

JBS&G 115,388

15 May 2018

Gabrielle Guthrie
Principal
Guthrie Legal
Work Club Level 2
287 Collins Street
Melbourne VIC 3000

Via email: gabrielle@guthrie-legal.com

**Expert Witness Report of Dr Lyndon Bell
Re: Monash Planning Scheme Amendment C129**

Dear Gabrielle,

1. Introduction

On 12 April 2018, I, Dr Lyndon Bell of JBS&G Australia Pty Ltd (JBS&G), Level 2, 155 Queen Street, Melbourne Victoria 3000, was requested by Guthrie Legal (GL) to prepare an Expert Witness Report in relation to Amendment C129 of the Monash Planning Scheme (the “Amendment”), for the City of Monash (Council) to rezone the land at 1221 -1249 Centre Road, Oakleigh South, Victoria (the “Site”) from Special Use Zone – Schedule 2 and General Residential Zone – Schedule 2 to Comprehensive Development Zone – Schedule 2 and to add an incorporated document to the planning scheme in the form of a comprehensive development plan. The amendment also proposes to change the boundary of the existing Environmental Audit Overlay (EAO) to incorporate the whole of the site within the EAO.

GL is acting on behalf of the Neighbours for Public Green Space, Oakleigh South, Inc. (the “Incorporated Group”), which is an incorporated association under Victorian law. The Incorporated Group is a local community group principally comprising residents of the Oakleigh South area.

I have been advised that the project proponent is Sterling Global and Norton Rose Fulbright (NRF) acts for the proponent. I have been further advised that the environmental consultant for the project is Coffey Environments, with geotechnical consultancy services being provided by Coffey Geotechnics. In addition, I have been advised that Mr Ken Mival of EHS Support, an Environmental Auditor, has been engaged for the site and that to date, no Environmental Audit has been issued.

2. Instructions

I have been requested by GL to prepare an Expert Witness Report (the “Report”) which addresses the following specific questions (see **Attachment A – Letter of Instruction**):

- i. the environmental risks and potential consequences of the proposed approach for environmental assessment and audit in this matter, including:
 1. any material differences between the proposed Environmental Site Assessment (ESA) and Site Environmental Strategy Plan (SESP) process and the environmental audit process typically undertaken;

2. my opinion on the proposed assessment and audit process given former sand quarry and landfill uses and any opinion on approaches to assessment and auditing of landfill sites, including as single dynamic systems, particularly where Volatile Organic Compounds (VOCs), landfill gas and leachates may be mobile in heterogeneous landfill;
 3. my opinion on waste types and risks associated with landfills of this age;
 4. whether or not there are any technical risks associated with the deployment of investigation, control or remediation measures in circumstances where assessment, audit and development of a site occurs in segments, zones or stages;
 5. my opinion on assessment, audit and development of this specific Site in segments, zones or stages;
 6. the potential planning impacts of assessment, audit and development of the site in stages;
 7. any opinion on comparisons with other sites; and
 8. any other relevant opinion on the proposal.
- ii. on-site and offsite landfill gas migration risk, including:
1. the effect on landfill gas migration of development the Site, particularly with regard to data collected to date (see section 4.3 and 4.4 of Mr Sinclair's expert report);
 2. the current Site Environmental Strategy Plan; and
 3. any other relevant opinion with regard to landfill gas.

In addition to the above, I have also been requested to appear at the public planning panel hearing for the purpose of presenting my expert opinion concerning these matters.

In the preparation of my Expert Witness Report, I confirm that I have read the Planning Panels Victoria (PPV's) -G2 – Guide to Expert Evidence, dated April 2015, which is included as **Attachment B** to this letter for completeness.

3. Responses to Requirements of PPV's Guide to Expert Evidence – April 2015

In preparing this Report, I provide the following responses to the requirements of PPV's Guide to Expert Evidence dated April 2015:

- **the name and address of the expert:**

Dr Lyndon Bell
Principal – Contaminated Land
JBS&G Australia Pty Ltd
Level 2, 155 Queen Street
Melbourne VIC 3000

- **the expert's qualifications and experience:**

- B.E. (Env. Eng.) (Hons 1), Ph.D., CEnvP (CL Specialist), MIEAust
- Experience Summary:
 - *Dr Lyndon Bell – Principal – Contaminated Land, Managing Principal - Victoria*

- *Dr Lyndon Bell is the Managing Principal – Contaminated Land in JBS&G’s Melbourne office. He provides technical and strategic direction and oversight of contaminated land assessment and remediation projects across Australia and also New Zealand.*
- *Lyndon has worked for nearly 20 years in the contaminated land and remediation fields across consulting, corporate and research roles. In addition to his contaminated land practice experience working across all aspects of the discipline from former and operational commercial/ industrial sites through to landfills across numerous settings and jurisdictions, Lyndon also has experience with corporate environmental management and environmental regulatory compliance risk management. Further, he has experience with the implementation of pragmatic and effective environmental practice and risk control within operations.*
- *Strategic commercial risk assessment and management, in addition to merger and acquisition environmental due diligence, are also some of Lyndon’s practice specialties.*
- **a statement identifying the expert's area of expertise to make the report:**
 - With respect to the matter being considered, the key experience areas in over 20 years of practice post completion of my undergraduate studies includes the following specific technical fields:
 - **Landfills:** Environmental assessment and Environmental Audit technical support of the potential risks to beneficial uses of groundwater, surface waters and land, including consideration landfill gas, associated with putrescible, solid inert and prescribed industrial waste landfills;
 - **Environmental Audit Support:** Providing technical support to Environmental Auditors (Contaminated Land) in relation to landfills, including former quarries; commercial/ light industrial property redevelopment; chemical manufacturing; and oil and gas facilities (from retail distribution, fuel depots up to terminal scale), amongst others, in most jurisdictions in Australia; and
 - **Extractive Industries:** Project experience with quarries, process waste/ slimes management and water management across sands and gravels facilities, in addition to project experience of landfilled former extractive industry locations from hard rock quarries through to clay pits.
- **a statement identifying any other significant contributors to the report and where necessary outlining their expertise:**
 - Technical input to the formulation of my opinion on the matters considered in this report was received from my JBS&G colleague Dr Sim Ooi – Principal – Risk Assessment and Toxicology. A summary of Dr Ooi’s experience is below for reference purposes:
 - *Dr Sim Ooi -Principal – Risk Assessment and Toxicology*
 - *Dr Sim Ooi is a toxicologist with 30 years of experience and over 15 years of that in managing and assessing health and environmental risks associated with chemical exposures at workplace, contaminated sites and industrial facilities for public and private sector clients in Australia, New Zealand and Southeast Asia.*
 - *Risk specialist with extensive experience in health and environmental risk assessment, the application of risk-based approaches to assessment and the management of contaminated lands and waters, chemical toxicity assessment, chemical fate and transport modelling (involving all media: soil, water and air),*

vapour intrusion risk assessment, risk management, regulatory compliance and project management.

- *Undertaken and reviewed multi-pathway exposure and risk assessments for wastewater discharge, air emissions from industrial facilities and chemical contaminants at major developments that require environmental audit or remediation.*
- **all instructions that define the scope of the report (original and supplementary and whether in writing or oral)**
 - I have been engaged by GL on behalf of the Incorporated Group to prepare this Expert Witness Report in order to convey my opinion on specific questions relating to this matter as presented in **Section 2**. A copy of the letter of instruction I received from GL is included in **Attachment A** to this report; and
 - In preparing this Expert Witness Report, I have been directed by GL to consider various documents, as listed in **Section 4**.

4. Documents Considered

In preparing this Expert Witness Report, as per my letter of instruction from GL (see **Attachment A**), I have been directed by GL to consider the following:

- Relevant documents in relation to the proceeding available for review and download from the Monash City Council website: <https://www.monash.vic.gov.au/Building-and-Planning/Strategic-Planning/Planning-Scheme/Amendments/Amendment-C129-Centre-Road-Oakleigh-South> (last accessed 14 May 2018)
- Specifically the relevant expert reports that have been submitted in the proceeding:
 - The expert witness report of Ian Pedler of Coffey (<https://www.monash.vic.gov.au/files/assets/public/building-andplanning/monash-planning-scheme/amendment-c129/panelhearing/evidence-statement-of-ian-pedler-monash-planning-schemeamendment-c129.pdf>)
 - The expert witness report of Phil Sinclair of Coffey (<https://www.monash.vic.gov.au/files/assets/public/building-andplanning/monash-planning-scheme/amendment-c129/panelhearing/evidence-statement-of-phil-sinclair-monash-planning-schemeamendment-c129.pdf>);
 - Expert witness statement of Kenneth Mival of EHS Support (<https://www.monash.vic.gov.au/files/assets/public/building-andplanning/monash-planning-scheme/amendment-c129/panel-hearing/26.-k-mival-expert-witness-statement-5-october-2017.pdf>).
- Other relevant documents in this matter, including:
 - A letter from Norton Rose Fulbright dated 1 September 2017 which defines the ESA and SESP and provides a Remediation Options Report as an annexure to the letter (<https://www.monash.vic.gov.au/files/assets/public/building-andplanning/monash-planning-scheme/amendment-c129/panelhearing/23.-nrf-response-panel-directions-of-17-august-2017.pdf>)
 - A letter from Coffey dated 29 October 2017 providing opinion on the Remediation Options Report (<https://www.monash.vic.gov.au/files/assets/public/building->

ampplanning/monash-planning-scheme/amendment-c129/panelhearing/45.-letter-on-remediation-options-analysis.pdf);

- Document 8 – EPA Panel Submission (<https://www.monash.vic.gov.au/files/assets/public/building-ampplanning/monash-planning-scheme/amendment-c129/panelhearing/8.-epa-panel-submission.pdf>)
- Document 16 submission on behalf of Mr Valente; (<https://www.monash.vic.gov.au/files/assets/public/building-ampplanning/monash-planning-scheme/amendment-c129/panelhearing/16.-submission-on-behalf-of-a-valente-with-attachments.pdf>)
- Document 25 – Additional information from EPA in relation to EPA’s records at the site (<https://www.monash.vic.gov.au/files/assets/public/building-ampplanning/monash-planning-scheme/amendment-c129/panelhearing/25.-additional-information-from-epa.pdf>)
- HLA-Envirosciences (2004). Environmental Site Assessment, Former Pioneer Quarry, Talbot Avenue, Oakleigh, VIC, dated 23 April 2004, prepared for Jandaro Pty Ltd by HLA-Envirosciences Pty Limited, ref. no. M4008202_RPT01_08apr04
- HLA-Envirosciences (2005). Environmental Site Assessment – Phase 3, Former Pioneer Quarry, Talbot Avenue, Oakleigh, VIC, dated 17 January 2005, prepared for Jandaro Pty Ltd by HLA-Envirosciences Pty Limited, ref. no. M4008202_RPT_03Dec04
- Coffey (2014). Fill Assessment in Zone 2 at 1221-1249 Centre Road, Oakleigh South, Victoria, dated 10 September 2014, prepared for Talbot Road Finance Pty Ltd by Coffey Environments Australia Pty Ltd
- Coffey (2015). Workplan for Supplementary Environmental Site Assessment, Huntingdate Estate: 1221-1249 Centre Road and 22 Talbot Avenue, Oakleigh South, Victoria, dated 12 August 2015, prepared for Talbot Road Finance Pty Ltd by Coffey Environments Australia Pty Ltd, ref. no. ENAUABTF00751AA_R06 Rev03

5. Summary of Opinion

Whilst further details are presented in **Section 6** of this document, a summary of my opinion is presented below:

- **Environmental Site Assessment (ESA) and Site Environmental Strategy Plan (ESEP) Approach Compared to Typical Environmental Audit Process**
 - The material differences in my opinion between the proposed process for this Site compared to a typical Environmental Audit process are as follows:
 - The proposed process whereby an ESA and a SESP is endorsed by an Environmental Auditor does not constitute a Statutory Environmental Audit that the subject Site is suitable for particular uses;
 - Given the proposed process is not a Statutory Environmental Audit, there is a potential that some portions of the site may not be found to be able to be redeveloped for the proposed uses as currently envisaged, as the Environment Audit is proposed to be completed at a later point; and
 - The segment, zone or portion comprising the subject of a Statutory Environmental Audit needs to be commensurate with the scale of the contaminant/ risks issues needing to be addressed at the subject Site. If the segment of the Audit is too small,

say lot size, then it may not be possible to adequately manage the risks for adjacent parts of the subject Site, nor off-site third parties (i.e. beyond the 1221-1249 Centre Road property).

