for completion of key “big ticket” construction activities like excavation and piling.

²⁹ P67

³⁰ Document 2a, p131

³¹ Document 68, para 6 p2

All experts agreed that the bulk earthworks for the site should be undertaken across the site as a whole, which is proposed in the draft EMS.

(iii) Piling

Mr Colls relied upon the Genton masterplan concept and stated during evidence that piles would likely be precast concrete, would be impact (hammer) driven piles, would occur possibly over months not years and that further design would be required.

The experts agreed that piling trials should be undertaken in proposed building areas before starting main piling works, to assess constructability issues (for example, obstructions like buried car bodies), likely pile founding depth and load/settlement performance.

No details were provided to the Committee about how many piles would be required for a proposed development of approximately 400 houses, or on the duration (and potential staging of construction) of the construction activities and Mr Tardio had not considered noise from piling in his evidence.

Council suggested through a rough calculation of six piles per town house that there may be up to 2,400 piles. The Proponent did not dispute this however noted such details would be subject to detailed design.

5 Strategic planning

5.1 The issue

Item i) of the referral letter sought advice from the Committee on:

the strategic planning merits of the proposal, including land use compatibility and whether residential development is appropriate and justified, having regard to the requirements of section 12 of the PE Act.

5.2 Evidence and submissions

The planning experts considered a range of controls for the site based on its context with adjoining use and zone controls. All supported the rezoning of the land to the GRZ and the use of the DPO to guide the development of the land. The planning experts also considered the current public zone was not appropriate for a privately owned landholding not required for public open space.

Mr Glossop considered the use of the C2Z but ultimately did not support it because of the single access constraint to the site from Ball Road through an established residential area. Mr Glossop also did not support an industrial zone for the same reason. Mr Glossop considered the GRZ should only be used if it was in combination with an appropriate overlay such as the DPO. He considered the Special Use Zone *"could be a realistic option instead of the proposed GRZ and DPO."* Mr Glossop understood the GRZ was chosen instead of the Neighbourhood Residential Zone that applies to the south because three storey development is proposed for the site, a scale which is supported by the GRZ.

Mr Woodland gave evidence that³²:

- Development of the subject site for housing will contribute to the achievement of planning policy to achieve urban consolidation and deliver greater housing supply and diversity within Melbourne's established areas.
- The proposal is supported by technical assessments which demonstrate the potential environmental impacts of developing the Subject Site for residential purposes can be acceptably managed.
- The proposed planning provisions (the GRZ and DPO) will ensure that the Subject Site is developed in an orderly manner.
- Developing the subject site for residential purposes will have an acceptable impact on adjoining residential and industrial/commercial land.
- The proposal will contribute to the achievement of the Chain of Parks policy by providing pedestrian and cycling links to future parkland planned for land outside of the Urban Growth Boundary, close to the subject site.
- The proposal makes provision for affordable housing.

Mr Woodland considered the use of the GRZ and DPO appropriately responded to various Ministerial Directions.

Mr Clarke accepted that a residential use and development of the land was appropriate because:

³² Document 42, para 12

- The Statement of Environmental Audit indicates the subject site can be developed and used for residential and associated uses, subject to various conditions for remediating the site.
- Residential use and redevelopment of a large urban renewal site within the established metropolitan area is well supported by various planning policies.
- Providing technical contamination, geotechnical, engineering and environmental issues associated with previous use of the site as a former filled quarry are addressed, there are no other physical characteristics that limit use of the site for residential purposes.
- The site is contiguous with and an extension of existing residential areas to its south and east.
- There are no significant amenity concerns necessitating additional management measures associated with the proximity of nearby non-residential uses in the adjoining regionally significant 'industrial' precinct.

Mr Clarke ultimately supported the GRZ with the DPO but also identified the Mixed Use Zone as a candidate for the site.

Mr Glossop considered that:³³

The DPO is a particularly useful planning tool because it has the ability to prevent planning permits from being approved until a level of pre-planning has occurred (typically in the form of plans or documents that comprise a 'development plan').

The Proponent submitted:³⁴

The objectives of planning include to facilitate development in accordance with the planning scheme; in circumstances where the most suitable use of the Land is identified as residential and the most appropriate zone is the GRZ; where the technical experts agree that there are no land use compatibility issues with the adjoining C2Z land which cannot be managed, the planning experts raise no issues about land use compatibility and the DPO Schedule includes a requirement for a noise management plan directed to the C2Z interface; where remediation of the Land is inextricably tied to its future development and the Audit provides a high level of confidence that the Land is suitable for development, subject to successful implementation of the Statement conditions; and where the DPO Schedule can and does provide a mechanism to implement the Statement conditions, the Proponent submits that the strategic planning merits of the proposal are unassailable.

Council submitted in its opening submission that *"in general terms the strategic planning considerations do not weigh significantly against the proposal."* In its primary submission, Council submitted:

It is an important feature of strategic planning to ensure that fundamental questions about the use and development of land are resolved *before* the land is rezoned.

While Mr Walsh was not required to present oral evidence, his evidence statement concluded *"industrial development of the site with access only to Ball Road will have a material impact on the amenity of existing Ball Road residents."*

Mr Tardio's evidence was that the noise impacts from the C2Z land can be managed because:

- the preliminary noise assessment and modelling indicates that boundary acoustic fencing will largely, if not entirely, mitigate noise from the C2Z land
- there are additional opportunities to mitigate and minimise noise impacts beyond the specified boundary fencing

³³ Document 43, para 81

³⁴ Document 61, para 36

- the DPO can include measures to ensure that the subject Site and lots are developed to protect the C2Z land, as well as future occupants on the subject site.

Mr Woodland reviewed various Council and state open space strategies and found that these do not identify the land as an existing or future open space, is located inside the Kingston Green Wedge or is not required for its Chain of Parks Concept. Mr Woodland considered the proposal satisfied the objectives of planning for the following reasons:³⁵

- Development of the subject site for housing will contribute to the achievement of planning policy for urban consolidation and the delivery of housing supply and diversity within Melbourne's established areas.
- The proposal is supported by technical assessments which demonstrate the potential environmental impacts of developing the Subject Site for residential purposes can be acceptably managed.
- The proposed planning provisions (zoning and DPO) will ensure that the Subject Site is developed in an orderly manner.
- The potential impacts of developing the subject site for residential purposes will have an acceptable impact on adjoining residential land.
- The proposal will contribute to the achievement of the Chain of Parks policy by providing pedestrian and cycling links to future parkland planned for land outside of the UGB, close to the subject site.
- The proposal makes provision for affordable housing.

Mr Clarke completed a review of uses in the business park and the provisions of Clause 53.10³⁶ of the planning scheme and concluded *"there are no significant amenity concerns necessitating additional management measures associated with the proximity of nearby non-residential uses in the adjoining regionally significant 'industrial' precinct."*

³⁵ Document 42, para 156

³⁶ Uses and activities with potential adverse impacts

6 Governance model

6.1 Overview

Referred issue iv) requires the Committee's advice on:

the governance model proposed (i.e. owners' corporation under a section 173 agreement) and its ability to suitably manage the risks in perpetuity and identify any challenges, risks and limitations.

The Proponent's final version of the DPO required a section 173 agreement in Clause 3.0 (conditions and requirements for permits) under the PDSMP:

A planning permit to subdivide the site must include a condition requiring entry into a section 173 agreement to implement the conditions of the Statement of Environmental Audit relating to occupation of the developed site.

An owner's corporation will be required once the land is subdivided as assets it will need to manage include:

- all internal roads
- all service infrastructure such as water supply, sewer and electricity
- retardation drainage basins
- landscaping within road reserves
- perimeter gas ventilation system
- proposed landfill gas management system such as ventilation protection measures beneath buildings, venting riser pipes constructed on the outside of buildings, venting systems along service corridors.

6.2 Evidence and submissions

Mr Shinkfield considered *"that the setting up of an OC (owners corporation) for a residential development on top of a landfill is too high a risk and it is unlikely that an OC would be able to secure the necessary insurance, manage the logistics of a disaster or the funding of costly remedial works."*

Mr Shinkfield said a carefully setup section 173 agreement could only work if it:

- specified how the OC should be set up
- specified the role and responsibilities of the OC and clearly identifies required performance outcomes and environmental measures
- specified ongoing oversight of the OC
- specified required technical expertise to be obtained
- identified mobilisation and action logistics required in a disaster. Scenarios for disasters should be considered
- identified how remedial works resulting from a disaster can be funded. This includes within the membership of the OC (the owners of dwellings) and any other sources
- specified reporting obligations to a State Government organisation to ensure that best long-term practice occurs and remedial strategies can be funded.

Mr Shinkfield raised several concerns with the use of an OC. The Proponent responded to these concerns as set out in Table 4:

Table 4 Proponent response to Mr Shinkfield owner's corporation issues

Shinkfield issue	Response from Proponent
Excessive funding requirements	The obligations being imposed on the owner's corporation are clear and limited and owners will be aware they are buying into a non-standard owner's corporation.
Expert assistance post development	Expert assistance will be required to monitor post development issues, and these will be limited and not onerous.
OC should own structures	There is no reason why lot owners could not own the structures – the s173 agreement could require the OC to comply with ongoing management obligations.
Settlement related matters	Settlement will be restricted to road and open space which will be within common property already so there is no need to specifically identify this need. The cost of managing settlement will be limited by the mitigation measures in place.

Source: Committee

All other experts that commented on the governance model, including Mr Glossop supported the use of a section 173 agreement in association with the owner's corporation. Indeed some, including Mr Glossop, felt this was *"the only way to go"*.

The Proponent referred to Planning Practice Note 30: Potentially contaminated land which supported the use of a section 173 agreement in circumstances which required ongoing maintenance and/or monitoring and there is no site management order under the *Environment Protection Act 2017*. The EPA Guidelines for conducting environmental audits state that *"for other recommendations that apply on an ongoing basis (i.e., after occupancy), mechanisms under the planning system such as Section 173 Agreements can be used or alternatively instruments under the environment protection framework may be used, where appropriate."*

Council submitted *"the composition of the Owners Corporation, and the various works and obligations for which each Owners Corporation is responsible, and the general governance model has not been clearly explained."*

For the purpose of the section 173 agreements Council requested that the Minister for Planning be the responsible authority, like the approach at Talbot Village, which the Proponent has supported for the subject site. This would facilitate the Minister for Planning approving the development plan and issuing planning permits for the site.