- Whilst from a technical perspective, the outcomes of the proposed ESA and SESP process followed by the subsequent issuing of a Statement of Environmental Audit (SoEA) with Conditions for the Site, may be largely the same as a more typical Environment Audit process, this is dependent upon the following:
 - In the event that a series of Environmental Audits are undertaken across various stages of the proposed redevelopment:
 - that the Environmental Auditor considers not only the segment that is the subject of the particular Environmental Audit and also considers the broader Site and off-site receptors; and
 - the Audit is an of appropriate scale (i.e. an appropriate segment, zone or stage).
 - The Conditions of the issued SoEA are able to be implemented and maintained by a suitably responsible entity under the auspices of suitable, enforceable management documentation, such as, for example, a Site Environmental Management Plan (SEMP) and/ or a Groundwater Quality Management Plan (GQMP), with suitable ongoing, independent verification processes and that these plans are complied with. I consider in such a situation, that it is important that Council identifies and implements a suitable mechanism, such as enforceable guarantees by way of financial assurance, to ensure compliance with SoEA Conditions and hence the ongoing protection of human health and environmental receptors, both on-site and off-site.

- **Site Appreciation and Key Risks**

- From the documentation considered by me in the preparation of this report, I consider it quite likely that the site has been subject to extensive historical extractive uses, followed by a subsequent combination of partial filling with slimes, in addition to landfilling activities (i.e. emplacement of putrescible and solid inert waste) in Zone 1 and Zone 2¹. The documentation I considered in the preparation of this report also referred to minor filling activities in other parts of the site, such as solid inert waste within Zone 2;
- Considering the site holistically is important given the historical potentially contaminating activities undertaken at the site, including but not limited to landfilling and the need to consider in the context of contaminant sources, exposure pathways and receptors both on-site and off-site across various media (i.e. soil, groundwater, surface water and vapour phases). This is consistent with my interpretation of EPA's position as presented in its panel submission; and
- Considering whole of site issues is particularly important when considering the potential for off-site migration of contaminants which may present a potential risk to both human health and the environment.

¹ Of the documentation that I have reviewed, there has been identification of landfilling within the north western corner of Zone 2.

- **Managing Risks Associated with Landfills**
 - I consider that the key potential risks to human health and the environment² associated with landfilling at the Site (and typical of landfills in general) relate to:
 - direct exposure to deposited wastes (human health on-site); and
 - incidental exposure to LFGs and VOCs generated by deposited wastes (human health risks on-site and also off-site through lateral migration³, in addition to discharge of LFGs and VOCs to atmosphere, i.e. environmental risks) groundwater contamination through generation of landfill leachate through infiltration of rainwater/ surface water through deposited wastes.
 - With respect to LFG risk management controls discussed in Mr Sinclair’s report, I make the following comments:
 - the types of engineering controls proposed for on-site structures within Zone 1 and Zone 2, as illustrated in **Attachment E**, are consistent with my technical experience as to the kind of mechanisms/ approaches needed to ensure that potential exposure to LFG is appropriately managed such that the risks are low and acceptable both on-site and off-site. These zones have been identified as medium to higher risk portions of the Site;
 - the implementation and maintenance (including verification) of the proposed LFG engineering controls would be critical for the ongoing protection of receptors. In order to implement and maintain such engineering controls, a suitable buffer zone/ easement would need to be allowed for. I note that without suitable access, remedial actions would not necessarily be able to be implemented. In addition, consideration of landfill management guidance, such as but not limited to EPA Publication 788.3: Best Practice Environmental Management - Siting, Design, Operation and Rehabilitation of Landfills, dated August 2015, is recommended; and
 - as discussed above, an appropriate mechanism for the ongoing operation of the deployed engineering controls is a critical issue.
- **Technical Risks Associated with Non-Typical Environmental Audit Processes and the Importance of Environmental Audit Scale in Large/ Complex Sites**
 - Whilst it may be technically possible to develop the site in segments (zones/ stages), it would be better to address redevelopment holistically, or at the least such that each segment takes into account the overall Site setting and interaction of the subject segment on other segments, whilst also ensuring that the potential risks to off-site receptors beyond the 1221-1249 Centre Road property are low and acceptable.
- **Planning Implications**
 - I consider that the most certain approach to ensure that the Site is suitable for the proposed future uses would be provided through a Statutory Environmental Audit process. An alternative approach for a large/ complex site, such as subject Site, could be

² I acknowledge that there are other potential risks associated with landfills, such as geotechnical risks associated with differential settlement and impacting landfill engineered systems, such as capping layers etc, in addition to geotechnical risks to surface structures placed on-top of former landfills and risk control mechanisms such as lateral and vertical LFG management, amongst others.

³ These risks relate to exposure to LFG and VOCs within surface structures/ confined spaces – both in terms of exposure to gases/ chemicals that are harmful to humans (e.g. asphyxiation), in addition to risks associated with explosive atmospheres generated by accumulation of LFGs.

done through an ESA and SESP, verified by an Environmental Auditor and prepared to the satisfaction of Council. Such an approach would reduce uncertainty, however, until such time that a Statutory Environmental Audit is issued by an Environmental Auditor, commensurate with an appropriate scale, there would remain some uncertainty as to whether the proposed future uses of the Land (or parts thereof) can be realised, as currently envisaged.

6. Opinion

6.1 Environmental Site Assessment (ESA) and Site Environmental Strategy Plan (ESEP) Approach Compared to Typical Environmental Audit Process

In my experience, it is not typical to prepare an Environmental Site Assessment (ESA) and Site Environmental Strategy Plan (SESP), endorsed by an Environmental Auditor appointed pursuant to the Environment Protection Act 1970, prior to the subsequent preparation of an Environmental Audit(s) confirming that the Site is suitable for proposed more sensitive uses, such as is being contemplated in the Amendment.

Mr Phil Sinclair from Coffey Environments refers to precedents within Victoria of alternatives to the normal Environmental Audit process for large and more complex sites, such as the subject Site. From my review of the documentation listed in **Section 4**, I consider the 1221 -1249 Centre Road, Oakleigh South Site to be a large and more complex site. I am not aware, in my personal contaminated land practice experience, of a closely similar site to the subject Site.

Further, I note that of the examples listed by Mr Sinclair, which I understand are large and complex sites, to my knowledge, only the Cheltenham site was similar to the subject Site, with that facility understood to be a former sand quarry/ landfill (solid inert waste). Whilst I understand that the Cheltenham site was subject to only solid inert waste filling (i.e. soil, timber and building rubble), the subject Site however has been subject to a combination of different types of waste deposition, including but not limited to putrescible and solid inert wastes. I assume that the other two sites that are nominated by Mr Sinclair were cited primarily as they relate to the timing of the Environmental Audit and the Planning Amendment process, rather than their similarity necessarily to the Subject site.

As stated above, the material differences in my opinion between the proposed process for this Site compared to a typical Environmental Audit process are as follows:

- The proposed process whereby an ESA and a SESP is endorsed by an Environmental Auditor does not constitute a Statutory Environmental Audit that the subject Site is suitable for particular uses;
- Given that the proposed process prior to rezoning is not a Statutory Environmental Audit, there is a potential that some portions of the site may not be found to be able to be redeveloped for the proposed uses as currently envisaged, as the Environment Audit is proposed to be completed at a later point; and
- The segment, zone or portion comprising the subject of a Statutory Environmental Audit would need to be commensurate with the scale of the contaminant/ risks issues needing to be addressed at the subject Site. If the segment of the Audit is too small, say lot size, then it may not be possible to adequately manage the risks for adjacent parts of the subject Site, nor off-site third parties (i.e. beyond the 1221-1249 Centre Road property).
- Whilst from a technical perspective, the outcomes of the proposed ESA and SESP process followed by the subsequent issuing of a Statement of Environmental Audit (SoEA) with

Conditions for the Site, may be largely the same as a more typical Environment Audit process, this is dependent upon the following:

- In the event that a series of Environmental Audits are undertaken across various stages of the proposed redevelopment:
 - that the Environmental Auditor considers not only the segment that is the subject of the particular Environmental Audit and also considers the broader Site and off-site receptors; and
 - the Audit is an of appropriate scale (i.e. an appropriate segment, zone or stage).
- The Conditions of the issued SoEA are able to be implemented and maintained by a suitably responsible entity under the auspices of suitable, enforceable management documentation, such as, for example, a Site Environmental Management Plan (SEMP) and/ or a Groundwater Quality Management Plan (GQMP), with suitable ongoing, independent verification processes and that these plans are complied with. I consider in such a situation, it would be important that Council identifies and implements a suitable mechanism, such as enforceable guarantees by way of financial assurance, to ensure compliance with SoEA Conditions and hence the ongoing protection of human health and environmental receptors, both on-site and off-site.

6.2 Site Appreciation and Key Risks

From the documentation considered by me in the preparation of this report, as outlined in **Section 4**, I consider it quite likely that the site has been subject to extensive historical extractive uses, followed by a subsequent combination of partial filling with slimes, in addition to landfilling activities (i.e. emplacement of putrescible and solid inert waste) in Zone 1 and Zone 2⁴ in the attached figure (Coffey, 2017⁵, Item 60 from the relevant documents provided on the Council web-site and included as **Attachment D** of this Expert Witness Report). The documentation I considered in the preparation of this report also referred to minor filling activities in other parts of the site, such as solid inert waste within Zone 2.

In my review of the documentation and consistent with my technical experience, landfilling activities do not appear to have been completely restricted to particular areas or “zones” as they are referred to in this matter. I note that the “zones” are of course arbitrary, pursuant to “breaking up” the description of the site into various parts to facilitate discussion of the relevant/ particular issues.

As a result, anthropogenic fill has been identified at a number of locations across the site, to varying degrees. I note that the Expert Witness Report by Mr Phil Sinclair of Coffey Environments and Mr Ian Pedler of Coffey Geotechnics discusses this in further detail.

Considering the site holistically is important given the historical potentially contaminating activities undertaken at the site, including but not limited to landfilling and the need to consider in the context of contaminant sources, exposure pathways and receptors both on-site and off-site across various media (i.e. soil, groundwater, surface water and vapour phases). This is consistent with my interpretation of EPA’s position as presented in its panel submission (Document 8, dated 10 August 2017).

⁴ Of the documentation that I have reviewed, there has been identification of landfilling within the north western corner of Zone 2.

⁵ Coffey (2017). Figure 1 – Possible Extent of Former Landfill, dated 10 November 2017, prepared for Norton Rose Fulbright Australia by Coffey, ref. no. ENAUABTF00751AC-R01-D02, Rev A

Considering whole of site issues is particularly important when considering the potential for off-site migration of contaminants which may present a potential risk to both human health and the environment, including:

- Migration of landfill gases (LFGs) and volatile organic compounds (VOCs); and
- Migration of groundwater off-site which may be impacted by landfill leachate and other on-site sources.

A whole of site approach given the nature and extent of identified areas of environmental concern (AECs) is considered to be preferable to a more piecemeal redevelopment approach, where only parts of the Site are potentially considered in isolation of each other part and from a whole of site perspective. The adoption of a piecemeal approach in my opinion limits the ability to deal with whole of site issues such as relevant to the subject Site, including migration of LFGs and to a lesser extent, migration of VOCs, in addition to management of leachate both on-site and off-site.

6.3 Managing Risks Associated with Landfills

Given my review of the documentation listed in Section 4, Zone 1 and to a lesser extent Zone 2 appear to have been subject to landfilling, with a combination of wastes such as putrescible and solid inert, appearing to have been deposited at the site. Landfilling off-site to the south of Zone 2 at Talbot Park, is noted in the documentation reviewed. From my consideration of the documentation, there does not appear to be any significant deposition of wastes associated with Zones 3 and 5, nor Zone 4 at the site. Slimes are noted to have been placed across the site in the documentation I have reviewed.

Given my experience with unregulated landfills of a similar age to those identified at the subject Site, it is not unusual for uncontrolled wastes to have been deposited, including potentially mixtures of wastes. Whilst it may be unlikely, some forms of Prescribed Industrial Wastes (PIW) may also have been deposited at the subject Site.

I am instructed that there is an eye witness account of Harris train carriages being tipped into one of the landfills at the subject Site.

I consider that the key potential risks to human health and the environment⁶ associated with landfilling at the Site (and typical of landfills in general) relate to:

- direct exposure to deposited wastes (human health on-site);
- incidental exposure to LFGs and VOCs generated by deposited wastes (human health risks on-site and also off-site through lateral migration⁷, in addition to discharge of LFGs and VOCs to atmosphere, i.e. environmental risks) groundwater contamination through generation of landfill leachate through infiltration of rainwater/ surface water through deposited wastes.

The environmental assessment reports that I have reviewed as part of the preparation of my report note the detection of LFGs across the site to varying degrees, but predominantly associated with Zone 1 and Zone 2, as these areas have been identified as medium to higher risk portions of the Site.

⁶ I acknowledge that there are other potential risks associated with landfills, such as geotechnical risks associated with differential settlement and impacting landfill engineered systems, such as capping layers etc, in addition to geotechnical risks to surface structures placed on-top of former landfills and risk control mechanisms such as lateral and vertical LFG management, amongst others.

⁷ These risks relate to exposure to LFG and VOCs within surface structures/ confined spaces – both in terms of exposure to gases/ chemicals that are harmful to humans (e.g. asphyxiation), in addition to risks associated with explosive atmospheres generated by accumulation of LFGs.

Given the site is currently not occupied and the current concentrations of LFG/ VOCs measured in sampling locations on the boundary of the subject Site, there does not appear to be a potentially unacceptable risk to human health at the current time, i.e. in the current undeveloped/ uncapped state that the subject Site is currently in. If capped and developed, there is a potential for lateral migration of LFG, which would need to be appropriately managed.

The continued production of LFGs from landfills of an age similar to those likely present at the site, is consistent with my technical experience. Such landfills will tend produce LFGs over a considerable period of time, with LFG production rates typically reducing towards the later stages of the gas generation life cycle of a landfill. For the landfills identified and associated with Zones 1 and 2 at the Site, given they were emplaced in the 1970s, I agree with the Expert Witness Report from Mr Phil Sinclair that they are likely in the later stages of their LFG generation lifecycles.

There appears to be a number of LFG bores installed across the site and in particular on the boundaries of Zone 1 (northern, western and southern), in addition to bores installed to the east of Zone 2 and also to the south (abutting Talbot Park, understood to have been subject to historical landfilling).

The installation and maintenance of suitable LFG risk management controls, such as referred to in Figure 10A of Mr Phil Sinclair's Expert Witness Report (included as **Attachment E** to this document) and discussed in further detail in that report, including suitable performance monitoring mechanisms, are considered in my opinion to be important for ensuring that the potential risks of exposure to LFG both on-site and off-site are low and acceptable. Monitoring of potential LFG/ VOC risks would also be important during the development of the subject Site, particularly where capping layers/ actions that would reduce the venting of LFG/ VOC to atmosphere are implemented, including but not limited to assessment of the potential risk of lateral migration of such gases.

With respect to LFG risk management controls discussed in Mr Sinclair's report, I make the following comments:

- the types of engineering controls proposed for on-site structures within Zone 1 and Zone 2 and at the boundaries of Zone 1 and Zone 2 (i.e. vertical gas venting systems, or similar), as illustrated in **Attachment E**, are of the type that would be generally used to manage the potential risks of exposure to LFG for both on-site and off-site receptors, amongst other solutions;
- the implementation and maintenance (including verification) of the proposed LFG engineering controls will be critical for the ongoing protection of receptors. In order to implement and maintain such engineering controls, a suitable buffer zone/ easement would need to be allowed for. I note that without suitable access, remedial actions will not necessarily be able to be implemented. In addition, consideration of landfill management guidance, such as but not limited to EPA Publication 788.3: Best Practice Environmental Management - Siting, Design, Operation and Rehabilitation of Landfills, dated August 2015, is recommended; and
- as discussed above, an appropriate mechanism for the ongoing operation of the deployed engineering controls is a critical issue.

6.4 Technical Risks Associated with Non-Typical Environmental Audit Processes and the Importance of Environmental Audit Scale in Large/ Complex Sites

With respect to technical risks associated with non-typical Environmental Audit processes, I provide the following comments:

- Using the data collected from the site to date, implementing the engineering controls such as outlined in the Expert Witness Report presented by Mr Phil Sinclair, to the satisfaction of

an Environmental Auditor, should enable the risk controls to be suitably scoped/ designed and implemented. I consider that the risk controls nominated by Mr Sinclair are preliminary/ conceptual in nature and do not constitute detailed design at this stage. It would be my expectation that the detailed design of engineering controls at the subject Site would be undertaken at part of a Statutory Environmental Audit (at an appropriate scale as discussed above);

- If you divide up the site into parcels that prevent the implementation of suitable controls, for instance dividing Zone 1 into sub-portions, then there is a risk that whilst the potential risks to on-site receptors could be managed through on-site controls, however the potential risks associated with off-site migration of LFGs may not be able to sufficiently managed, even under the auspices of an Environmental Audit, as the scope of the works would be beyond the segment of the Audit being considered (i.e. beyond the scope of an Audit of a sub-portion). In such a situation, it is possible that appropriate risk management measures may not be able to be adequately implemented due to the timing of the Audit and the scale of the Audit;
- In the event where the assessment, remediation and Environmental Audit occurs in segments (i.e. zones or stages for example), the Environmental Auditor would need to assure themselves (and EPA and Council) in relation to the following items:
 - **Risks Associated with Sources on the Subject Site.** Any potential risks originating from a particular segment, zone or stage that is the subject of the Audit are suitably managed commensurate with the proposed future use of the particular segment, zone or stage;
 - **Risks Associated with Off-Site Migration of Impacts Originating from the Subject Site.** Any potential risks migrating from a particular segment, zone or stage that is the subject of the Audit (and originating from that particular segment, zone or stage) “off-site” (i.e. beyond the boundaries of the segment, zone or stage), do not unacceptably impact upon the beneficial uses of that off-site Land; and
 - **Risks Associated with Off-Site Migration of Impacts onto the Subject Site.** Any potential risks migrating from “off-site” onto a particular segment, zone or stage that is the subject of the Audit (i.e. from beyond the boundaries of the segment, zone or stage being audited), are suitably managed commensurate with the proposed future use of the particular segment, zone or stage.
- Whilst it is technically possible to develop the site in segments (zones/ stages), it would be better to address redevelopment holistically, or at the least such that each segment takes into account the overall Site setting and interaction of the subject segment on other segments, whilst also ensuring that the potential risks to off-site receptors beyond the 1221-1249 Centre Road property remain low and acceptable.

6.5 Planning Implications

Whilst I am not an expert in planning matters, from my interaction with the planning system as part of my project experience as a contaminated land practitioner, in my opinion consideration should be given to the following items:

- the subject Site has not been subject to a Statutory Environmental Audit at this time;
- in the absence of the completion of a Statutory Environmental Audit at this time, the proposed uses of particular parts of the subject Site, including commercial and residential as nominated in Figure 10A of Mr Sinclair’s Report (see reproduced in **Attachment E**) may not be technically possible as currently envisaged and may require alteration as part of progressing the Environmental Audit process based upon encountered conditions at a part/

lot level, i.e. changes of particular parts/ lots to less sensitive uses commensurate with the identified/ assessed risks;

- the preliminary/ conceptual engineering controls proposed at the current time do not constitute detailed designs. As such, the engineering controls proposed to be applied at the subject Site may need to be subsequently changed;
- consistent with my opinions presented above, implementation of the engineering controls described in Mr Phil Sinclair's Expert Witness Report, and maintaining them, would be required to ensure that on-site and off-site risks are suitably managed;
- the mechanism (i.e. the how and the whom (both construction and post-construction)) to ensure longevity of the proposed engineering controls would be critical to ensure that the potential risks to on-site receptors are appropriately managed **and** to ensure that the potential risks to off-site receptors are also suitably managed, i.e. risks are not transferred to off-site third parties, such as through causing off-site migration of vapour phase LFGs/ VOCs;
- I also consider it important that specific building requirements arising from Conditions of a SoEA are incorporated into the proposed built form, rather than a situation potentially arising that a completed built form just prior to issuing of a SoEA, may not comply with the Conditions considered by the Environmental Auditor as necessary to protect building occupants. This situation would potentially represent costly retrofitting of the completed built form, or at worst, demolition and reconstruction;
- From my review of the documentation listed in **Section 4**, it appears that a ESA and SESP was previously endorsed by the Environmental Auditor for the Site, Mr Ken Mival, however through collection of additional information from the Site, an update to the ESA and SESP will be required, which will require subsequent endorsement by the Auditor;
- Given the above, it is unclear to me as to why the existing ESA, given the additional environmental assessment works completed at the Site and discussed in some detail in Mr Phil Sinclair's Expert Witness Report, could not have been incorporated into an updated ESA at this time?; and
- Further in the context of the above, it is also unclear to me why the existing SESP, given the additional data collected since its preparation, couldn't have also been updated at this time?

In the context of the above, I consider that the most certain approach that the Site is suitable for the proposed future uses would be provided through a Statutory Environmental Auditor process. An alternative approach for a large/ complex site such as subject Site however could be through an ESA and SESP, verified by an Environmental Auditor and prepared to the satisfaction of Council. Such an approach would reduce uncertainty, however, until such time that a Statutory Environmental Audit is issued by an Environmental Auditor, commensurate with an appropriate scale, there would remain some uncertainty as to whether the proposed future uses of the Site (or parts thereof) can be realised, as currently envisaged.

6.6 Effect of Landfill Gas Migration on Redevelopment of the Land

I have provided my opinion in relation to the relevant aspects of LFG management at the site to ensure the protection of on-site and off-site receptors. In relation to Section 4.3 and Section 4.4 of Mr Sinclair's report, the collection of additional LFG data, amongst other data, is considered to complement the conceptual understanding of the nature and extent of impacts at the site.


The changes in LFG hazard characterisation arising from the results of additional LFG assessment is consistent with my technical experience, in so far as changes in atmospheric conditions, i.e. air pressure, in addition to soil moisture, can have an effect on LFG concentrations measured in LFG

bores. As such and relating to my previous comments on the preliminary/ conceptual stage of the design of the engineering controls, in the detailed design phase, incorporation of additional information collected from the site, including but not limited to responses of the sub-surface to pre-construction activities etc, would be normal practice in such matters.

The proposed increase in the level of LFG risk management controls as a result of the additional LFG assessment work findings is considered in my opinion to be appropriate. I note that Mr Sinclair proposes to undertake further LFG assessment, including continuous monitoring of LFG at select locations for a select period of time. This is considered to be appropriate in my technical experience and consistent with industry practice.

7. Declaration

In preparing this Expert Witness Report, I state that *"I have made all the inquiries that I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the Panel."*

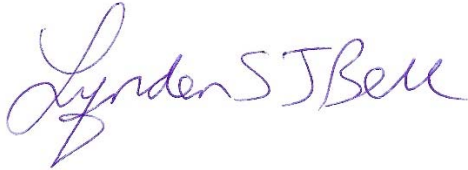


Dr Lyndon Bell
Principal
JBS&G Australia Pty Ltd

8. Closing

Should you require clarification, please contact the undersigned on 03 9642 0599 or by email lbell@jbsg.com.au.

Yours sincerely:

A handwritten signature in blue ink that reads "Lyndon S J Bell". The signature is written in a cursive style with a large initial 'L'.

Dr Lyndon Bell
Principal
JBS&G Australia Pty Ltd

Attachment A – Letter of Instruction

Attachment B – Planning Panels Victoria -G2 – Guide to Expert Evidence April 2015

Attachment C – Qualifications

Attachment D – Coffey (2017) Figure 1 – Possible Extent of Former Landfill

Attachment E – Coffey (2017) Figure 10A – Remedial Options for Masterplan

Attachment A – Letter of Instruction

Dr Lyndon Bell
Managing Principal
Contaminated Land
JBS&G
Level 2
155 Queen Street
Melbourne
Victoria 3000

By email only to: lbell@jbsg.com.au

12 April 2018

Dear Dr Bell,

NEIGHBOURS FOR PUBLIC GREEN SPACE, OAKLEIGH SOUTH, INC
AMENDMENT C129 TO THE MONASH PLANNING SCHEME –
CENTRE ROAD, OAKLEIGH SOUTH

Background

1. I act on behalf of the Neighbours for Public Green Space, Oakleigh South, Inc. (the Incorporated Group), which is an incorporated association under Victorian law. The Incorporated Group is a local community group principally comprising residents of the Oakleigh South area.
2. My client is a party to the upcoming Planning Panels Victoria hearing concerning the proposed re-zoning of land at 1221-1249 Centre Road, Oakleigh South under Amendment C129 to the Monash Planning Scheme (the planning scheme amendment).
3. The land at 1221-1249 Centre Road, Oakleigh South (Land), is the site of a former sand quarry (known as the Talbot Avenue Quarry) and landfill. The use of the land for extractive industry and landfill purposes ceased over 20 years ago. The site has remained dormant since that time.
4. On 2 August 2016, Urbis, on behalf of Sterling Global, submitted a planning scheme amendment request to the City of Monash (Council) to rezone the land at 1221-1249 Centre Road, Oakleigh South from Special Use Zone - Schedule 2 and General Residential Zone - Schedule 2 to Comprehensive Development Zone - Schedule 2, and to add an incorporated document to the planning scheme in the form of a

Liability limited by a scheme approved under Professional Standards Legislation.