7 Practical implementation and cumulative impacts

7.1 Overview

Item v) of the referral letter sought advice from the Committee on:

overall practicality of the proposed residential use of the site, given the cumulative impact of environmental, geotechnical and land use compatibility challenges, and whether there may be more suitable zoning/uses for the Land that align more closely with section 12 of the PE Act and Clause 13 of the VPPs.

7.2 Evidence and submissions

The planning witnesses had regard to the technical assessments and Audit conditions in considering the practicality of residential development. They did not seek to interrogate them. Mr Woodland concluded:³⁷

Based on my assessment of the proposal against the relevant State planning policies relating to environmental, geotechnical and land use compatibility, it is also my view that the cumulative impact of the environmental hazards and risks associated with the residential development of the Subject Site can all be practically managed.

Mr Glossop considered the following list of documents as *"a fairly extensive list of requirements, which affect all stages of construction, as well as future development and use of the site"*:

- implementation of an Aftercare Management Plan
- preparation of an Occupational Health and Safety Plan
- design and monitoring in accordance with the DCMP (Civil) approval of an engineering design of any capping earthworks
- approval and implementation of a Construction Gas and Groundwater Monitoring Plan
- development in accordance with a DCMP (Building)
- specific construction requirements for structures likely to come into contact with buried waste
- no basements or cellars
- implementation of a GRMS and LGBMS
- monitoring of a PDSMP.

Mr Glossop considered with multiple owners *"this is a large number of parties to educate, monitor and manage the ongoing obligations of the Statement of Environmental Audit."*

In addressing the drafting of the DPO Mr Glossop considered *"should these issues ultimately be resolved (environmental and geotechnical), it is crucial that the draft DPO be drafted in a manner that ties the future development and use of the site to the mitigation measures and rehabilitation strategies presented to the Committee."* He considered a concept plan should be attached to the DPO schedule.

³⁷ Document 42, para 287

Mr Woodland and Mr Clarke said the Committee should be satisfied the concept can be proved through the technical evidence that had been provided. Council's view was that this related more to the theoretical implementation of the referral letter but did not provide for the practical implementation, which is a key part of the referral letter.

Council accepted that some matters could be addressed by improved drafting of the DPO for matters such as noise and traffic through effective enforcement mechanisms. It submitted *"there is further work to be done to ensure that the Committee can be satisfied that environmental and geotechnical risk mitigation measures are clearly planned for and described in the material."* However, more generally, Council submitted:³⁸

To the extent that the Proponent has sought to waive the Committee away from considering the precise terms of the ordinance that approach is not consistent with the terms of the referral letter. The efficacy of the practical (rather than theoretical) implementation of mitigation measures (for example) must be assessed by reference to the nature of that risk and the capacity of the proposed ordinance to compel those measures.

Council submitted *"that inquiry cannot be replaced with broad operational conditions or management plans that seek to plug substantive information gaps later, or which defer the resolution of uncertainties about matters of substance."*

Council considered the local community should be involved in any future planning process because *"it is the local community who bear this risk."* Council acknowledged the link now proposed between the DPO and the EMS and GDS is helpful however:³⁹

the EMS and the associated DCMPs for civil and building works are drafted at a high level of generality. Even Mr Kucklow acknowledges that the contents of the DCMPs comprise principles rather than measures or requirements. The DCMPs have not been approved by an Auditor as required by the conditions of the Statement. The practical implementation of the EMS and GDS is not addressed through a Construction Environmental Management Plan (CEMP) or required by the conditions of the Statement.

Council confirmed it expected a CEMP to support this stage of the process *"however it is wholly unsatisfactory to defer the practical measures to a permit requirement for a DCMP (without any reference at all to a CEMP)."* Council submitted:

The purpose of a CEMP is to describe how activities undertaken during the construction phase of development will be managed to avoid or mitigate negative environmental impacts on site (or off-site) and how these environmental management requirements will be implemented. This is the information that Committee has been specifically asked to assess.

Council concluded that for a complex site like this that the Committee should have the following information to consider the practicality of residential development:

- the extent, depth and area of gross waste to be excavated, relocated or removed from the land and related staging and timing
- the propensity for odour emissions relative to the proposed excavation, the attribution of related responsibilities, and actual proposed (not generally available) mitigation measures
- planned coordination and staging of environmental and geotechnical works, with responsibilities and details properly recorded
- the preparation of a CEMP which identifies how the Audit conditions are to be practically implemented

³⁸ Document 63, para 26

³⁹ Document 63, para 22

- Staging and timeframes for completion of key “big ticket” construction activities like excavation and piling.

It was Council’s view that the easiest way to prepare this information was to provide a development plan or a CEMP. The EPA held similar views.

The Proponent submitted it should not be required to submit a development plan to prove practicability. It submitted:

- there are well-known LFG management and geotechnical measures available
- there is a framework to choose the right measures (the Statement)
- there is a framework to require implementation of those measures, including permit conditions, section 173 agreements and owner’s corporations that are highly flexible, useful tools that have been successfully employed for decades to achieve sometimes complex outcomes.

8 Impacts of Suburban Rail Loop tunnelling

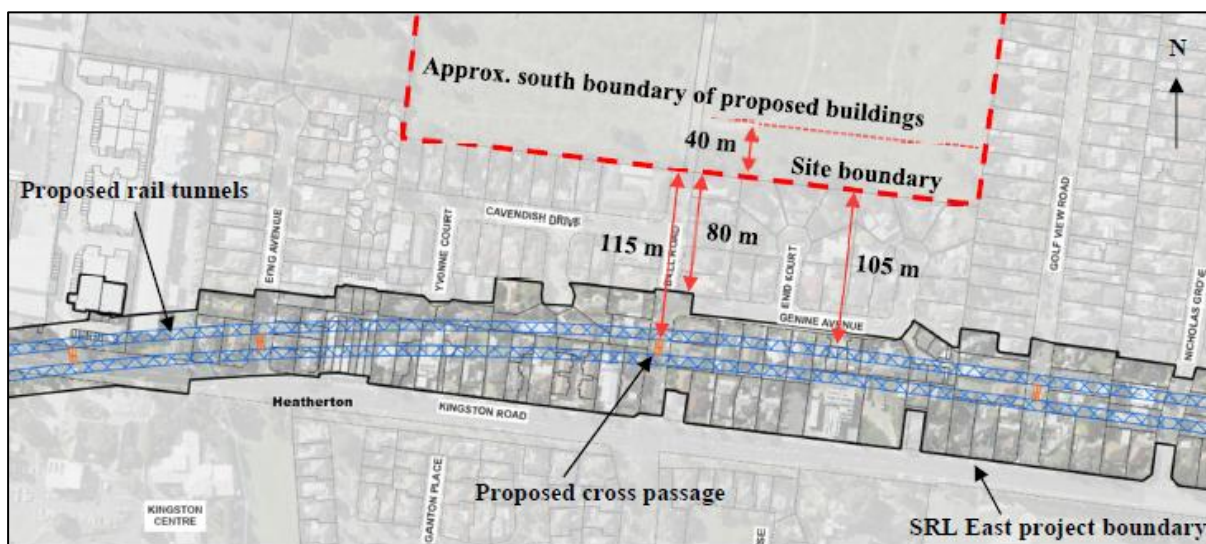
8.1 Overview

Referred issue vi) requires the Committee's advice on:

whether, and the degree to which, the proximity of the proposed Suburban Rail Loop (SRL) tunnelling works to the south of the Land could potentially exacerbate landfill gas migration, contamination spread or ground stability issues, and whether these tunnelling activities might influence the effectiveness of the proposed mitigation measures and governance strategies.

Figure 10 shows the proximity of the SRL tunnelling project to the subject site.

Figure 10 SRL tunnelling project as defined by the Specific Controls Overlay Schedule 15



Source: Mr Colls evidence statement, para 35

The tunnelling works are setback of 120 metres to the southern boundary of the subject site and at Ball Road the depth to the tunnelling is at least 20-25 metres.

8.2 Evidence and submissions

Mr Colls gave evidence that, from a geotechnical perspective, *"the proposed SRL East tunnelling works south of the Site will not exacerbate ground stability at the Site or influence the effectiveness of the proposed mitigation measures and governance strategies."*

Mr Kluckow considered the location of the tunnelling works south of the site and outside of the relevant SRL planning controls and gave evidence that:

- Site contamination – there is a negligible risk of soil contamination being affected by the tunnelling works or the capping management solution required to manage residual soil contamination.
- Groundwater contamination – based on the requirements of the SRL Environmental Management Framework to manage the contamination risks posed by its works, the SRL works will not affect the Site groundwater

contamination nor the proposed management of the residual contamination risk as part of the proposed development.

- Landfill gas contamination – should dewatering at the SRL tunnelling works occur this may increase the risk of landfill gas migration horizontally, however with a LGBMS in place around the subject site boundary this risk would be mitigated.

Mr Johnson gave evidence that:

Based on the lateral and vertical offset of the nearest SRL East tunnel from the southern site boundary, the nature of the ground profile and the support to the tunnel excavation provided during tunnelling, I consider the proposed tunnelling activities will not adversely impact the stability of the site at 16 Ball Road, Heatherton.

Mr Mival addressed landfill gas contamination:⁴⁰

As the completed tunnel will also be sealed from the surrounding ground by concrete sections, it is also unlikely either to impact on or by the groundwater or be significantly impacted by LFG and therefore should not be considered of any significant concern for the proposed development.

The SRLA did not directly address this referred issue but did raise additional issues with the noise and vibration impacts from the stabling facility to the east of the subject site. These are addressed elsewhere in this report.

In its opening submission Council confirmed it did not raise any issue with the proximity of the SRL.