Work Club Level 2, 287 Collins Street, Melbourne, Victoria, 3000 Australia

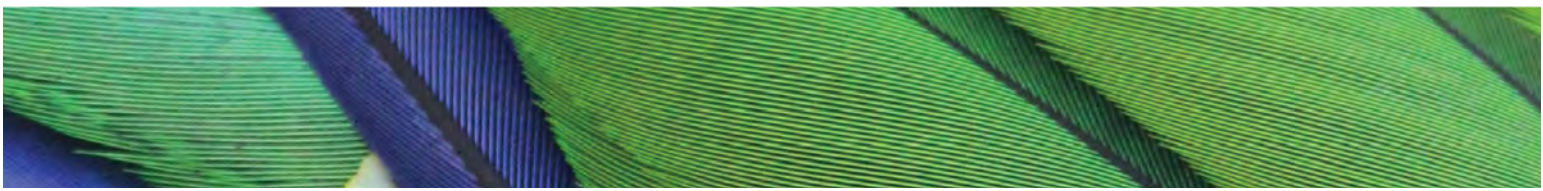
Call: +61 450 266 779
Contact: gabrielle@guthrie-legal.com
Collaborate: www.guthrie-legal.com

ABN 48 535 041 917

comprehensive development plan. The amendment also proposes to change the boundary of the existing Environmental Audit Overlay to incorporate the whole of the site within the Overlay.

Your engagement

5. This letter of engagement and its attachments are to formally engage you as an expert to:
 - a. review and consider the background materials in this letter and attachments;
 - b. confer with me and any counsel, where necessary;
 - c. prepare an expert report which addresses your opinion on:
 - i. the environmental risks and potential consequences of the proposed approach for environmental assessment and audit in this matter, including:
 1. any material differences between the proposed ESA and SESP process and the environmental audit process typically undertaken;
 2. your opinion on the proposed assessment and audit process given former sand quarry and landfill uses and any opinion on approaches to assessment and auditing of landfill sites, including as single dynamic systems, particularly where VOCs, landfill gas and leachates may be mobile in heterogeneous landfill;
 3. your opinion on waste types and risks associated with landfills of this age;
 4. whether or not there are any technical risks associated with the deployment of investigation, control or remediation measures in circumstances where assessment, audit and development of a site occurs in segments, zones or stages;
 5. your opinion on assessment, audit and development of this specific Land in segments, zones or stages;
 6. the potential planning impacts of assessment, audit and development of the site in stages;
 7. any opinion on comparisons with other sites; and
 8. any other relevant opinion on the proposal.
 - ii. on-site and offsite landfill gas migration risk, including:
 1. the effect on landfill gas migration of development the Land, particularly with regard to data collected to date (see section 4.3 and 4.4 of Mr Sinclair's expert report);
 2. the current Site Environmental Strategy Plan; and
 3. any other relevant opinion with regard to landfill gas.



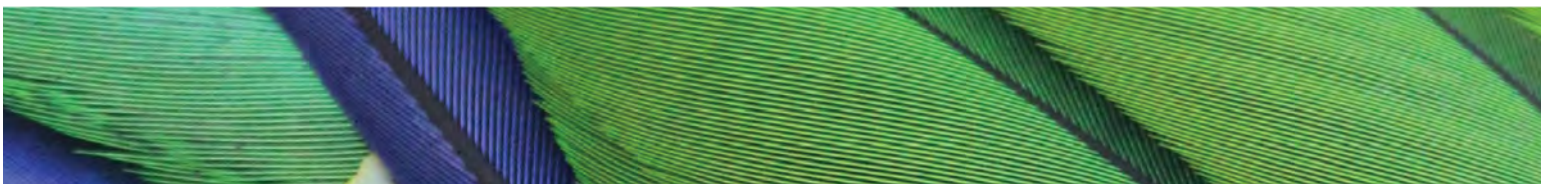
- d. Appear at the public planning panel hearing for the purpose of presenting your expert opinion concerning these matters. The hearing is currently set down for hearing between 4-6 June 2018 and I would envisage that you would need to make yourself available for a single day.

Site background

6. As noted above, the Land at the site is a former sand quarry. Historically, sand quarrying operations on the land have been accompanied by associated uses, including sand cleaning (treatment), concrete batching in the 1960s, and landfill operations during the 1970s and 1990s, The Land has been inactive for several decades. The quarry void is located in the southwest portion of the Land.

Documents

7. The relevant documents in relation to the proceeding are available for review and download from the Monash City Council website:
<https://www.monash.vic.gov.au/Building-amp-Planning/Strategic-Planning/Planning-Scheme/Amendments/Amendment-C129-Centre-Road-Oakleigh-South>
8. Sterling Global has engaged several experts. The relevant expert reports, which have been submitted in the proceeding are:
 - a. The expert witness report of Ian Pedler of Coffey (<https://www.monash.vic.gov.au/files/assets/public/building-amp-planning/monash-planning-scheme/amendment-c129/panel-hearing/evidence-statement-of-ian-pedler-monash-planning-scheme-amendment-c129.pdf>)
 - b. The expert witness report of Phil Sinclair of Coffey (<https://www.monash.vic.gov.au/files/assets/public/building-amp-planning/monash-planning-scheme/amendment-c129/panel-hearing/evidence-statement-of-phil-sinclair-monash-planning-scheme-amendment-c129.pdf>); and
 - c. Expert witness statement of Kenneth Mival of EHS Support (<https://www.monash.vic.gov.au/files/assets/public/building-amp-planning/monash-planning-scheme/amendment-c129/panel-hearing/26.-k-mival-expert-witness-statement-5-october-2017.pdf>).
9. Other relevant documents in this matter are:
 - a. A letter from Norton Rose Fulbright dated 1 September 2017 which defines the ESA and SESP and provides a Remediation Options Report as an annexure to the letter (<https://www.monash.vic.gov.au/files/assets/public/building-amp-planning/monash-planning-scheme/amendment-c129/panel-hearing/23.-nrf-response-panel-directions-of-17-august-2017.pdf>);



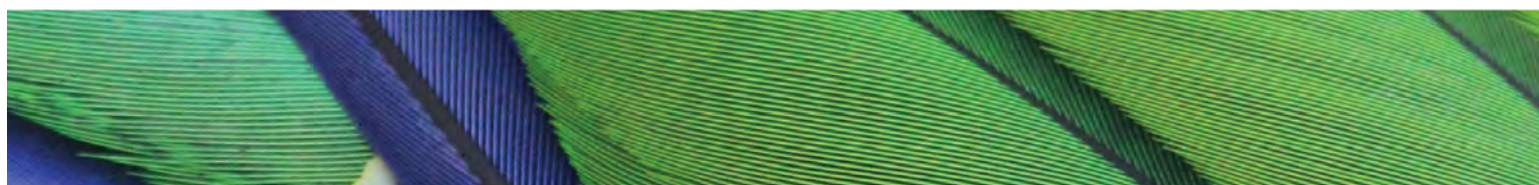
- b. A letter from Coffey dated 29 October 2017 providing opinion on the Remediation Options Report
(<https://www.monash.vic.gov.au/files/assets/public/building-amp-planning/monash-planning-scheme/amendment-c129/panel-hearing/45.-letter-on-remediation-options-analysis.pdf>);
- c. Document 8 – EPA Panel Submission
(<https://www.monash.vic.gov.au/files/assets/public/building-amp-planning/monash-planning-scheme/amendment-c129/panel-hearing/8.-epa-panel-submission.pdf>)
- d. Document 16 submission on behalf of Mr Valente;
(<https://www.monash.vic.gov.au/files/assets/public/building-amp-planning/monash-planning-scheme/amendment-c129/panel-hearing/16.-submission-on-behalf-of-a-valente-with-attachments.pdf>)
- e. Document 25 – Additional information from EPA in relation to EPA's records at the site
(<https://www.monash.vic.gov.au/files/assets/public/building-amp-planning/monash-planning-scheme/amendment-c129/panel-hearing/25.-additional-information-from-epa.pdf>)

Further documents

- 10. Please let me know if you would like to obtain copies of any other relevant documents not listed above or disclosed on the Council's website.

Expert report

- 11. I attach a copy of the Guide to Expert Evidence in Planning Panel hearings. Please ensure that you read this prior to preparing your expert report. In particular, I draw your attention to the content and form requirements of expert reports as follows:
 - a. The report of an expert must include the following:
 - i. the name and address of the expert;
 - ii. the expert's qualifications and experience;
 - iii. a statement identifying the expert's area of expertise to make the report;
 - iv. a statement identifying any other significant contributors to the report and where necessary outlining their expertise;
 - v. all instructions that define the scope of the report (original and supplementary and whether in writing or oral);
 - vi. the identity of the person who carried out any tests or experiments upon which the expert has relied on and the qualifications of that person.
 - vii. the facts, matters and all assumptions upon which the report proceeds;
 - viii. reference to those documents and other materials the expert has been instructed to consider or take into account in preparing his or



- her report, and the literature or other material used in making the report;
- ix. a summary of the opinion or opinions of the expert;
 - x. a statement identifying any provisional opinions that are not fully researched for any reason (identifying the reason why such opinions have not been or cannot be fully researched); and
 - xi. a statement setting out:
 - 1. any questions falling outside the expert's expertise, and
 - 2. whether the report is incomplete or inaccurate in any respect.
- b. The expert must declare at the end of the report:
- i. *'I have made all the inquiries that I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the Panel.'*

Confidentiality and documents

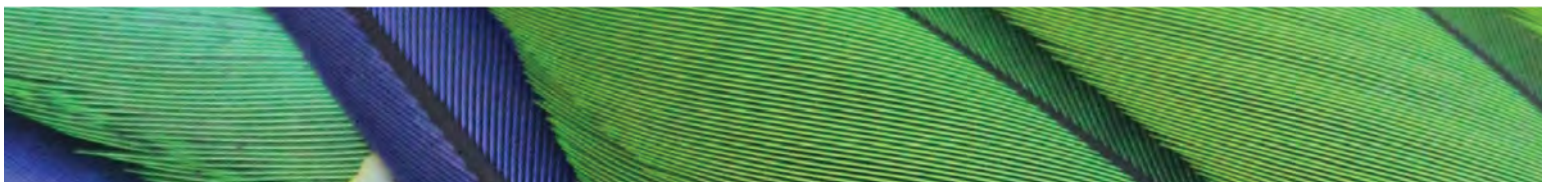
- 12. This letter and enclosed documents and all future communications between Guthrie Legal and you are confidential (Confidential Information), and are subject to a claim for privilege and must not be disclosed without my consent or the consent of our client.
- 13. The duty of confidentiality will continue beyond the conclusion of your instructions.
- 14. You must take all steps necessary to maintain Confidential Information and notes in strictest confidence.
- 15. Please arrange for invoice to be submitted by email to gabrielle@guthrie-legal.com.
- 16. Please let me know if you would like any further documents to be provided to you to assist with your engagement.

Please do not hesitate to contact Gabrielle Guthrie on 0450 266 779 should you have any questions in relation to this letter.

Yours faithfully



Gabrielle Guthrie
Principal
Guthrie Legal
gabrielle@guthrie-legal.com
+61 450 266 779



Attachment B – Planning Panels Victoria -G2 – Guide to Expert Evidence April 2015

Guide to Expert Evidence

Circulation of Expert Reports

Expert witness reports must be submitted five working days prior to the commencement of the Hearing, or another date directed by the Panel. An earlier date will be specified for more complex reports.

Parties must identify at the Directions Hearing, the evidence (if any) they will be calling at the Public Hearing.