The Proponent submitted:

Nobody, including the Suburban Rail Loop Authority, has suggested, let alone provided evidence demonstrating that:

- the proximity of the proposed Suburban Rail Loop (SRL) tunnelling works to the south of the Land could realistically exacerbate LFG migration, contamination spread or ground stability issues; or
- tunnelling activities might influence the effectiveness of the proposed mitigation measures and governance strategies.
- each of the various environmental and geotechnical experts who have prepared evidence in relation to this hearing has considered this matter and not identified any difficulties with coexistence of the Proposal and the SRL works.
- in light of the distance between the Land and the tunnel (and the Stabling Facility), the obligations of the SRLA pursuant to the Environment Performance Requirements (EPRs), given effect by the incorporated document which authorises the SRLA and the presence of intervening dwellings which are relevantly protected by the EPRs, the SAC should conclude that there will be no difficulty with this coexistence.

The EPA submitted the noise impacts of the operation of the stabling facility to the east of the site should be considered. The Committee addresses this request in Chapter 9.5.

⁴⁰ Document 33, para 100

9 Advice

9.1 Strategic planning merits

The Minister seeks the Committee's advice and recommendations on:

the strategic planning merits of the proposal, including land use compatibility and whether residential development is appropriate and justified, having regard to the requirements of section 12 of the PE Act.

(i) Discussion

The Committee notes the 2022 Audit concluded the site was suitable for medium and high-density residential uses subject to the implementation of the 24 Audit conditions. The Audit addresses the sites contamination issues and the environmental risks of the site, but the Audit process did not indicate residential development is an appropriate strategic planning outcome.

The subject site is sandwiched between what has been described as a business park to the north and west and residential development to the south and east. In terms of land use compatibility, it is these uses that are the most obvious candidates for the site.

The most significant factor in determining the future use for the site is the current access from Ball Road. The land is limited by its single vehicle access point to the south through an established residential area. There is no current access to the north through the business park. The Committee agrees with Mr Walsh, the planning witnesses, Council and the Proponent that it would be inappropriate for the business park to extend south onto the land and utilise the Ball Road access.

The site inspection and Mr Clarke's evidence confirmed uses on the C2Z land are generally benign with a commercial focus or office-based uses. The Committee accepts that uses in the business park are unlikely to generate significant amenity impacts if the land was developed for residential uses. The evidence of Mr Tardio demonstrates that noise impacts can be managed, although the final heights of noise walls need to be determined.

While the land is not identified as a future residential opportunity in the Kingston Planning Scheme, it has characteristics that indicate it could be considered as an infill residential opportunity by virtue of its size and context. The Kingston Housing Strategy 2022 adopted the criteria for infill opportunities that the subject land would meet, apart from the land not being constrained by a development impediment.

The Committee considers residential use of the land would be appropriate because:

- the land is not required as open space or for the Chain of Parks Concept
- this would be compatible with the significant abuttal (650 metres) the land has with an established residential area
- the adjacent business park does not contain uses that would impact residential amenity which could not be mitigated
- it would not be appropriate to convey vehicles associated with non-residential development through the Ball Road residential area.

The Committee supports the use of the GRZ for the land and the application of the DPO. The GRZ provides for residential development up to three storeys and the DPO requires other assessments to inform a development plan for the site and contains sufficient flexibility to allow for the development of the land in an orderly manner.

The Committee acknowledges that no community input to this proposal has been provided or allowed for and development that is consistent with a development plan is exempt from third party notification. The Committee considers it appropriate, if there is to be a future planning process prior to the Amendment being approved, that this should include community engagement given the high-risk nature of the site.

(ii) Conclusion

The Committee concludes:

- The General Residential Zone and Development Plan Overlay are appropriate planning controls to guide the future development of the land.
- Any future planning process prior to the approval of the Amendment should include community engagement.

9.2 Technical questions

The Minister seeks the Committee's advice and recommendations on:

- ii. whether the proposed environmental risk mitigation measures (such as landfill gas management, contamination controls, and odour prevention) are not only theoretically sound but also practically implementable in the long-term to mitigate risks to human health, amenity and future development, in accordance with the requirements of section 12(2)(b) of the PE Act and the objectives of Clause 13 of the Victoria Planning Provisions
- iii. whether the proposed geotechnical strategies are sufficient to manage long-term settlement, ground movement and structural risks, and to consider the feasibility and appropriateness of implementing these measures across a multi-lot residential subdivision in fragmented ownership, managed by an owners' corporation
- vi. whether, and the degree to which, the proximity of the proposed Suburban Rail Loop (SRL) tunnelling works to the south of the Land could potentially exacerbate landfill gas migration, contamination spread or ground stability issues, and whether these tunnelling activities might influence the effectiveness of the proposed mitigation measures and governance strategies.

9.2.1 Are the environmental mitigation measures sound and practically implementable?

(i) Discussion

The contamination of the site has been assessed and documented in the 2022 Audit, and a Statement of Environmental Audit has been issued confirming the suitability of the use and development of the site for medium and high-density residential uses as well as other land uses, subject to implementation of 24 conditions, many of which are to be verified by an Auditor. The Committee notes the environmental experts agreed that the 2022 Audit provides a high level of confidence that the site is suitable for the development subject to the successful implementation of the Statement of Environmental Audit conditions.

The Committee agrees with the Proponent and the environmental experts that, in relation to technical measures to manage contaminated land and LFG, the environmental audit process under the EP Act has primacy and that planning tools should give effect to the content and conditions of the 2022 Audit.

The environmental experts agreed that the LFG and contamination measures proposed in the supporting documents of the 2022 Audit were generally considered as known and accepted measures to be implemented on former landfill sites if they are to be redeveloped for sensitive or other uses. The Committee therefore accepts that the proposed environmental risk mitigation measures are generally theoretically sound.

This referred issue also requires the Committee to be satisfied that the measures put forward can be practically implemented to ensure LFG and contamination risks are mitigated across the site. The Committee must make this assessment based on the information before it. It is not its role to review the merits of these measures nor is it making recommendations as to whether a particular development proposal should proceed as that will be for a future process. Such a future process should consider the information gaps identified in this process such as odour risk assessment, fire risk assessment, waste volumes and movement across the site during development, soil movement across the site and construction staging details to demonstrate that the proposed environmental risk mitigation measures are *practically implementable*.

Consideration of the merits of a development proposal (including potential impacts on surrounding residential and commercial land uses) should be informed by detailed assessments which are yet to be prepared for this site, as mentioned above – these include assessments of fire risk, odour, air quality, noise, and construction impacts (that is, how much waste is to be removed and/or moved across the site, how many piles will be required, what are the noise impacts from piling, what is the duration of works). It is not satisfactory to defer these considerations as a requirement of the DPO with no or little detailed consideration to date. These matters need to be understood for the decision maker to determine if the mitigation measures are *practically implementable in the long term to mitigate risks to human health, amenity and future development*.

The Committee agrees with the environmental experts and Council that the site development including the civil and building works should be completed by the Proponent and its team. This will ensure the responsibility rests with the Proponent to effectively manage the construction risks and properly implement the design and verification process outlined by the Statement of Environmental Audit.

The Committee agrees with Council and Mr Mival that the DPO should require the CEMP to be prepared, at least as a comprehensive draft, as part of the revised EMS to inform a future development plan noting the information gaps outlined above. Future consideration of the development of this site should be informed by the detail of how this will work, given the complexities between the environmental risks and geotechnical measures. All experts agreed that consideration of the environmental risks and geotechnical risks need to be coordinated during the construction and development of the site. The Committee considers the changes to the DPO to require a CEMP to be prepared are sensible.

In response to questions from the Committee, the experts considered the EMS should be auditor-verified and this has now been accommodated in the amended DPO.

In regard to odour, it is important to consider the evidence of Dr Cowan who stated:⁴¹

consistent with the precautionary principle, the potential for odour generation must be appropriately considered. The burden of proof lies on those proposing to undertake the construction to demonstrate that the risk will be acceptable, rather than requiring an impact to occur before protective measures are taken.

The Committee agrees with Dr Cowan and notes that odour has not been addressed in any detail. That said, it will need to be a matter that does require further assessment to inform any future development proposal and planning process for the site. The Committee agrees with the revised changes to the DPO that require an odour risk assessment and a waste excavation management plan (including without limitation to address odour and fire risk associated with waste excavation) prior to excavation and placement of waste. As stated above, this is a gap in the existing assessments that inform development of the site.

In terms of potential fire risk, the Committee agrees with the environmental experts that its management must be considered prior to the commencement of any landfill waste movement with the management approach to be verified by an Environmental Auditor as part of Audit conditions 4, 6 and 7 of the Statement of Environmental Audit.

Noise and vibration impacts during construction (piling) have the potential to cause serious amenity impacts to residential (and commercial) neighbours unless carefully managed. The Committee agrees with the proposed changes to the DPO proposed by Mr Tardio and agreed to by Council and the Proponent. The Committee does not support the changes suggested by the EPA for the reasons provided by Mr Tardio, the Council and Proponent.

In terms of a future development form, the Committee accepts the evidence of Mr Tardio regarding the proposed acoustic measures such as noise fences to ensure future residents are protected from the surrounding commercial and industrial land uses (and there are no reverse amenity impacts to those existing premises) however the Committee also agrees with Mr Tardio that the existing information referred to the Committee is quite vague and a more detailed acoustic assessment is required to understand the potential impacts on future and surrounding existing residents once final levels and noise wall heights are known. The Committee concludes there is not enough information on how the site will be constructed (how many piles and duration of piling) to understand the extent of noise impacts on surrounding residents. This will need to be addressed to inform a future planning process.

The Committee concludes that the proposed environmental risk mitigation measures for LFG management and contamination controls are theoretically sound and may be practically implementable in the long-term to mitigate risks to human health, amenity and future development. However, it was not presented with the detailed information to be satisfied that the risks to human health and amenity during construction can be appropriately managed as matters such as odour, noise and fire risk need further

⁴¹ Page 3

investigation. A future planning process should assess the merits of these additional requirements to determine if the site should be redeveloped for a medium or high-density residential neighbourhood.

Theoretically sound measures do not mean they are practically implementable. Whether they are practically implementable in the long-term to mitigate risks to human health, amenity and future development is yet to be determined. It is the Committee's view that further coordination between the environmental risk mitigation measures and the geotechnical solutions can only be addressed at an appropriate level once a development has been confirmed for the site and the further work identified above is undertaken to inform a development plan.

The Proponents approach to the development of the site has been vague and inconsistent. This includes:

- stating at the Directions Hearing that a development concept is not before the Committee
- drafting a DPO that made no reference to what would ultimately be put forward as a development concept for the land
- stating initially there would be 30,000 cubic metres of waste impacted and revising this part way through the consultation session to 10,000 cubic metres with little detail on how this would be achieved and what impact it may.

This does not provide the Committee with the confidence that environmental and geotechnical mitigations measures can be practically implemented. The only way this referred issue can be adequately addressed is for the Proponent to:

- complete technical assessments on odour risk, noise and vibration impacts and fire risk
- confirm a development concept for the land which is informed by existing and these further assessments.

Assessment of a proposed development on the surrounding residents and commercial uses is lacking at this stage of the development. Assessments such as fire risk, odour, air quality (dust), noise, and construction impacts will need to inform future decisions about whether the proposed environmental risk mitigation measures are practically implementable for the proposed development.

(ii) Conclusion

The Committee concludes:

- The proposed environmental risk mitigation measures (such as landfill gas management, contamination controls, and odour prevention) are theoretically sound.
- There is insufficient detail to confirm the mitigation measures are practically implementable in the long-term to mitigate risks to human health and amenity.
- Further work to inform a future development concept should include:
 - technical assessments on odour risk, noise and vibration impacts from piling and construction, understanding of waste volumes and movement across the site during development and fire risk.

- A draft CEMP to be included in the revised EMS.

9.2.2 Are the geotechnical strategies sufficient to manage risks and is mitigation feasible with a multi-lot residential subdivision?

(i) Discussion

The Committee notes that all geotechnical experts generally agreed that the proposed geotechnical solutions in the draft GDS were sound. In theory, they are all practicable solutions that have been undertaken on other repurposed sites/former landfills and should be sufficient to manage long-term settlement and structural risks.

In regard to the feasibility of implementing these measures across a multi-lot residential subdivision in fragmented ownership, the Committee concludes that there is further assessment and understanding of the site required to inform the feasibility of such measures. This includes piling trials to assess constructability issues, which was agreed to by the experts. The extent, depth and area of gross waste to be excavated, relocated or removed from site will also need to be resolved to inform detailed design.

The Committee accepts the removal of most if not all waste off-site would be cost prohibitive and potentially exacerbate several environmental risks to the community such as dust, odour, fire and a large amount of truck movements across the site.

The Committee understands that if this site were to be developed in the future, much of the site would need to be reshaped and therefore large volumes of materials, including clean soil, capping soils, and waste materials would need to be moved around the site. These bulk earthworks would likely cause some impacts to nearby residents and adjoining commercial uses. However, the extent is not entirely known and would be assessed as part of a future process that includes assessment of more detailed design and understanding of the proposed development.

The Committee agrees with the experts that development on top of a former deep landfill poses risks and these need to be properly understood. Through the consultation sessions, including expert evidence in both environmental and geotechnical matters, it became very clear to the Committee that an integrated and coordinated approach between the draft EMS and draft GDS will be required to ensure the environmental mitigation solutions (eg LFG perimeter trench) and the geotechnical solutions and bulk earthworks need to be coordinated. The Committee agrees with the experts there should be one contractor (not numerous) undertake the piling work.

The DPO goes some way to address these coordination concerns. Some coordination has been addressed with the addition of a requirement for the strategies to address staging and coordination and a requirement for a single builder in the draft revised DPO schedule.

To conclude, the Committee agrees with the experts that the proposed geotechnical solutions presented in the GDS are sufficient to manage long-term settlement, ground movement and structural risks. The recommendation of the experts for additional tests reduces geotechnical uncertainty regarding those measures, for example piling trials, should be considered.

(ii) Conclusion

The Committee concludes:

- The proposed geotechnical solutions presented in the GDS are sufficient to manage long-term settlement, ground movement and structural risks.
- Additional tests to reduce geotechnical uncertainty regarding those measures such as piling trials, should be undertaken to inform the future planning process.

9.2.3 Will the SRL tunnelling works impact the site?

(i) Discussion

The SRL tunnelling works are located a considerable distance to the south of the subject site. Based on the evidence and submissions, it is apparent to the Committee that the tunnelling works will not exacerbate landfill gas migration, contamination spread and ground stability issues or any mitigation measures and governance strategies.

(ii) Conclusion

The Committee concludes:

- The SRL tunnelling works will not exacerbate any environmental risk at the subject site or mitigation measures or governance strategies.

9.3 Suitability of the governance model

The Minister seeks the Committee's advice and recommendations on:

- iv. the governance model proposed (i.e. owners' corporation under a section 173 agreement) and its ability to suitably manage the risks in perpetuity and identify any challenges, risks and limitations

(i) Discussion

For this site to be redeveloped and repurposed into other uses there will be an ongoing role for the responsible authority, the EPA, the auditor and the future landowners to monitor and manage the mitigation measures at the site. This is a complex site, and the governance model needs to have sufficient rigour to manage all scenarios. Previous examples referred to including Talbot Village have used the owner's corporation and section 173 agreement governance model to manage similar ongoing issues.

The Committee agrees that an owner's corporation, with the benefit of expert advice, is best placed to manage a subdivided site and infrastructure and open space that in the normal course of events would be managed by Council. The statutory link with the owner's corporation will be the section 173 agreement, which is one option supported by the EPA Guidelines for conducting environmental audits and Planning Practice Note 30.

The Committee does not support Mr Shinkfield's evidence that the OC should own the dwelling structures or to define funding of it now. This is detail that can be addressed at the appropriate time.

There does not seem to be any other governance model that will work for a site that needs to be subdivided to generate funding to address the significant cost of

environmental and geotechnical mitigation works. The Committee agrees with Mr Glossop that this is the only way to go.

The Committee understands the request from Council for the Minister for Planning to be the responsible authority given its limited expert capacity in the environmental and geotechnical fields and the need for ongoing management of the site. Like Talbot Village, the Committee supports the Minister for Planning to be the responsible authority for the development and management of the site.

(ii) Conclusion

The Committee concludes:

- The Minister for Planning should be the responsible authority for the land.
- An owner's corporation is appropriate to suitably manage the risks in perpetuity and it will be required as a result of land subdivision.
- The owner's corporation should be responsible for:
 - a) all internal roads
 - b) all service infrastructure such as water supply, sewer and electricity
 - c) retardation drainage basins
 - d) landscaping within road reserves
 - e) perimeter gas ventilation system
 - f) proposed landfill gas management system such as ventilation protection measures beneath buildings, venting riser pipes constructed on the outside of buildings, venting systems along service corridors.
- The use of a section 173 agreement to manage the ongoing maintenance or management of the land is appropriate.

9.4 Practicality of residential use and cumulative impacts

The Minister seeks the Committee's advice and recommendations on:

- v. overall practicality of the proposed residential use of the site, given the cumulative impact of environmental, geotechnical and land use compatibility challenges, and whether there may be more suitable zoning/uses for the Land that align more closely with section 12 of the PE Act and Clause 13 of the VPPs

(i) Discussion

The approach of the Proponent has been to rely heavily on the drafting of the DPO to demonstrate that the land can be practically developed for residential use and development. This is partly due to the Proponent's starting point which was to not:

- rely on or put forward a formal development concept for the land. This was partly overcome in the consultation sessions with the Genton concept forming the basis for a concept plan to be attached to the DPO
- complete detailed assessments to better understand the environmental risks posed when developing the site for residential use.

As the Committee has highlighted:

- this site is a high risk site, almost fully comprising a former landfill of putrescible waste at significant and varied depths which has created a landform significantly different from the context in which it sits

- any urban development will involve significant disturbance to the waste body; and has immediate and extensive abutments to established residential areas.

The Committee is concerned that based on the material and evidence before it (or lack thereof), there is an over-reliance on future reporting to demonstrate that the practicality of developing, what is a high-risk site for residential purposes, is achievable.

In Chapter 9.2.1 the Committee expressed concern that insufficient assessment had been completed to understand the potential risks at the site and to surrounding neighbours during construction of the site including odour, dust, noise and vibration, fire risk.

The initial reluctance of the Proponent to refer to the Genton concept plans for the site in the DPO provides little comfort to the Committee that there has been a comprehensive approach to its development. At the very minimum for the Committee to provide advice on this referred issue there should be a defined proposal for the land – and sufficient work completed to demonstrate it can be practically achieved.

Referred issue ii) requires the Committee to provide advice on whether environmental mitigation measures are practically implementable, referred issue iii) requires the Committee to provide advice on the feasibility and appropriateness of geotechnical mitigation measures and referred issue v) requires the Committee to provide advice on the cumulative impact of all mitigation measures. The Committee's view is that this can only be done with any clarity once further work is completed on odour, dust, noise and vibration, fire risk, based upon a defined development concept for the land.

The Committee has been presented with an approach of 'let the Audit and DPO do its work' by the Proponent. The need for development certainty provided by a defined concept for the land and the upfront provision of further work on the CEMP, GDS and EMS identified by Council is required. This work is central to meeting the strategic test for the rezoning of the land; that is, to ensure it is fit for purpose. It would not be appropriate to have this additional work completed after the approval of the Amendment as a requirement for a development plan.

The further work and overall package of information should be the subject of a future planning process, perhaps like the approach taken with Talbot Village where a more comprehensive and concurrent approach to reporting and land development can demonstrate that this highly complex and high-risk site can be practically developed.

(ii) Conclusion

The Committee concludes:

- There is insufficient information to conclude that the proposed residential use of the site is practically implementable, given that the cumulative impact of environmental, geotechnical and land use compatibility challenges were not satisfactorily addressed during the consultation sessions.
- That a residential zone is the most suitable zone for the site.

9.5 The drafting of the DPO

As stated earlier in this Report, DTP advised on Day 1 that it expected the Committee to provide advice on the drafting of the DPO. While not a specifically referred issue, the

drafting of the DPO was the subject of many versions during the consultation sessions and the Committee allowed a further comment period on the DPO following the consultation session closure.

The Committee has considered all responses to the DPO versions provided by the Proponent as well as evidence provided by the experts. Appendix C contains the Committee-preferred DPO which is based upon Document 77b. Any recommended changes to Document 77b are shown in tracked form.