Copies of witnesses' reports or statements must be circulated in accordance with Directions made at the Directions Hearing. If no specific directions are made, six copies of their reports or statements must be given to the Panel Coordinator at least five working days before the Hearing. Copies will be given to the Panel and to other parties as directed. Other people may obtain electronic copies by contacting the Panel Co-ordinator at Planning Panels Victoria (PPV) on 8392 6397.

A soft copy of reports should be provided as follows:

- as an unlocked 'pdf' or Microsoft Word format to PPV; and
- as a 'pdf' to the Planning Authority suitable for uploading in its website.

Before the Hearing, copies of witnesses' reports or statements will normally be available for perusal by submitters at the offices of the Planning Authority and PPV.

Expert's Duty to the Panel

An expert witness has a paramount duty to the Panel and not to the party retaining the expert.

An expert witness has an overriding duty to assist the Panel on matters relevant to the expert's expertise.

An expert witness is not an advocate for a party to a proceeding.

Content and form of Expert's Report

The report of an expert must include the following:

- the name and address of the expert;
- the expert's qualifications and experience;
- a statement identifying the expert's area of expertise to make the report;
- a statement identifying any other significant contributors to the report and where necessary outlining their expertise;
- all instructions that define the scope of the report (original and supplementary and whether in writing or oral); and
- the identity of the person who carried out any tests or experiments upon which the expert has relied on and the qualifications of that person.

Where an expert has prepared a report that has been used to inform the preparation of an amendment or proposal, the expert should not provide a revised version of that report. The expert should provide a brief report that includes:

- an unambiguous reference to the report, or reports that the expert relies upon;

- a statement identifying the role that the expert had in preparing or overseeing the exhibited report(s);
- a statement to the effect that the expert adopts the exhibited report and identifying:
 - any departure of the expert from the finding or opinions expressed in the exhibited report;
 - any questions falling outside the expert's expertise;
 - any key assumptions made in preparing the report; and
 - whether the exhibited report is incomplete or inaccurate in any respect.

Where a report has not been used to prepare an amendment or proposal, the report should include:

- the facts, matters and all assumptions upon which the report proceeds;
- reference to those documents and other materials the expert has been instructed to consider or take into account in preparing his or her report, and the literature or other material used in making the report;
- a summary of the opinion or opinions of the expert;
- a statement identifying any provisional opinions that are not fully researched for any reason (identifying the reason why such opinions have not been or cannot be fully researched); and
- a statement setting out:
 - any questions falling outside the expert's expertise, and
 - whether the report is incomplete or inaccurate in any respect.

The expert must declare at the end of the report:

'I have made all the inquiries that I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the Panel.'

Privacy

Expert witnesses need to be aware of their obligations under the *Information Privacy Act 2000*. Particularly when using personal information contained in submissions they have received as a third party.

Copies of witnesses' reports are usually posted on the Planning Authorities website. Where possible, the report of an expert should not refer to any individual submitter by name and if necessary, submitters should be referred to by submission number.

For more information on Privacy refer to the separate PPV **Guide to Privacy at Planning Panels Victoria**.

Where the expert changes his or her opinion on a material matter

An expert witness who changes an opinion on a material matter on the basis of another expert's report or for any other reason must communicate that change of opinion in writing to the party retaining the expert and that party must file with the Panel, notice of such change of opinion as soon as practicable.

Such a document must specify reasons why his or her opinion has changed.

Where the Panel directs expert witnesses to meet

Expert witnesses retained by parties are encouraged to meet to narrow any points of difference between them and to identify any remaining points of difference. The Panel may also direct that they meet.

If expert witnesses meet they must each set out in writing by a document filed with the Panel any agreed points and all remaining points of difference.

If any expert witness directed by the Panel to meet with any other expert is instructed not to reach agreement in respect of points of difference, the fact of such instructions must be reported in writing to the Panel by the expert witness.

Generally

Parties to a proceeding must ensure that any expert retained by them to provide a report for use in the proceeding is aware of the contents of this direction, at the time of such retainer.

Form of Report

Written material presented at the Hearing should be in the following form:

- Two-hole punched.
- Stapled, not bound.
- Photographs or other visual material should be presented in binders in A4 or A3 format, not on large boards. This makes the material easier to transport and file.

Further Information

Further information about Planning Panels Victoria can be found on the department's website:

<http://www.dtpli.vic.gov.au/planning/panels-and-committees>

Attachment C- Qualifications

JBS&G PEOPLE

DR LYNDON BELL / MANAGING PRINCIPAL - VIC



QUALIFICATIONS

Bachelor of Engineering (Environmental) (Hons I)
Doctor of Philosophy (Contaminant Hydrogeology)

PROFESSIONAL CAREER

2016 - Managing Principal - VIC, JBS&G
2016 Principal - Contaminated Land, JBS&G
2013 - 2016 Environmental Manager - Australia and New Zealand, Spotless Group Holdings
2004 - 2013 Associate, Principal Environmental Engineer, Golder Associates
2003 - 2004 Post-Doctoral Research Fellow, Department of Earth Sciences, University of Waterloo
2002 - 2003 Environmental Engineer, GHD

ACCREDITATIONS & AFFILIATIONS

Certified Environmental Practitioner Scheme - Contaminated Land Specialist [CEnvP (CL Specialist)]
Engineers Australia (Member)
National Groundwater Association (Member)
International Association of Hydrogeologists (Member)
Australasian Land and Groundwater Association (ALGA) (Member)

PROFILE

Dr Lyndon Bell is the Managing Principal – Contaminated Land in JBS&G's Melbourne office. He provides technical and strategic direction and oversight of contaminated land assessment and remediation projects across Australia and also New Zealand.

Lyndon has worked for nearly 20 years in the contaminated land and remediation fields across consulting, corporate and research roles. In addition to his contaminated land practice experience working across all aspects of the discipline from former and operational commercial/ industrial sites through to landfills across numerous settings and jurisdictions, Lyndon also has experience with corporate environmental management and environmental regulatory compliance risk management. Further, he has experience with the implementation of pragmatic and effective environmental practice and risk control within operations.

Strategic commercial risk assessment and management, in addition to merger and acquisition environmental due diligence, are also some of Lyndon's practice specialties.

KEY PROJECT EXPERIENCE

ENVIRONMENTAL SITE ASSESSMENT

Laundry/ Dry Cleaning Facilities - Eleven sites across AUS/ NZ

Extensive role providing corporate project direction/ technical review of Preliminary Site Investigation (PSI), Detailed Site Investigation (DSI) [Environmental Site Assessment ESA] and remediation works associated with an ASX100's laundry/ dry cleaning facility property portfolio across Australia and New Zealand. In addition, responsible for: leading engagement with environmental regulators; negotiating with third parties for access to undertake environmental testing on their properties and managing overall commercial risks on behalf of Management. As a consultant, leading technical support and strategic risk management advice for the Client's Management team for implementation of assessment and remediation across their property portfolio.

Former Industrial Land - Fishermans Bend, VIC

Project involved an extensive environmental site assessment (ESA) comprising intrusive soil, groundwater and soil vapour investigations across a large existing industrial facility of state significance. Objective of project was to support potential acquisition of the land by the Client and commercial risk management associated with the transfer of residual environmental liabilities from the Vendor as part of the transaction, including environmental indemnifications. Role involved technical, strategic and stakeholder management.

DR LYNDON BELL (CONT.)

Former Commercial Land – Camberwell, VIC

Extensive project involving ESA and remedial works program comprising intrusive soil, groundwater and soil vapour investigations across multiple properties as part of a future redevelopment of a supermarket complex for an ASX 100 market leading retailer; and targeted underground storage tank (UST) and primary contaminant source removal. Working in consultation with specialist environmental legal Counsel, advanced Client's interests through both strategic commercial advice and supporting development of technical options to "find a way".

Project culminated in a successful environmental approvals outcome and avoidance of a need for a Statutory Environmental Audit due to the comprehensive works program that was implemented in the context of the development approvals strategy. Role included technical and strategic lead.

Telecommunications Facilities – All States and Territories, AUS

Project involved completion of environmental due diligence PSI, DSI assessment and remedial services to support divestment of surplus property in close collaboration with national commercial property group. Large ongoing multi-site project across all Australian jurisdictions providing contaminated land and environmental approval services, in addition to technical, strategic and environmental liability risk management. Role included technical, commercial and strategic lead.

Brick Manufacturing Facility – Ballarat North, VIC

Extensive project involving strategic environmental site assessment, environmental monitoring and targeted remediation works in order to support ongoing brick manufacturing facility. Working closely with specialist environmental legal Counsel, ongoing role to support the Client's regulatory environmental compliance objectives. As Project Director, role included leading technical and strategic direction.

Former Industrial Facility – Mentone, VIC

Project involved technical lead for conclusion of environmental site assessment and remediation works program to support conclusion of Environmental Audit (53X). Tasks included supporting the Client in their engagement with EPA VIC for the avoidance of ongoing groundwater monitoring for identified but diffuse contamination unrelated to their activities. Through a proactive and collaborative approach with the Environmental Auditor, supported completion of the Statement of Environmental Audit and achieving practical Conditions that could be readily implemented by the Client to enable future redevelopment of the site for residential purposes.

Former Commercial Land - Brunswick, NSW

Situated adjacent to former infilled quarry, project involved environmental assessment and remediation of contaminated land in order to facilitate future redevelopment for mixed uses. Due to the presence of historical quarry and previous uncontrolled filling, project team needed to advance assessment works around existing occupants in order to advance the project, in addition to providing strategic advice in relation to proposed built form to minimise costs for potential off-site disposal of waste soils. Role as Project Director included providing technical and strategic direction, whilst supporting management of the Client's approvals risks.

Heavy Rail Maintenance Land – South Dynon, VIC

Project involved completing a lease exit ESA to compare with lease entry conditions. Supported the Client to rebut material environmental liability claim in collaboration with specialist environmental legal Counsel, resulted in material savings to the Client in the order of millions of dollars. Role involved technical, strategic and risk management lead.

Metal Fabrication Facility – Bentleigh East, VIC

Project involved environmental site assessment and remediation scoping for current metal fabrication facility, including evaluation of metal cutting fluids and lubricants. A cost effective remedial approach in conjunction with practice improvements were identified in order to prevent further contamination of the site and enable eventual site clean-up and lease exit. Role as technical assessment and remediation lead, including project oversight, strategic direction and commercial advice to the Client.

Former Vehicle Workshop Site – Malvern, VIC

Project involved providing strategic and commercial direction for a targeted environmental site assessment to provide supporting environmental documentation for marketing a former vehicle workshop site for future high density residential development. Scope included working closely with national commercial property group in order to maximise value for the Client through a pragmatic/ commercial investigative approach addressing core potential environmental concerns of Purchasers relating to potential vapour intrusion of volatile organic compounds (VOCs) into surface structures and tailoring works program to confirm the absence of material risks to support sales program. As Project Director, lead engagement with the Client and property group, and provide technical and strategic oversight of consulting team.

Confidential - Health Facility – Perth, VIC

Role involved providing technical and data support to Principal Risk Assessor for evaluation of water supply quality to health facility, including evaluation of sampling protocols, data integrity and statistical significance.

DR LYNDON BELL (CONT.)

Former Light Industrial Land - Travencore, VIC

Project involved targeted ESA and remediation advice for a high density residential redevelopment project in inner Melbourne to address legacy contamination issues associated with former light industrial land use. Role involved providing strategic advice on practical solutions for management of potential on-site migration of minor contamination originating from off-site and integration of multi-level basement construction with human health and environmental risk management, in addition to field works and technical advice.

Freight Terminal - Ingleburn, NSW

Project involved acting for the tenant in a lease exit scenario and comparison of entry and exit environmental conditions to demonstrate that environmental condition not material impacted during lease tenure. Successfully supported tenant in achieve site exit given the findings from the ESA works undertaken.

Former Textiles Facility - Brunswick, VIC

Engaged by the new property owner pursuant to future redevelopment of a former textile manufacturing facility for medium density residential purposes, project involved consideration of soil, groundwater and soil vapour media to confirm that the site was suitable for its proposed future use. Project involved supporting the broader project team during intrusive environmental assessment works and navigating the relevant requirements of the Council planning permit for the redevelopment. Role as Project Director included providing technical and strategic leadership to project team.