(i) Discussion

The initial DPO schedule (Document 1a) has been amended with the following additions in the Proponent's final version (Document 77b):

Objectives

- amend the fourth dot point objective (EPA request) and add one extra objective addressing compatibility with nearby land uses

Clause 2.0

- refer to landfill rehabilitation (Council request) and other potential environmental statement (EPA request) in dot point 1
- insert rehabilitation in dot point 2 (Council request)
- delete 'any works directed by the EPA' (Council request)
- add a permit for subdivision cannot be granted prior to the verification of capping earthworks.

Clause 3.0

- conditions and requirements for contamination management, affordable housing, noise management, community infrastructure, servicing and infrastructure plan noise and vibration management, open space and section 173 agreements for construction to be by a single builder and the implementation of the conditions of the Audit, including a post site development management plan and construction gas and groundwater management plan.

Clause 4.0

- reference to a concept plan and indicative levels and sections of the site at the boundaries with adjoining properties, a community infrastructure report, a service and infrastructure plan, a stormwater management strategy, an EMS (generally in accordance with its draft), a GDS (generally in accordance with its draft) and a noise management plan.

The Committee received an 8 page response from Council (Document 76) that it considers went beyond the Committee direction on further drafting comment. One concern of Council, which it covered in its primary submission, was the ability to subdivide the land prior to the preparation of a development plan in Clause 2.0 of the DPO. The Committee does not consider subdivision of the land should occur before the preparation of a development plan. Introducing new owners to a complex site before proper planning is completed should be avoided. Subdivision can occur at a later stage when roles and responsibilities are more fully known.

The Proponent DPO changes represent a significant drafting improvement and will assist in ensuring the site can be developed for residential uses. Figure 11 contains the proposed concept plan to be attached to the DPO, which the Committee supports.

Figure 11 Concept plan and legend



Source: Document 55

The SRLA submitted the noise impacts of the SRL stabling facility to the east of the land should be considered in a future noise assessment. While not part of the referred issues, the Committee accepts this on the basis the Proponent supports its insertion into the DPO.

The Committee notes and supports the Proponent's constructive response many of the responses from the EPA, SLRA and Council in the drafting of the DPO. The Committee confirms though this does not address the deficiencies it has identified in demonstrating whether the land can be practically developed.

(ii) Conclusion

The Committee concludes:

- The drafting of the Committee-preferred DPO as contained in Appendix C is appropriate.

Appendix A Referral letter



Department of Transport
and Planning

GPO Box 2392
Melbourne, VIC 3001 Australia
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Ref: BMIN-1-25-2779

Ms Sarah Raso
Lead Chair
Priority Projects Standing Advisory Committee
Planning Panels Victoria
planning.panels@transport.vic.gov.au

Dear Ms Raso

**REFERRAL OF 16 BALL ROAD, HEATHERTON AMENDMENT REQUEST TO THE PRIORITY PROJECTS
STANDING ADVISORY COMMITTEE**

I refer to a request submitted by Planning and Property Partners, on behalf of Leaf Corporation Pty Ltd (the proponent), seeking Ministerial intervention under sections 20(4) and 96A of the *Planning and Environment Act 1987* (the Act) to facilitate residential development of the land at 16 Ball Road, Heatherton (the Land).

The request seeks a combined planning scheme amendment and planning permit application to rezone the Land to the General Residential Zone, apply a new schedule to the Development Plan Overlay, exempt future subdivisions from public open space contributions, and approve a residential subdivision of approximately 400 lots.

The Land comprises a former municipal landfill and sand quarry and is affected by complex environmental and geotechnical conditions. The site directly abuts land identified as regionally significant industrial land, raising unresolved land use compatibility, and reverse amenity considerations.

Delegated authority

The Minister for Planning has determined that this matter should be referred to the Priority Projects Standing Advisory Committee (PPSAC) and has provided delegated authority to the Department of Transport and Planning (DTP) to make this referral on her behalf.

Accordingly, DTP refers this amendment request to the PPSAC under section 151 of the Act to seek advice prior to the Minister determining how the request should proceed.

Purpose of referral

To assist the Minister's consideration of the matters prescribed under sections 12(1A) and 12(2) of the Act, and to ensure the objectives of section 4(1)(a), (b), (c), (e), (f) and (g) of the Act are upheld, the PPSAC is requested to provide advice and recommendations on the matters set out below.

Matters for advice

The PPSAC is requested to advise on the following matters:

- i. the strategic planning merits of the proposal, including land use compatibility and whether residential development is appropriate and justified, having regard to the requirements of section 12 of the PE Act
- ii. whether the proposed environmental risk mitigation measures (such as landfill gas management, contamination controls, and odour prevention) are not only theoretically sound but also practically implementable in the long-term to mitigate risks to human health, amenity and future development, in accordance with the requirements of section 12(2)(b) of the PE Act and the objectives of Clause 13 of the Victoria Planning Provisions
- iii. whether the proposed geotechnical strategies are sufficient to manage long-term settlement, ground movement and structural risks, and to consider the feasibility and appropriateness of implementing these measures across a multi-lot residential subdivision in fragmented ownership, managed by an owners' corporation
- iv. the governance model proposed (i.e. owners' corporation under a section 173 agreement) and its ability to suitably manage the risks in perpetuity and identify any challenges, risks and limitations
- v. overall practicality of the proposed residential use of the site, given the cumulative impact of environmental, geotechnical and land use compatibility challenges, and whether there may be more suitable zoning/uses for the Land that align more closely with section 12 of the PE Act and Clause 13 of the VPPs
- vi. whether, and the degree to which, the proximity of the proposed Suburban Rail Loop (SRL) tunnelling works to the south of the Land could potentially exacerbate landfill gas migration, contamination spread or ground stability issues, and whether these tunnelling activities might influence the effectiveness of the proposed mitigation measures and governance strategies.

The PPSAC's consideration should be confined to these matters only.

Method

The PPSAC should conduct its proceedings in accordance with the Priority Projects Standing Advisory Committee Terms of Reference and may seek the views of relevant referral authorities, responsible authorities or government agencies in accordance with Clause 12 of those Terms of Reference.

For this matter, this may include:

- Kingston City Council
- Environment Protection Authority Victoria
- Department of Transport and Planning
- Suburban Rail Loop Authority.

Public consultation will be not undertaken as part of this referral.

Process and documentation

The draft amendment documentation and all supporting material will be provided to the Committee by DTP. The costs of the Committee process will be met by the proponent.

If you would like to discuss this matter further, please contact Adam Henson, Director, Planning Facilitation, State Planning Assessment and Facilitation, Department of Transport and Planning, at adam.henson@transport.vic.gov.au.

Yours sincerely



Bruce Abernethy
Executive Director State Planning Assessment and Facilitation
For and on behalf of the Minister for Planning
Department of Transport and Planning

Date: 29/1/2026

Appendix B Document list

No.	Date	Description	Provided by
Referred documents			
1	29 Jan 2026	Draft planning scheme amendment ordinance: a) Draft DPO Schedule b) Draft GRZ Schedule	Minister for Planning
2	29 Jan 2026	Background reports and plans: a) Acoustic modelling – industrial noise prediction (Acoustic Logic, 22 July 2022) b) Environmental audit report (ERM, 9 September 2022) c) Traffic memorandum (Traffix, 8 April 2024) d) Concept masterplan (Genton, 9 April 2024) e) Draft environmental management strategy (Prensa, February 2025) f) Draft geotechnical development strategy (WSP, 28 February 2025) g) Preliminary amenity screening assessment (WSP, May 2025) h) Acoustic advice (Acoustic Logic, 13 May 2025) i) Provisional Plan of Subdivision PS931629G – Owners Corporation (Hellier McFarland) j) Provisional Plan of Subdivision PS931629G – Overlay (Hellier McFarland)	Minister for Planning
3	29 Jan 2026	Cover letter from Proponent to Minister for Planning (19 May 2025)	Minister for Planning
4	29 Jan 2026	Submission to Development Facilitation (Contour, May 2025)	Minister for Planning
5	29 Jan 2026	Letter from Council to Proponent regarding environmental audit (28 December 2022)	Minister for Planning
6	29 Jan 2026	EPA Ministerial Direction 19 response (EPA Victoria, 16 February 2024)	Minister for Planning
Tabled documents			
7	9 Sep 2023	Priority Projects SAC Terms of Reference (Version 2)	Minister for Planning
8	29 Jan 2026	Letter of Referral	Minister for Planning
9	9 Feb 2026	Directions Hearing notification letter	Planning Panels Victoria (PPV)

No.	Date	Description	Provided by
10	17 Feb 2026	Letter regarding procedural matters	City of Kingston (Council)
11	19 Feb 2026	Letter regarding hearing dates	Leaf Corporation Pty Ltd (Proponent)
12	24 Feb 2026	Committee letter regarding hearing dates and format	PPV
13	25 Feb 2026	Response to Committee questions regarding referred documentation	DTP Planning Facilitation
14	27 Feb 2026	Request to be heard form including outline of preliminary views	Suburban Rail Loop Authority (SRLA)
15	2 Mar 2026	Outline of preliminary views	Proponent
16	2 Mar 2026	Outline of preliminary views, with attachment: a) List of reports requested, as referenced in environmental audit report	Council
17	2 Mar 2026	Outline of preliminary views	Environment Protection Authority Victoria (EPA)
18	2 Mar 2026	Pre-Directions Hearing letter	PPV
19	2 Mar 2026	Letter to Planning Facilitation	Melbourne Water
20	5 Mar 2026	Directions and Hearing Timetable (version 1)	PPV
21	5 Mar 2026	Comments on road and public transport matters	Head, Transport for Victoria
22	16 Mar 2026	EPA documents requested: a) Auditor Verification Report 2025, Tonkin & Taylor b) Aftercare Management Plan 2020, Golder Associates c) Aftercare Management Plan 2025, Prensa d) Environmental Action Notice 00004367 e) Environmental Action Notice 00008997 f) Landfill Gas Monitoring Annual Report 2023, WSP g) Landfill Gas Monitoring Annual Report, 2024, Prensa h) Post Closure Pollution Abatement Notice	EPA
23	16 Mar 2026	List of reports referenced in the Environmental Audit Report	Proponent

No.	Date	Description	Provided by
24	16 Mar 2026	Reports referenced in Environmental Audit 8006664 (Sep 2022) a) Amcosh Pty Ltd, 2018, Clearance Certificate, Lots 1 & 2 Ball Road Heatherton Vic, 23 January 2018 b) Atma Environmental, 2013, Ground Gas Investigation - Lots 1 & 2 Ball Road Heatherton, 7 March 2013 c) Atma Environmental, 2014a, Further Ground Gas Investigation - Lots 1 & 2 Ball Road Heatherton, 29 January 2014 d) Atma Environmental, 2014b, Ground Gas Investigation - Lots 1 & 2 Ball Road Heatherton, 3 September 2014 e) Atma Environmental, 2014c, Methane Survey - Lots 1 & 2 Ball Road, Heatherton Victoria (Surrounding Subsurface infrastructure & Onsite Perimeter), 24 September 2014 f) Atma Environmental, 2015a, Interim report on environmental works Lots 1 & 2 Ball Road Heatherton, 5 May 2015 g) Atma Environmental, 2015b, Offsite Investigations and Qualitative Landfill Gas Risk Assessment - Lots 1 & 2 Ball Road Heatherton, 29 May 2015 h) ERM, 2015a, Draft Landfill Gas Management - Ball Road, Heatherton Report required under Minor Works plan, 2 June 2015 i) ERM, 2015b, Landfill Gas Monitoring and Risk Assessment at the Former Brighton Landfill and Surrounding Areas, 15 June 2015 j) ERM, 2015c, Planning and Environmental Due Diligence Assessment, Former Landfill Ball Road Heatherton, August 2015 k) ERM, 2015d, Landfill gas bore installation, monitoring and reporting - Former Brighton Landfill, 13 November 2015 l) ERM, 2020, Auditor Technical Review Report, Former Ball Road Landfill, Lots 1 & 2, 16 Ball Road, Heatherton, Vic, June 2020 m) GHD Pty Ltd, 2015, Transpacific Waste Management, Operational Landfill Audit Report, Henry Street Landfill, (CARMS 64784-7, S/O No. 8002717) dated June 2015 n) GHD Pty Ltd, 2018, Cleanaway Solid Waste Pty Ltd, Henry Street Landfill s53V Audit 2018 –	Proponent

No.	Date	Description	Provided by
		Aftercare Management, CARMS 64784-16, June 2018	
		o) Golder, 1984, Preliminary Geotechnical Assessment for Proposed Brighton Grammar School Sporting Complex, Ball Road, Heatherton, July 1984	
		p) Golder, 2003, Environmental Management Plan, Brighton Grammar School Ball Road Site Heatherton, Victoria, March 2003	
		q) Golder, 2004, Geotechnical Investigation Ball Road Heatherton, 24 March 2004	
		r) Golder, 2017a, Former Brighton Landfill Aftercare Management Plan, Lots 1 & 2, 16 Ball Road Heatherton, 24 July 2017	
		s) Golder, 2017b, Environmental Site Assessment and Conceptual Site Model, July 2017	
		t) Golder, 2018, Works undertaken in compliance with the EPA Inspection report (No. 80014845) for the Former Brighton Landfill, Heatherton, February 2018	
		u) Golder, 2018a, Former Brighton Landfill Aftercare Management Plan, Lots 1 & 2, 16 Ball Road Heatherton, December 2018, revision 2	
		v) Golder, 2019a, Financial assurance calculation, Lots 1 & 2, 16 Ball Road Heatherton – Former Brighton Landfill, 4 April 2019	
		w) Golder, 2019a, Stormwater Management Plan, Lots 1 & 2 Ball Road Heatherton, 24 April 2019	
		x) Golder, 2019b, Update of Landfill Gas Assessment and Conceptual Site Model, Former Brighton Landfill - Lots 1 & Lot 2 Ball Road Heatherton, 5 July 2019	
		y) Golder, 2019c, Groundwater Monitoring Event - December 2018, Former Brighton Landfill, Heatherton Victoria, 26 June 2019	
		z) Golder, 2019d, Preliminary Land use constraints and Options assessment, Former Brighton Landfill, Heatherton, 18 July 2019	
		aa) Golder, 2020, Contamination and Geotechnical Summary Information and Preliminary Strategy for Development, May 2020	
		bb) Golder, 2020a, Due Diligence - Near Surface Materials Investigation, Lots 1 & 2, 16 Ball Road, Heatherton, 25 March 2020	

No.	Date	Description	Provided by
		cc) Golder, 2020b, Summary of Contamination and Geotechnical Strategy Associated with Residential Development, 29 April 2020	
		dd) Golder, 2020c, Contamination and Geotechnical Summary Information and Preliminary Strategy for Development, Lots 1 & 2 Ball Road Heatherton, 14 May 2020	
		ee) Golder, 2020d, Groundwater PFAS Investigation Results, Lots 1 & 2, 16 Ball Road, Heatherton, 22 June 2020	
		ff) Golder, 2020e, Additional 2020 Groundwater Assessment – Lots 1 & 2, 16 Ball Road, Heatherton, 24 September 2020	
		gg) Golder, 2020f, Former Brighton Landfill – Aftercare Management Plan, 26 May 2020	
		hh) Golder, 2021, Work Plan for Detailed Site Investigation – Lots 1 & 2, 16 Ball Road, Heatherton, January 2021	
		ii) Golder, 2022, Detailed Site Investigation, Lots 1 & 2, 16 Ball Road, Heatherton, 27 June 2022	
		jj) Golder, 2022a, Groundwater Clean Up to the Extent Practicable, Lots 1 & 2, 16 Ball Road, Heatherton, 23 June 2022	
		kk) Golder, 2022b, Vapour and Landfill Gas Risk Assessment, Lots 1 & 2, 16 Ball Road, Heatherton, 23 June 2022	
		ll) Golder, 2022c, Design and Construction Management Plan (Civil Works), Lots 1 & 2, 16 Ball Road, Heatherton, 5 August 2022	
		mm) Golder, 2022d, Design and Construction Management Plan (Building), Lots 1 & 2, 16 Ball Road, Heatherton, 6 June 2022	
		nn) Golder, 2022e, Post Development Site Management Plan, Lots 1 & 2, 16 Ball Road, Heatherton, 6 June 2022	
		oo) Golder, 2022f, Geotechnical Assessment of Landfill Cover Soils, Lots 1 & 2, 16 Ball Road, Heatherton, 12 May 2022	
		pp) Golder, 2022g, Work Plan for Additional Landfill Gas Investigation, Lots 1 & 2, 16 Ball Road, Heatherton, 24 February 2022	
		qq) SKM, 2012a, Draft Site History and Landfill Gas Walkover Survey, Lots 1 & 2, Ball Road Heatherton, July 2012	

No.	Date	Description	Provided by
		rr) SKM, 2012b, Environmental Site Assessment (ESA) - Lots 1 & 2 Ball Road, Heatherton, December 2012 ss) Tonkin & Taylor, 2017a, Auditor Verification Report, Environmental Monitoring Program, Former Landfill, 16 Ball Road Heatherton, July 2017 tt) Tonkin & Taylor, 2017b, Approach to Aftercare Management of the Closed Landfill, 16 Ball Road Heatherton, 15 December 2017	
25	16 Mar 2026	Documents referenced in Draft Environmental Management Strategy (Feb 2025) a) Prensa, 2025, Draft Environmental Management Strategy, Lots 1 & 2 Ball Road Heatherton, February 2025 b) Environmental Action Notice EAN-00004367, (EPA 2023) c) EPA, 2024, Response to draft planning scheme amendment, February 2024	Proponent
26	16 Mar 2026	Document referenced in Draft Geotechnical Development Strategy (Feb 2025): WSP, 2025, Draft Geotechnical Development Strategy, Lots 1 & 2, 16 Ball Road, Heatherton, 28 February 2025	Proponent
27	26 Mar 2026	Response to Direction 5	Suburban Rail Loop Authority (SRLA)
28	21 Apr 2026	Hearing Timetable (version 2)	PPV
29	22 Apr 2026	a) Letter to PPSAC b) Updated draft DPO Schedule c) Proposed application requirements in GRZ Schedule	Proponent
30	24 Apr 2026	a) Covering email – update to filing of document referenced in the Environmental Audit Report b) Ball Road Concept Bulk Earthworks Civil Drawings 19238C (Rev C) - Dalton Consulting Engineers	Proponent
31	27 Apr 2026	Background and Context Submission	Proponent

No.	Date	Description	Provided by
32	1 May 2026	Reports referenced in Table 3.1 of the Draft Geotechnical Development Strategy prepared by WSP dated 28 February 2025: a) Preliminary geotechnical assessment of surface surcharge trial - Lots 1 & 2, 16 Ball Road, Heatherton (Golder, 11 Aug 2021) b) Surface surcharge trial update - Lots 1 & 2, 16 Ball Road, Heatherton (WSP, 23 Jan 2025) c) Preliminary geotechnical investigation – Lots 1 & 2, Ball Road, Heatherton (Golder, 24 March 2020) – <i>filed on 4 May 2026</i>	Proponent
33	4 May 2026	Expert Witness Statement of Ken Mival (environmental)	Council
34	4 May 2026	Expert Witness Statement of Darren Tardio (acoustics)	Proponent
35	4 May 2026	Expert Witness Statement of Ian Kluckow (environmental)	Proponent
36	4 May 2026	Expert Witness Statement of Stuart Colls (geotechnical)	Proponent
37	4 May 2026	Expert Witness Statement of Jason Walsh (traffic)	Proponent
38	5 May 2026	Expert Witness Statement of Chas Shinkfield (civil engineering)	Council
39	5 May 2026	Expert Witness Statement of Iain Cowan (environmental amenity)	Proponent
40	7 May 2026	Expert Witness Statement of Craig Johnson (geotechnical)	Council
41	11 May 2026	Expert Witness Statement of Andrew Clarke (planning)	Proponent
42	11 May 2026	Expert Witness Statement of Mark Woodland (planning)	Proponent
43	13 May 2026	Expert Witness Statement of John Glossop (planning)	Council
44	15 May 2026	Site inspection information: a) Site plan b) Map	Proponent
45	21 May 2026	Hearing Timetable (version 3)	PPV
46	22 May 2026	Opening Submissions	Proponent
47	22 May 2026	Joint Expert Report - Environmental	Proponent
48	22 May 2026	Joint Expert Report - Geotechnical	Proponent
49	22 May 2026	Opening Submissions	Council
50	24 May 2026	Site Inspection Map Book	Proponent
51	26 May 2026	Opening Comments	DTP Planning Facilitation