Chemical Manufacturing Facility - Morwell, VIC

Project involved providing rapid environmental assessment and expert due diligence advice in response to an environmental incident associated with loss of containment from a batch plant. Working in close collaboration with the Client and legal Counsel, multi-disciplinary technical team involving chemical engineering, process engineering and risk assessment specialists provided strategic and rapid advice to the Client under sustained EPA VIC and community scrutiny. Successfully supported the Client in managing the risks associated with the incident and the continued operation (and subsequent upgrade) of the plant as Project Director, providing technical and strategic direction, in addition to being primary interface with Counsel and the Client.

Former Chemical Manufacturing Facility - Geelong, VIC

Acting for the tenant in a lease exit scenario, project involved providing rapid environmental assessment and strategic/commercial advice as to whether there had been demonstrable change in environmental condition associated with the industrial scale chemical manufacturing facility based upon lease entry baseline data. Project involved supporting the Client in navigating through existing contractual commitments between parties in the context of the lease terms and conditions to successfully achieve site exit.

Former Industrial Facility - Melbourne, VIC

Acting for the property owner and then the builder, project involved assessment of contaminated fill material on a former industrial facility pursuant to future redevelopment for high density residential purposes (with ground floor retail). Works involved supporting the project team in the assessment of hazardous building materials and legacy contaminated fill material and strategic advice in order to protect human health and ecological receptors, whilst minimising costs through a pragmatic remediation management approach.

Agricultural Land - Tullamarine, VIC

Project involved an environmental site assessment (ESA) comprising intrusive soil investigations and desktop quantitative human health risk assessment (HHRA) focusing on soil vapours emanating from impacted groundwater migrating on-site. Role was technical lead for ESA and providing hydrogeological input into HHRA process.

Light Industrial Facility – Cheltenham, VIC

Project involved providing subject matter expertise to specialist environmental legal counsel to support proposed claim for nuisance arising from contamination present on Client's site arising from off-site manufacturing facility. Role was to evaluate available environmental documentation, interpret likelihood of loss on Client's site and support Counsel reaching commercial settlement.

Steelworks Environmental Liability Assessment – Auckland, NZ

Extensive environmental assessment project involving soil, groundwater and soil vapour media within an operational steelworks environment. Role included technical lead on assessment program, reporting and engagement with other Principal discipline specialists, including risk assessment, in order to inform the Client on potential liabilities and strategic regulatory risk management approach.

Former Manufacturing Site - Broadmeadows, VIC

Project involved a groundwater contamination assessment focusing upon off-site impacts by chlorinated solvents. Reviewed previous investigations and led technical and project management matters. Also involved in supporting the Client in engagement with neighbouring stakeholders relating to proposed works.

Power Station - Traralgon, VIC

This project involved the review of the adequacy of an ongoing groundwater monitoring program undertaken by a third party to assess groundwater impacts from an ash pond, as part of environmental due diligence responsibilities. Involved in undertaking a groundwater contamination assessment, including reviewing the adequacy of the monitoring program and implemented sampling and analysis procedures.

DR LYNDON BELL (CONT.)

Steel Manufacturing Site - Newcastle, NSW

This project involved groundwater contamination assessment of two targeted zinc groundwater plumes at a large operating manufacturing facility. Tasks included review of data obtained from previous groundwater investigations, a comprehensive well drilling program in difficult drilling conditions in an operating industrial environment and the formulation of post assessment groundwater management options.

Former Fuel Depot - Grenfell, NSW

Project comprised an environmental assessment of a former fuel depot. Involved in undertaking a soil and groundwater contamination assessment to evaluate potential residual hydrocarbon contamination from the historical operation of a fuel depot at the site. A large excavator was mobilised to facilitate the soil investigation and numerous monitoring wells were simultaneously installed for the groundwater investigation. The field program was adjusted on site during the investigation as contamination was encountered, thereby avoiding costly remobilisation of equipment and staff to a regional site.

Wastewater Treatment Sites - Newcastle, NSW

Project involved integrated soil, surface water and groundwater contamination assessment of two waste water treatment facilities. Role comprised undertaking fieldworks and subsequent significant risk of harm assessments for each site and providing recommendations to the Client to enable them to make informed management decisions regarding potential future land divestment options.

Former Mechanical Workshop - Cremorne, VIC

Project involved a proposed redevelopment of a former mechanical workshop involving excavation works to construct a basement. Involved providing general contamination and remediation advice, especially relating to off-site soil disposal.

Electricity Pole Depot - Thornton, NSW

Project involved undertaking a soil contamination assessment focussing upon the constituents of the wood preservative chromated copper arsenate (CCA) prior to future redevelopment of the site. Involved a review of the international literature pertaining to leaching characteristics of CCA preserved wood to facilitate contaminant source identification at the site and targeted sampling and analysis program. Also involved in preparation of a remediation action plan (RAP).

School - Valentine, NSW

Project managed soil contamination validation assessment at an operational school following remediation, prior to commencement of additional construction works. Assisted in providing advice to key stakeholders, given the high profile of the site. Works included identification of distinctive industrial waste product potentially used as surface fill at other school facilities and provision of advice to state government.

GROUNDWATER CONTAMINATION ASSESSMENTS

Prescribed Waste Landfill - Tullamarine, VIC

This extensive project involved environmental assessment at a prescribed waste landfill. Involved for over eight years as primary technical support and project manager to specialist team, including support to principal hydrogeologists and risk assessors. Tasks predominantly involved management and assessment of data, preparation of technical reports and plans, project finance responsibilities, primary client liaison and project manager with some limited fieldworks in early stages.

Chemical Manufacturing Facility - Deer Park, VIC

This project involved environmental assessment of a chemical manufacturing facility as part of a multi-disciplinary project team. Involved in the preparation of an initial groundwater quality management plan and preparation of a technical submission to the Environmental Auditor in support of proposed groundwater sampling methodologies to be employed at the site. Other minor roles included facilitating outcomes relating to data management, laboratory detection limits and sampling methodologies as a senior technical member of the project team.

Putrescible Waste Landfills - Kangaroo Ground and Plenty, VIC

This project involved the environmental assessment of two former putrescible waste landfills. Involved in groundwater and surface water contamination assessment, project management and annual compliance reporting. Also involved in the provision of recommendations and general support to the Client in response to outcomes of the Environmental Audit process.

Putrescible Waste Landfill - Port Stephens District, NSW

This project involved the environmental assessment of a series of putrescible waste landfills. Involved in completing groundwater and surface water sampling fieldworks, undertaking groundwater assessment and annual reporting. A report was also compiled for submission to NSW EPA to support reductions in licensing requirements for this site.

Putrescible Waste Landfill - Singleton, NSW

This project involved groundwater investigations to support an Environmental Impact Statement (EIS) for proposed expansion of the landfill. Involved in the field supervision of groundwater well installation and technical support for groundwater contamination components of EIS.

Putrescible Waste Landfill - Epping, VIC

This project involved routine environmental assessment of a putrescible waste landfill. Involved in providing technical assistance to interpret groundwater geochemistry and design of future analytical program as part of annual reporting requirements.

DR LYNDON BELL (CONT.)

Putrescible Waste Landfill - Newcastle, NSW

This project involved soil and groundwater contamination assessment of former putrescible landfills. Involved the intrusive and non-intrusive assessment of the impact upon the environment and human health from two former landfill sites. The combination of soil excavations and groundwater well installations with geophysics to delineate the lateral extent and depth of the historical landfilling at the two sites, resulted in a high obtained data to cost ratio for the Client.

Putrescible Waste Landfill - Katoomba, NSW

This project involved the environmental assessment of a putrescible waste landfill. Involved in the review of landfill groundwater and surface water environmental monitoring data and programs and compilation of report to NSW EPA to support reductions in licensing requirements and provide cost savings.

Coal Mine - Wambo, NSW

This project involved implementing a groundwater sampling program as part of a broader program of environmental management at the mine. Involved in groundwater monitoring fieldworks; data compilation; interpretation; and reporting.

ENVIRONMENTAL AUDIT (TECHNICAL SUPPORT)

Former Automotive Manufacturing Site – Port Melbourne, VIC

This extensive project involved providing lead technical support to the Environmental Auditor relating to assessment and remediation of a storm water network contaminated by PCBs across an extensive former automotive manufacturing facility, including consideration of impacts upon off-site networks.

Former Chemical Manufacturing Site – Laverton North, VIC

Project involved providing lead technical support to the Environmental Auditor for the environmental assessment and remediation of a high profile former chemical manufacturing facility, including working closely with specialist environmental Counsel to differentiate between historical and contemporary contamination. This approach has supported the advance of satisfactory commercial settlement terms with the former land owner and primary polluter.

Former Industrial Site - Kingston, ACT

This project involved providing technical support to the Environmental Auditor relating to soil, groundwater and surface water contamination assessment. In addition, tasks included providing technical review for the Auditor in regard to consultant management plan development and compliance and also review of land suitability assessments.

Chemical Manufacturing Site - West Footscray, VIC

This project involved an Environmental Audit (53V) at a large chemical manufacturing site. Involved in providing technical support to the Environmental Auditor relating to both soil and groundwater contamination assessments and remediation options assessment.

Former Fuel Station - Blackburn, VIC

This extensive project involved an Environmental Audit (53X and 53V) at a former fuel station. Involved in providing technical support to the Environmental Auditor relating to groundwater contamination assessment and remedial technology review.

Medium Density Redevelopment - Hawthorn, VIC

This project involved an Environmental Audit (53X) of land contaminated by neighbouring historical rail usage for future redevelopment for medium to high density residential purposes. Works involved technical lead for supporting environmental assessment works, in addition to project management in collaboration with Client and builder. Achieved completion of 53X Audit and moving into subsequent phase to confirm implementation of Statement of Environmental Audit Conditions, commensurate with Council Permit requirements.

Solid Inert Landfill - Brooklyn, VIC

This project involved an Environmental Audit (53V) at an operational solid inert waste landfill. Involved in providing technical support to the Environmental Auditor relating to groundwater and surface water contamination assessment.

Solid Inert and Putrescible Waste Landfill - Benalla, VIC

This project involved an Environmental Audit (53V) at an operational regional solid inert and putrescible waste landfill. Tasks included providing technical support to the Environmental Auditor relating to groundwater contamination assessment.

Combined Former Service Station and Light Industrial Site – Hawthorn, VIC

Supporting the Environmental Auditor, this project involved provision of lead technical support relating to review of environmental assessment and proposed remedial approaches for a multi-lot redevelopment for high density residential purposes. The former uses of the broader site included storage and distribution of petroleum hydrocarbons (service station) and industrial manufacturing from fabric industry through to metal fabrication purposes. Scope included consideration of neighbouring properties and the potential for on-site migration of contamination originating from off-site, particularly in relation to petroleum hydrocarbon and chlorinated solvent contamination.

DR LYNDON BELL (CONT.)

Former Foundry Land – North Melbourne, VIC

This project involved an Environmental Audit (53X) at an operational commercial site that had a history of industrial use as a former foundry. Tasks included leading environmental assessment program and providing technical support to the Environmental Auditor relating to soil, groundwater and soil vapour contamination assessment and practicable Audit outcomes commensurate with proposed future redevelopment for medium to high density residential purposes.

Oil Terminal - Yarraville, VIC

This project involved an Environmental Audit (53V) at an operational oil terminal. Involved in providing technical support to the Environmental Auditor relating to groundwater contamination assessment, including light non aqueous liquid (LNAPL) and remedial technology review.

Former Manufacturing Site - Yarraville, VIC

This project involved an Environmental Audit (53V) at a former manufacturing site adjacent to the Maribyrnong River. Role comprised providing technical support to the Environmental Auditor relating to groundwater and surface water contamination assessment and remedial technology review.

Former Fuel Station - Wangaratta, VIC

This project involved an Environmental Audit (53V) at an operational fuel station. Involved in providing technical support to Environmental Auditor relating to groundwater contamination assessment and assessment of adequacy of the groundwater monitoring program.

Former Agricultural Machinery Manufacturer - Sunshine, VIC

This Audit project involved supporting the Environmental Auditor in reviewing key environmental assessor scopes of work, environmental management documentation and development of commercial strategy in collaboration with specialist environmental legal Counsel to support Client's overall risk and liability management purposes, whilst maintaining independence as per the requirements of EPA VIC and State.

Former Market Garden- Keysborough, VIC

This project involved supporting the Environmental Auditor to deliver 53X outcome associated with a former market garden to make way for future low density residential development.