No.	Date	Description	Provided by
52	26 May 2026	Hearing Timetable (version 4)	PPV
53	27 May 2026	Manningham Planning Scheme – Schedule 5 to Clause 43.04 (Development Plan Overlay)	EPA
54	28 May 2026	Acoustic Memo (Acoustic Logic, 28 May 2026)	Proponent
55	28 May 2026	Site Concept Plan (Genton)	Proponent
56	29 May 2026	Presentation of Mark Woodland (planning)	Proponent
57	29 May 2026	Schedule to the Development Plan Overlay (with tracked changes)	Proponent
58	29 May 2026	EPA preferred Schedule to the Development Plan Overlay	EPA
59	29 May 2026	Submissions	SRLA
60	29 May 2026	Submissions	EPA
61	30 May 2026	Main submissions, with attachments: a) Priority Projects Standing Advisory Committee Referral 51 [2025] PPV b) Priority Projects Standing Advisory Committee Referral 41 [2023] PPV c) Planning Practice Note 30 – Potentially Contaminated Land (July 2021) d) Guidelines for conducting environmental audits (EPA Victoria, September 2023) e) Schedule 39 to Clause 43.04 Development Plan Overlay (Epping Renewal Site, Whittlesea Planning Scheme) f) Ministerial Direction No. 1 – Potentially Contaminated Land g) Site Masterplan Levels and Site Sections (Genton) h) Certificates of Title and Agreements for 98-116 Cavanagh Street, Cheltenham	Proponent
62	1 June 2026	Landfill Licensing Guidelines (EPA Publication 1323.3, September 2016)	Proponent
63	1 June 2026	Main Submission	Council
64	1 June 2026	Additional Site Masterplan Levels and Site Section through reserve (Genton)	Proponent
65	2 June 2026	Attachment to Main Submission (d63) – Comparison table of Talbot Village and Ball Road	Council
66	2 June 2026	Primary submission presentation	SRLA

No.	Date	Description	Provided by
67	2 June 2026	Email correspondence regarding public document request, including: a) Initial request for documents from Ms Hornstein and response from the Committee b) Views of the Department of Transport and Planning	PPV
68	2 June 2026	Part D – Reply submission with attachment: a) Reply DPO Schedule	Proponent
69	2 June 2026	Documents referred to during verbal submissions: a) PPSAC Referral 41 – Letter of Referral b) Talbot Village Development Plan (Volume 1) c) Councillor Notice: <i>Update on proposed rezoning of former Ball Road landfill site for housing</i> (City of Kingston)	Council
70	3 June 2026	Committee Directions	PPV
71	10 June 2026	Preferred DPO Schedule (with tracked changes)	EPA
72	10 June 2026	Further advice from Ian Kluckow of Prensa	Proponent
73	10 June 2026	Further advice from Stuart Colls of WSP	Proponent
74	10 June 2026	Example photographs of gas interception barrier in Epping	Proponent
75	12 June 2026	Cover email outlining changes to DPO Schedule with attachment: a) Preferred DPO Schedule (with tracked changes)	SRLA
76	12 June 2026	Letter to Committee outlining drafting comments with attachment: a) Preferred DPO Schedule (with tracked changes)	Council
77	16 June 2026	Letter to Committee with attachments: a) DPO Schedule with response to EPA and Council drafting comments b) Final DPO Schedule	Proponent

Appendix C Committee-preferred DPO

XX/0X/XXX
X
CXXXXXXX

SCHEDULE [NUMBER] TO CLAUSE 43.04 DEVELOPMENT PLAN OVERLAY

Shown on the planning scheme map as DPO [number].

BALL ROAD, HEATHERTON

1.0 Objectives

XX/0X/XXX
CXXXXXXX

To facilitate the orderly development of the site for residential purposes.

To contribute to housing diversity within the area by providing new housing, including the provision of affordable housing.

To achieve a built form outcome that demonstrates a high-quality architectural response, implements innovative environmentally sustainable design features and provides a high level of amenity for future residents.

To ensure risks of harm to human health and the environment from the former landfill, including contaminated land and landfill gas, are managed, consistent with the requirements of any environmental audit for the land.

To ensure that the use and development of the site is compatible with nearby land uses.

2.0 Requirement before a permit is granted

XX/0X/XXX
CXXXXXXX

A permit may be granted to use ~~or subdivide land~~, construct a building or construct or carry out works before a development plan has been prepared to the satisfaction of the responsible authority, provided the responsible authority is satisfied that the subdivision, use, buildings or works will not prejudice the preparation of a development plan and future integrated use and development of the land.

A permit may be granted to use ~~or subdivide land~~, construct a building or construct or carry out works, before a development plan has been prepared to the satisfaction of the responsible authority for the following:

- Buildings and works associated with landfill rehabilitation in accordance with the Statement of Environmental Audit issued for the site under the *Environment Protection Act 1970* or any Environmental audit statement issued for the site under the *Environment Protection Act 2017*, provided the works are carried out in accordance with the Statement of Environmental Audit or Environmental audit statement.
- Any stockpiling or backfilling works, including drainage, rehabilitation and remediation works, provided the works are carried out in accordance with the Statement of Environmental Audit.
- Any geotechnical or ground improvement works that are required by a geotechnical or civil engineer.
- Stormwater management works.
- Works (including earthworks) for the purposes of geotechnical investigations.
- Works for the purposes of a minor utility installation or any other service infrastructure works.
- Temporary land uses and buildings and works.
- Any works connected to site management.
- Signage.
- Removal of vegetation.
- Consolidation of land.
- Removal or creation of easements or restrictions.

The land may be developed in stages.

A permit for subdivision must not be granted until the capping earthworks have been verified in accordance with condition 11 of the Statement of Environmental Audit, other than a permit to subdivide the land into two lots generally along the alignment of the former Ball Road reserve.

3.0 Conditions and requirements for permits

XX/0X/XXXX
CXXXXXXX

Contamination management

A permit for the subdivision, use or development of land must ensure that any **residual** contamination of the land is managed through:

- Ensuring the permit aligns with the list of suitable land uses on any Statement of Environmental Audit issued under part IXD of the *Environment Protection Act 1970* or any Environmental audit statement issued under the *Environment Protection Act 2017*.
- Ensuring the conditions on land use and development, as specified in any Statement of Environmental Audit issued under the *Environment Protection Act 1970* or recommendations as specified in any Environmental audit statement issued under the *Environment Protection Act 2017*, where relevant to the proposed permit, are translated into a condition on that permit.
- Ensuring that a suitably qualified consultant certifies the implementation of management or monitoring of the land pursuant to any Statement of Environmental Audit issued the *Environment Protection Act 1970* or any Environmental audit statement issued under the *Environment Protection Act 2017*.

Affordable housing

A planning permit for residential development (or relevant stages of the development) must include conditions requiring an Affordable Housing Contribution, as follows:

Before the use or development of the land begins, excluding demolition, excavation, piling, site preparation works, and works to manage contaminated land, the owner of the land must enter into an agreement with the responsible authority under section 173 of the Act, in a form to the satisfaction of the responsible authority, that provides for a contribution towards affordable housing (affordable housing contribution) by way of either of the following options:

- At least 10 per cent of the total number of dwellings in the development must be provided as affordable housing for sale or lease to a registered housing agency or to Homes Victoria. The details of when and how the affordable housing will be delivered and the total value of the affordable housing contribution must be set out in the agreement. The affordable housing dwellings provided should be representative of the approved dwelling mix to the satisfaction of the responsible authority.
- An alternative contribution towards the provision of affordable housing must be provided to the satisfaction of the responsible authority. The details of when and how the alternative contribution is to be made and the total value of the affordable housing contribution must be set out in the agreement to the satisfaction of the responsible authority.

The landowner must pay the responsible authority's reasonable costs of the preparation, execution, registration and ending of the section 173 agreement (where applicable).

Noise management

A planning permit for use or development of land for sensitive land uses (residential use, childcare centre, school, education centre, residential aged care centre or hospital) must include a condition(s) requiring any applicable noise mitigation measures prescribed in the Development Plan.

Community infrastructure

A planning permit for subdivision must include a condition requiring the owner of the land to enter into a section 173 agreement to provide any community infrastructure contributions specified in the Development Plan to the Council and/or for equivalent works in kind to be agreed with the responsible authority.

Noise and vibration management – earthworks and piling

A planning permit which allows earthworks or piling must include a condition requiring a Noise and Vibration Management Plan (NVMP), prepared by a suitably qualified acoustic expert, that includes consideration of, as relevant:

- Information and management principles from EPA Publication 1834: Civil construction building and demolition guide (as amended from time to time) that will be adhered to.
- Identification of sensitive receivers.
- Recommended noise and vibration thresholds based on reasonable standards (such as the Transport for NSW Construction Noise & Vibration Guideline) that require additional management protocols to be implemented.
- A risk-based analysis that assesses plant noise and vibration impacts upon off-site sensitive receptors.
- Methods for controlling and minimising noise and vibration at the source and consideration of any other techniques for minimising impacts of emissions on sensitive receivers where reasonable and practicable.
- Methods for controlling and minimising cumulative effects of construction noise and vibration with other major construction sites impacting the same sensitive receivers.
- Details of monitoring noise and vibration emissions during works where risk assessment indicates the likelihood of thresholds being exceeded.
- A timetable of designated working hours highlighting what noise and vibration sensitive tasks can be undertaken.
- A procedure for notification of the community before and during construction.
- A complaints management procedure.

Open space

A planning permit to subdivide the land must include a condition requiring a section 173 agreement on owner's corporation land to secure the provision and retention of publicly accessible open space on the land, if any.

Construction requirement

A planning permit to subdivide or develop the site must include a condition requiring a section 173 agreement to require construction of buildings by a single builder.

Post Development Site Management Plan

A planning permit to subdivide the site must include a condition requiring a section 173 agreement to implement the conditions of the Statement of Environmental Audit relating to occupation of the developed site, including:

- a requirement for the Post Development Site Management Plan (Appendix P to the Audit) to be updated and verified by an environmental auditor prior to the adoption of the plan pursuant to condition 20 of the Statement; and
- any implementation of the Construction Gas and Groundwater Management Plan required post-development.

4.0 Requirements for development plan

XX/0X/XXXX
CXXXXXXX

A development plan must include the following, as appropriate:

An **Existing Conditions Plan** showing:

- The land to which the development plan applies.
- Orientation, boundaries, dimensions of the site and any easements.
- Contours and levels. All levels must be provided to Australian Height Datum (AHD).
- Any existing vegetation.
- Location of existing monitoring wells.
- Surrounding land uses and development.

A **Site Analysis and Design Response** including consideration of:

- The proposed development.
- Vegetation to be retained.
- Vehicle and pedestrian links.
- A landscape site analysis and design response.
- Environmental management and monitoring requirements as set out in any Statement of Environmental Audit issued under the *Environment Protection Act 1970* or Environmental audit statement issued under the *Environment Protection Act 2017* in relation to the land.

A **Site Master Plan** detailing design philosophy and a framework for development across the site, including:

- The urban structure, including development areas, open spaces and an internal road network generally in accordance with the Concept Plan at Figure 1.
- Indicative levels and sections across the site, including sections at the boundaries with adjoining properties.
- Orientation, overshadowing and overlooking.
- Any linkages, including vehicle and pedestrian linkages, from the site to surrounding areas, if relevant.
- Contemplated staging of development, if any.

A **Landscape Masterplan** which includes the following:

- An overall masterplan, including site landscaping strategy and hierarchy of open spaces.
- Areas to be set aside for landscaping.
- A local reserve, including indicative areas and dimensions.
- A retarding basin reserve, including indicative areas and dimensions.
- A planting concept (including sections) for the internal road network and pedestrian connections, including the Ball Road entrance to the site.
- A planting concept for the site boundaries.
- A planting concept for front setbacks to dwellings.
- A WSUD strategy including notional location of underground stormwater pipes, swales and detention / storage areas.
- A street tree master plan.
- Details of how the landscape masterplan responds to the requirements to manage or monitor contaminated land.
- Details of any temporary or interim landscaping works to be carried out on undeveloped parts of the land if development is to be undertaken in stages.

An **Integrated Transport and Access Plan** which addresses the following:

- Predicted traffic generation and identification of likely traffic impacts on adjacent roads.
- Movement networks within the site for vehicles, bicycles and pedestrians.
- Service access areas.
- Parking provision.

A **Pedestrian Network Strategy** which addresses the following:

- Linkages across the site.
- Consideration of safety and surveillance.
- Public safety plan for pedestrian connections.

An **Environmentally Sustainable Design Plan** that provides overall objectives for:

- Energy performance.
- Water resources.
- Indoor environment quality.
- Stormwater management.
- Transport.
- Waste management.
- Urban ecology considerations.

A **Waste Management Plan** that details waste management objectives for the site.

A **Community Infrastructure Report** that:

- Provides an analysis of existing community and recreation infrastructure in the surrounding area.
- Provides an assessment of new community and recreation infrastructure required to support the new community.
- Specifies the community infrastructure contributions required to be made by the development.

A **Servicing and Infrastructure Plan** that:

- Identifies the location of existing infrastructure and services, including their capacity.
- Provides an assessment of any future infrastructure and services upgrades required to support the proposed future development of the site.
- Includes a staging plan for the delivery of site infrastructure, including road connections and mechanisms for how staging is intended to occur and milestones for completion.

A **Stormwater Management Strategy** that:

- Details the catchment area, drainage outfall locations, existing drainage infrastructure, new drainage works, and details of flow levels and flood levels for the 100-Year Average Recurrence Interval storm event as a result of development.
- Incorporates Water Sensitive Urban Design principles.

An updated **Environmental Management Strategy** (generally in accordance with the Environmental Management Strategy prepared by Prensa dated February 2025) for the whole site that:

- Summarises key information in relation to the environmental management of the site, including the history of the use of the site and its environmental assessment and the Environmental Audit of the site.

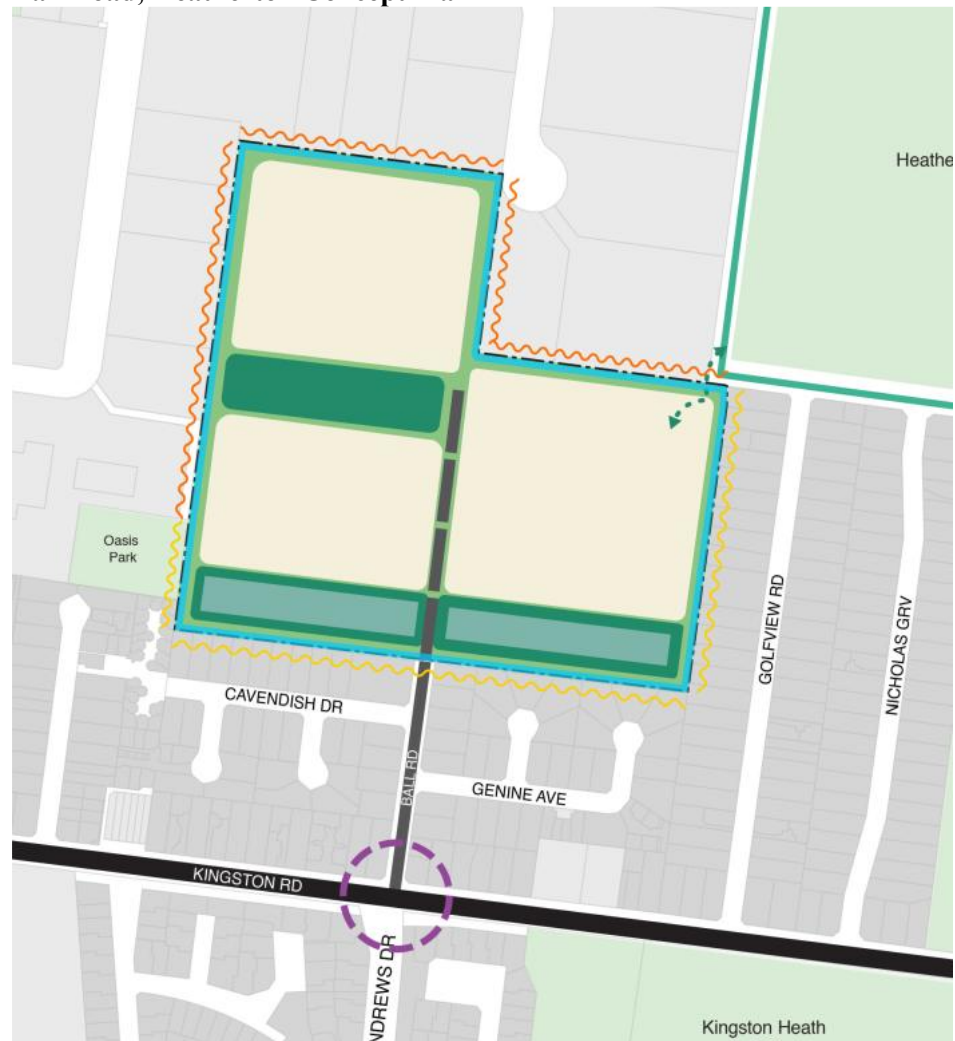
- Identifies how the conditions of the Statement of Environmental Audit applying to the site have been or will be implemented, including:
 - before the development of the site for urban purposes;
 - during the development of the site for urban purposes; and
 - during the occupation and use of the site for urban purposes.
- Identifies the matters for which auditor verification is required and the timing of verification for each matter.
- Identifies the environmental management plans and other documents to be prepared or updated and the timing of preparation or verification for each plan or document.
- Includes a requirement for preparation of an odour risk assessment and a waste excavation management plan (including without limitation to address odour and fire risk associated with waste excavation) prior to excavation and placement of waste.
- Includes a requirement for preparation of a construction environmental management plan prior to commencement of development. Separate construction environmental management plans may be provided for civil works and construction works.
- Identifies any current notices under the *Environment Protection Act 2017* that apply to the site and the intended approach to ongoing compliance with those notices.
- Confirms the prohibition on basements and cellars on-site, other than semi-recessed basements or cellars that meet the requirements of the Statement of Environmental Audit.
- Identifies how environmental and geotechnical works will be staged and coordinated across the site.
- Includes verification by the environmental auditor of the updated Environmental Management Strategy.

An updated **Geotechnical Development Strategy** (generally in accordance with the Geotechnical Development Strategy prepared by WSP dated 28 February 2025) for the whole site that sets out geotechnical investigations undertaken of the site, the proposed geotechnical design solutions for future development of the site, the rationale for the proposed solutions and settlement criteria and how environmental and geotechnical works will be staged and coordinated across the site.

Noise management

A noise management plan prepared by an appropriately qualified acoustic consultant that prescribes measures necessary to ensure that sensitive land uses (residential use, child care centre, school, education centre, residential aged care centre or hospital) on the site are not unreasonably affected by noise emission from uses in the C2Z and the approved train stabling facility, including through the provision of acoustic fencing, building siting and/or design (including height, orientation and internal layout). The noise management plan must confirm how the site and dwelling lots will be developed to ensure that noise emissions from relevant noise sources (including cumulative noise) complies with the noise limits and assessment methodologies of the Environment Protection Regulations 2021 and EPA Publication 1826 (Noise Protocol).

Ball Road, Heatherton Concept Plan



- 2-3 Storey Medium-Density Development
- Open Space - Existing Parkland
- Open Space - Proposed
- Retarding Basin
- Residential - Existing
- Industrial / Mixed-use - Existing
- Indicative Area for Perimeter Environmental Measures
- Local Street Access
- Indicative Road
- Primary Existing Roads
- Shared Pedestrian / Cycle Path
- Connection to Shared Pedestrian / Cycle Path
- Residential / Sensitive Interface
- Industrial / Mixed-use Interface
- Signalised Intersection