Solid Inert Waste Landfill - Altona North, VIC

This project involved an Environmental Audit (53V) at an operational landfill. Involved in providing technical support to the Environmental Auditor relating to groundwater and surface water contamination assessment. Following change of role at the site from being Environmental Auditor, subsequently involved in annual compliance reporting and technical support to Client in response to the requirements of the new Environmental Auditor.

Former Fuel Depot - West Melbourne, VIC

This project involved a review of the Site Management Plan (SMP) for compliance with the conditions of the Statement of Environmental Audit (53X) issued for a former fuel depot. Involved in providing support to the Environmental Auditor through the review of groundwater contamination and the proposed future monitoring program.

GROUNDWATER/CONTAMINANT TRANSPORT/ WATER BALANCE MODELLING

Land Development - Lonsdale Lakes, VIC

This project involved developing a MODFLOW finite difference groundwater model to better understand potential dewatering requirements at a proposed residential development. The model was calibrated against groundwater level responses during a trial dewatering and excavation undertaken at the site. The calibrated model was then utilised to estimate pumping rates required (and likely groundwater drawdown behaviour) under a variety of hydrogeological scenarios. The results from the model simulations were collated in a report to provide an estimate to tendering earthworks contractors of the likely hydrogeological responses and key hydrogeological factors at the site.

Quarry - Moriac, VIC

This project involved undertaking hydrogeological studies to support the Client's application to the regulator for an increased groundwater allocation. Involved in providing support to senior hydrogeologist and also undertaking water balance modelling (GOLDSIM) (and reporting) as part of investigations into overall water management at the site.

Manufacturing Site - Acacia Ridge, QLD

This project involved undertaking a groundwater contamination assessment related to a leaking underground storage tank (UST), as part of an environmental due diligence process. Involved in developing an analytical groundwater contaminant transport model (BIOSCREEN). The model was calibrated against known groundwater levels from a series of groundwater wells installed at the site and interpreted hydrogeological parameters. The calibrated model was then utilised to demonstrate that the migration of an ethanol plume emanating from the USTs, was unlikely to migrate beyond the boundary of the site and provided increased confidence to the Client in planning for potential divestment.

Rail Depot Above Engineered Facility - Spotswood, VIC

This project involved a liner design equivalency assessment for the encapsulation of contaminated soil. Involved in the development and reporting upon contaminant transport models (POLLUTE) of various liner system configurations. Results and recommendations were provided to an Environmental Auditor for approval.

DR LYNDON BELL (CONT.)

Former Manufacturing Site - Coburg, VIC

This project involved remediation of a former manufacturing site. Involved in groundwater contamination assessment and the development of a preliminary FEFLOW finite element groundwater model. The preliminary model was calibrated against a large scale pump test. The calibrated model was then utilised to design a pump and licensed sewer disposal groundwater containment system for the site.

Former Gasworks - Armidale, NSW

This project involved the remediation of a former gasworks site. Developed a MODFLOW finite difference groundwater model. The model was calibrated against known groundwater levels from a network of groundwater wells present at the site. The calibrated model was then utilised to estimate the performance of the proposed vertical barrier wall (VBW) remediation system to be implemented at the site. Modelling studies revealed that proposed additional grouting works underneath the VBW would lead to marginal improvement in the performance of the remediation system when considering the additional capital expenditure required, providing a cost saving to the Client.

Solid Inert Waste Landfill - Brooklyn, VIC

This project involved development of a simple numerical groundwater flow model for a solid inert landfill to support financial modelling of potential future liabilities. Involved in the development of a MODFLOW model and provision of recommendations and limitations of studies.

Solid Inert Waste Landfill - Wollert, VIC

This project involved a landfill liner design equivalency assessment. Involved in the development of contaminant transport models (POLLUTE) of various landfill liner system configurations. Provided assessment report of comparative performance of various liner system configurations as part of provision of technical support to the Client in various applications for regulatory approval of proposed changes at the landfill.

Manufacturing Sites - Kwinana, WA

This project involved a liner system design equivalency assessment. Involved in the development of contaminant transport models (POLLUTE) to evaluate different liner system configurations for waste water storage. Provided assessment report of comparative performance of the various liner system configurations.

Solid Inert Waste Landfill - Inkerman, SA

This project involved a landfill liner design equivalency assessment. Involved in the development of contaminant transport models (POLLUTE) of various liner system configurations. Provided assessment report of comparative performance of various liner system configurations as part of provision of technical support to the Client in various applications for regulatory approval of proposed changes at the landfill.

SOIL AND GROUNDWATER REMEDIATION

Former Dry Cleaning Sites – Multiple Locations, Australia and New Zealand

Extensive technical involvement in the environmental assessment and remediation of multiple dry cleaning sites within Australian and New Zealand jurisdictions. Works involved working in collaboration with multi-disciplinary team on soil (ex-situ soil vapour extraction and biodegradation), groundwater (in-situ chemical oxidation and enhanced in-situ bioremediation) and soil vapour (in-situ soil vapour extraction) remedial solutions. Working in close collaboration with the Client and specialist environmental legal Counsel, supported driving remediation outcomes towards regulatory closure of sites whilst advising on commercial risk management strategies for pragmatic retention of future residual environmental liabilities to enable divestment, as appropriate.

Industrial Manufacturing Facilities – Rocherlea and Mowbray, TAS

This extensive project involved supporting the environmental assessment and remediation of identified chlorinated solvent contamination arising from historical and ongoing use of chlorinated solvents for industrial parts manufacturing. Subject to multiple statutory notices issued by EPA TAS, role included providing technical and strategic direction for advancing project to meet required regulatory milestones, in addition to support specialist environmental Counsel. Project was successfully advanced to the benefit of the Client and enabled them to complete transaction and quit the two sites and associated transfer of residual environmental liabilities to NewCo.

Industrial Land- Sunshine, VIC

This project involved management of identified asbestos containing materials (ACM) entrained in residual site soils at an operational facility. Remedial solution involved implementation of a physical barrier to ensure access to receptor populations were adequately controlled. Role included working in close collaboration with the Client and Principal discipline specialists in order to support delivery of the remedial solution by JBS&G and moving into aftercare management on behalf of the Client. Remedial works satisfactorily completed and achieved compliance with related EPA VIC issued statutory notices.

Former Chemical Manufacturing Site - Banksmeadow, NSW

This extensive project involved leading a multi-disciplinary team to supervise and validate the implementation of a remedial physical barrier solution across hazardous materials (asbestos) impacted land, in accordance with JBS&G Remediation Action Plan (RAP) and commensurate with NSW government and Environmental Auditor requirements. Successfully supported partial divestment of a portion of the site for the Client and their redevelopment project for future specialist government use.

DR LYNDON BELL (CONT.)

Manufacturing Site - Mulgrave, VIC

Project involved a large scale remediation of a former manufacturing facility. Provided technical support to the development of LNAPL identification and assessment protocols (for simple hydrocarbon) and general remediation support.

Former Fuel Depot - West Lakes, SA

This project involved a review of soil and groundwater remediation options for a former fuel depot. Involved in review of previous soil and groundwater contamination assessments to facilitate providing recommendations of the most appropriate remediation options for fuel impacted groundwater and soil at the site to facilitate future redevelopment. Two options were considered for the site, a multiphase extraction (MPE) well based system and a soil bioremediation (BIOPILE) based system.

EXPERT WITNESS SUPPORT

Former Dry Cleaning Site - Brunswick, VIC

This extensive project involved the alleged contamination of neighbouring properties by chlorinated solvents and petroleum distillates from historical dry cleaning and laundry operations as part of a Supreme Court case. Involved in review of technical documents and data through discovery, groundwater contamination assessment, DNAPL and LNAPL remediation research, dry cleaning industry review and technical support to the expert witness.

ENVIRONMENTAL IMPACT ASSESSMENT SUPPORT

Quarry - Montrose, VIC

The project involved the environmental impact assessment of a proposed extension of a quarry. Involved in reviewing the applicable environmental legislation, regulation and policy relating to the potential impact upon groundwater, including groundwater/ surface water interaction.

Dredging - Newcastle, NSW

The project involved the hydrogeological impact assessment for the Environmental Impact Statement (EIS) associated with dredging a river. Involved in the assessment of the potential groundwater impact to surface water from the encroachment of the proposed swing basin onto industrial land.

ENVIRONMENTAL MANAGEMENT SYSTEM

Environmental Management System (EMS)

Extensive role involving maintenance and continuous improvement of corporate EMS and supporting its application across business operations in both Australia and New Zealand. Also responsible for ensuring compliance with the requirements of independent third party Environmental Auditors, pursuant to maintenance of the certification of the corporate EMS to the global EMS standard ISO 14001: 2004.

ENVIRONMENTAL DUE DILIGENCE

Utility Services Target (Project Highlands) - Australia

Project involved providing environmental due diligence support for a large utility services target operating within Australia through a share acquisition process. Works identified and assessed general environmental systems and compliance related risks, in addition to material environmental risks associated with a fabrication facility. Environmental technical support, include site visit and technical direction of external environmental consultant, assisted commercial negotiations with the target and appropriately pricing the acquired risks.

Laundry Target (Project Bluebell) - ACT

Preliminary scoping project involving providing desktop environmental due diligence support for potential acquisition of a laundry facility target in the ACT through an asset sale process. Initial works identified potential material environmental risks associated with on-site historical dry cleaning activities, in addition to potential historical operation of a medical incinerator and associated dioxin/ furan generation and regional exposure risks. Project abandoned.

Minerals Processing Facility Acquisition Target (Project Tomboy) - WA

Acting for the potential Purchaser, strategic review of potential environmental liabilities and market supply risks associated with a minerals processing target in the Pilbara.

Steelworks Acquisition Target - SA

Extensive project involved assessment of potential environmental liabilities associated within an operational steelworks environment in order to inform and price transactional costs. Provided technical and strategic lead on project and engaging with Client and related agents and key stakeholders.

Divestment Support (Project Joey) – Australia and New Zealand

Project involved providing strategic commercial and technical support to an environmental due diligence process for a whole business unit divestment program incorporating assets across Australia and New Zealand.

Former Service Station - West Melbourne, VIC

Acting for the potential Purchaser, this environmental due diligence project involved review of environmental assessment and remediation document and Statement of Environmental Audit (53X) Conditions and likely implications for the Purchaser to indemnify the Vendor for residual environmental liabilities should the transaction proceed. Strategic and commercial advice over several stages as the potential Purchaser approached becoming preferred tenderer.

DR LYNDON BELL (CONT.)

Chemical Manufacturing Targets (Project Aldrin) – AUS, NZ and SE ASIA

Environmental due diligence project for existing chemical manufacturing Client to support potential acquisition of chemical multiple chemical manufacturing facilities across AUS, NZ and SE Asia. Tasks involved providing desktop environmental due diligence support through review of Vendor provided environmental documentation and working collaboratively with other discipline leads within JBS&G to provide robust and practical assessment of potential liabilities for Client. Working in consultation with Client, provided strategic technical advice on proposed environmental liability transfer from Vendor to Purchaser to support proposed transaction.

Equestrian Facility - VIC

Acting for the potential developer, project involved providing strategic environmental due diligence and liability cost estimate support in early stages of a proposed joint venture with site owner for the subsequent redevelopment of an existing equestrian facility for mixed uses, in addition to refurbishment/ upgrading of existing horse racing facility. Across multiple stages, led engagement with the Client in relation to environmental matters and provision of commercial advice.

Laundry/ Dry Cleaning Target (Project Flax) - SA

Project involved providing environmental due diligence support for acquisition of an established laundry in SA (single site) through an asset sale process. Works identified several phases of dry cleaning operations at the site, undertaken by other parties (current landlord). Environmental technical support assisted negotiation of environmental indemnifications from financier and management of environmental liability risks through immediate cessation of potentially contributing activities, i.e. on-site groundwater extraction.

Laundry/ Dry Cleaning Target (Project Lamp) - NSW

Environmental due diligence support provided for acquisition of established laundry business in NSW through share sale. Works identified a former dry cleaning operation as part of the target group structure. Environmental technical support provided to facilitate "ring-fencing" this part of the operation from the overall laundry business deal. Technical input provided to negotiate environmental indemnification clauses. Strategic risk position was supported through technical scoping of a Phase 1 ESA to demonstrate pre-existing potential sources of site contamination. Regulatory implications and associated reputational risks were also identified, priced and incorporated into the overall acquisition business case.

Industrial Facility - Tullamarine, VIC

Acting for the landlord's agent, environmental due diligence works comprised consideration of lease entry ESA and lease exit ESA and confirmation that there was no demonstrable change in environmental condition that could be materially attributed to the lease period.

Timber Milling Targets (Project Village) – QLD and VIC

Providing strategic environmental due diligence technical support for potential acquisition of existing operational timber milling assets. Tasks involved comprehensive review of environmental data and providing key risks commercial advice in order to support the Client's bid team, working in close collaboration with specialist Environmental Counsel.

Laundry Target - Palmerston North, NZ

Environmental due diligence technical support for a potential lease of an established laundry facility. Works involved review of site setting and environmental clauses pursuant to potentially executing a commercial lease agreement, in the context of the New Zealand environmental regulatory setting and the likely onus of responsibility for potential contamination for both owners and occupiers. Strategic advice identified numerous potentially unacceptable environmental liability/ indemnification related clauses. Likely environmental liabilities were priced for the business, to enable it to make a commercial decision on how rigorous lease amendments were to be pursued, in the context of the broader business deal, or to take the risk of accepting part or all of the incurred environmental liabilities.

Property Expansion Target - Melbourne, VIC

Working on behalf of an extensive landowner, rapid project comprising PSI and site observations to support potential acquisition of property surrounded by existing landholdings. Works involved assessment of likely contamination as could be discerned by available data sources, and potential liabilities/ constraints associated with the proposed acquisition. Works were completed within a short timeframe in order to meet internal governance requirements and commercial advice regarding how to approach the acquisition and potential redevelopment in the context of the likely contamination and the prevailing environmental regulatory regime.

Laundry/ Dry Cleaning Target (Project Black Swan) - WA

Environmental due diligence technical support for a potential share acquisition of an established laundry business operating across multiple sites. Works identified former dry cleaning operations across several properties and evidence of poor historical chemical handling practices. Strategic advice was provided in relation to environmental regulatory implications, potential reputational impacts and establishment of suitable environmental provisions for assessment/ remedial works, given potential acquisition of existing environmental liabilities through the share sale process and proposed deal structure.

DR LYNDON BELL (CONT.)

TRAINING/CONFERENCES

University of Waterloo – Radiation Safety Training

Waterloo, Ontario, 19-20 August 2003

Remediation Technologies Development Forum (RTDF) Conference

Niagara, New York, 15-16 October, 2003

Solvents Conference

Orangeville, Ontario, 11-12 May 2004

Battelle Conference

Monterey, California, 24-27 May 2004

LNAPL in the Subsurface: A practical short course

CSIRO, Melbourne, 10-11 March 2005

NAPLs and Groundwater

Centre for Groundwater Studies, Melbourne, 27–30 June 2005

Advanced Groundwater Modelling, Applying Innovative Techniques

Waterloo Training Course Series, Waterloo Hydrogeologic, Melbourne, 21-23 November 2005

FEFLOW Modelling Course

Golder Associates and WASY, Melbourne, 10-12 April 2006

GOLDSIM (Probabilistic uncertainty analysis in water balance modelling)

GoldSim Technology Group, Brisbane, 7-8 November 2006

Introduction to Risk Assessment

ACLCA, Melbourne, 28 August 2007

Monitored Natural Attenuation for Groundwater Remediation and Management

Wiedemier and Haas, ACLCA, Melbourne, 23 – 24 October 2007

Enhanced Bioremediation and Other Low Cost Remediation Methods for Soil and Groundwater

Wiedemier and Haas, ACLCA, Melbourne, 25-26 October 2007

Hydrogeology Conference

Golder Associates, Perth, 21-23 July 2009

Golder Associates – Integrated Management Systems

Golder Associates, Melbourne, September 2009

Technical Writing Course

Golder Associates, Melbourne, 19 March 2010

Contractor Management Course

Golder Associates, Melbourne, 28 April 2010

In-situ Chemical Oxidation (ISCO)/ In-situ Chemical Reduction Course

Golder Associates, Melbourne, 3-4 August 2011

Integrated Management Systems – Online Training Courses

Golder Associates, Melbourne, October 2011

SharePoint Development Training Course

Spotless, January 2014

PFAS Training Course

CRC Care, Melbourne, September 2016

PUBLICATIONS

Bell, L.S.J. and Binning, P.J., 2004. *A split operator approach to reactive transport with the forward particle tracking Eulerian Lagrangian Localized Adjoint Method*. *Advances in Water Resources*, 27(4), pp 323-334.

Bell, L.S., Devlin, J.F., Gillham, R.W., and Binning, P.J., 2003. *A sequential zero valent iron and aerobic biodegradation treatment system for nitrobenzene*. *Journal of Contaminant Hydrology*, 66(3-4), pp 201-217.

Bell, L.S.J., Binning, P.J., Kuczera, G. and Kau, P.M.H., 2002. *Rigorous uncertainty assessment in contaminant transport inverse modelling: A case study of fluoride diffusion through clay liners*. *Journal of Contaminant Hydrology*, 57(1-2), pp 1-20.

Bell, L., Gui, L., Gillham, R.W. and Kim, S., 2004. *Sequential granular iron and biodegradation treatment system for groundwater contaminant mixtures*. In: Weaver T and Cartwright I (Editors), *Inaugural Australian Hydrogeology Conference*, University of Melbourne, Melbourne, Victoria, pp 9-11.

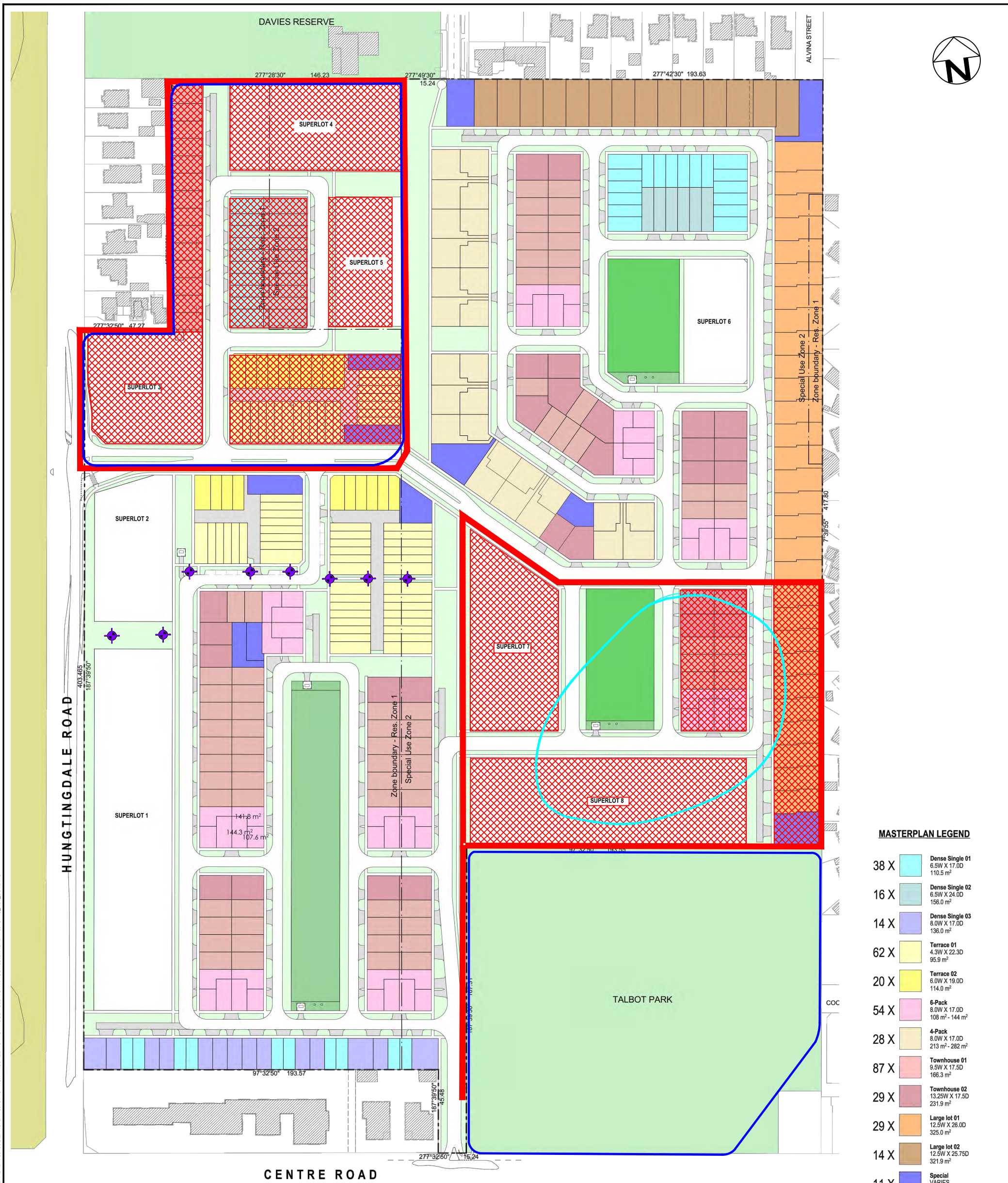
Bell, L.S.J., Devlin, J.F., Gillham, R.W. and Binning, P.J., 2001. *A sequential multi-zone treatment system for the degradation of nitroaromatics*. In: D. Smith, S. Fityus and M. Allman (Editors), *GeoEnvironment 2001*. Australian Geomechanics Society (Newcastle Chapter), Newcastle, New South Wales, pp. 545 - 551.

Bell, L.S.J., Binning, P.J., Kuczera, G. and Kau, P.M.H., 2000. *Assessing parameter uncertainty in models of diffusion cell experiments*. In: P.L. Bjerg, P. Engesgaard and T.D. Krom (Editors), *Groundwater 2000*. A.A. Balkema, Copenhagen, Denmark, pp. 69-70.

Bell, L.S.J., Binning, P.J., Kau, P.M.H. and Kuczera, G., 1999. *Model identification and parameter estimation in a one-dimensional model of contaminant transport incorporating nonlinear sorption*. In: W. Boughton (Editor), *Water 99 Joint*

Attachment D- Coffey (2017) Figure 1 – Possible Extent of Former Landfill

Attachment E- Coffey (2017) Figure 10A – Remedial Options for Masterplan



MASTERPLAN LEGEND

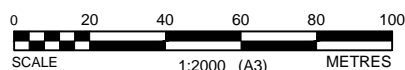
- 38 X Dense Single 01
6.5W X 17.0D
110.5 m²
- 16 X Dense Single 02
6.5W X 24.0D
156.0 m²
- 14 X Dense Single 03
8.0W X 17.0D
136.0 m²
- 62 X Terrace 01
4.3W X 22.3D
95.9 m²
- 20 X Terrace 02
6.0W X 19.0D
114.0 m²
- 54 X 6-Pack
8.0W X 17.0D
108 m² - 144 m²
- 28 X 4-Pack
8.0W X 17.0D
213 m² - 282 m²
- 87 X Townhouse 01
9.5W X 17.5D
166.3 m²
- 29 X Townhouse 02
13.25W X 17.5D
231.9 m²
- 29 X Large lot 01
12.5W X 26.0D
325.0 m²
- 14 X Large lot 02
12.5W X 25.75D
321.9 m²
- 11 X Special VARIES
136.0 m²

LEGEND

- LEACHATE TREATMENT WELLS (IF REQUIRED)
- APPROXIMATE EXTENT OF LANDFILL WASTE (EXTENT TO BE FULLY DEFINED)
- APPROXIMATE EXTENT OF POTENTIALLY LANDFILLED AREA (EXTENT TO BE FULLY DEFINED)
- VERTICAL GAS VENTING SYSTEM
- HIGH GAS PROTECTION MEASURES FOR BUILDINGS
- OPEN SPACES/STORMWATER BASINS

SOURCE: MASTERPLAN (SITE PLAN) FROM SITE SERIES, DKO, 10831, TP.00.10.04 25/11/2014

no.	description	drawn	approved	date
A	ORIGINAL ISSUE	HU	NW/PS	25/07/2017



drawn	HU
approved	NW/PS
date	25/07/2017
scale	AS SHOWN
original size	A3



client:	NORTON ROSE FULBRIGHT AUSTRALIA		
project:	EXPERT REPORT OF MR PHIL SINCLAIR MONASH PLANNING SCHEME AMENDMENT C129		
title:	REMEDIAL OPTIONS FOR MASTERPLAN		
project no:	ENAUABTF00751AC-R01	figure no:	FIGURE 10A
rev:	A		