

14 September 2018

Katherine Longhurst
Partner
Perumal Pedavoli Architects
Level 2, 458 Wattle Street, Ultimo
Sydney, NSW 2007

Dear Katherine,

**Re: Interim Audit Advice #1: Penshurst Public School, 510
Forest Road, Penshurst
Preliminary Environmental Site Assessment (Contamination) and
Preliminary Stage 2 Site Investigation and Remediation Action Plan**

1. Introduction and Background

Melissa Porter (the Site Auditor) of Senversa Pty Ltd (Senversa) has been engaged by Perumal Pedavoli Architects Pty Ltd (PPA) on behalf of Schools Infrastructure NSW (SI) as a NSW Environment Protection Authority (EPA) Accredited Contaminated Sites Auditor for the proposed redevelopment of Penshurst Public School, located at 510 Forest Road, Penshurst, NSW (hereafter referred to as 'the site').

It is understood that development plans for the site, which is currently occupied by a primary school, are still being finalised but are likely to include the demolition of all existing buildings and redevelopment of the school. Environmental Investigation Services (EIS), engaged as the environmental consultant to assess the contamination status of the site, produced the following two reports, which were forwarded to the Site Auditor for review:

- EIS (2017). *Preliminary Environmental Site Assessment (Contamination) for Proposed Alterations and Additions to Existing School at Penshurst Public School, 510 Forest Road, Penshurst, NSW*, referenced E30104KPrptRev1 and dated 14 February 2017. This is hereafter referred to as the 'PSI'
- EIS (2018). *Preliminary Stage 2 Site Investigation and Remediation Action Plan for Proposed School Development at Penshurst Public School, 510 Forest Road, Penshurst, NSW*, referenced E30104KPrpt2 and dated 17 January 2018. This is hereafter referred to as the 'DSI/ RAP'.

This interim audit advice details the review of the PSI and the DSI/ RAP in relation to the contamination status of the site. Additional specialist advice should be obtained for the geotechnical and heritage issues referred to in the reports.

2. Review Comments

The Site Auditor has undertaken a review of the PSI and DSI/ RAP against the requirements specified in the *Guidelines for the NSW Site Auditor Scheme (3rd edition)* (NSW EPA, 2017) and the *Guidelines*



for *Consultants Reporting on Contaminated Sites* (NSW Office of Environment and Heritage, 2011).
Review comments are detailed herein.

2.1 Primary Comments

Based on a review of the PSI and DSI/ RAP, the following are considered to be the primary points which require addressing:

1. More detail is required for the proposed data gap investigation. These comments could be addressed separately in a sampling, analysis and quality plan (which should be sent to the Site Auditor for review), or in a revised DSI/ RAP. The details should specifically address:
 - a. Proposed sampling details, including locations; methods; frequencies; sample preservation; analyte suites and quality control sampling.
 - b. Completing a second round of groundwater monitoring using low flow sampling techniques (as opposed to using a bailer), where a sample would only be collected after parameters have been allowed to stabilise for at least three consecutive readings. Groundwater assessment guidelines should also be revised as required in the context of the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (August 2018).
 - c. Completion of a hazardous building material survey, which was identified as a potential mechanism for contamination but was not specifically included as part in the RAP.
 - d. Calculation of the statistical significance of the elevated concentrations of benzo(a)pyrene toxic equivalent quotient at BH3, as mentioned in Section 10.2.1 but not specifically included in the RAP (unless it is considered that a calculation can be completed on the current data set?).
2. Please provide justification for the use of the benzo(a)pyrene screening criterion provided in *Technical Report No. 39 - Risk-based management and guidance for benzo(a)pyrene* (CRC Care, 2017).
3. Any emu picking should be done in accordance with Section 4.1.1 of the *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia* (WA DoH), and as such, Table 13-2 should be updated to reflect the additional details contained therein.

2.2 Technical Items

Other technical comments are provided below. It is considered that these comments could be addressed in the DSI/ RAP, including those on the PSI.

PSI

4. The geotechnical investigation report (referenced 30104Srpt), which both the PSI and DSI/ RAP state should be read in conjunction with the PSI and DSI/ RAP, was not provided for review. Could either a copy be provided for reference or the findings pertinent to the contamination assessments be summarise in the PSI?
5. Please provide a comment on the likelihood of per- and poly-fluoroalkyl substances having been used on-site. Was any evidence of fire extinguishers containing aqueous film forming foam identified during the site inspections?
6. With reference to the vegetable patch in the southeast corner of the site mentioned in Section 2.4.7, was any sampling completed here? If not, were visual differences in soil type noted from the rest of the site?



7. Please specify the anticipated groundwater flow direction (given that only one groundwater monitoring well was installed).
8. Relative percent differences greater than 30% should be reviewed and assessment conducted of the likely cause, in accordance with Section 3.5.1 of Schedule B3 of the NEPM.
9. Please confirm the location of TP101 and TP102 as figures in both the PSI and DSI/ RAP show two TP102 locations.
10. Were the visible fibre cement fragments removed from the site and clearance certificate issued, as recommended in Section 11? If so, are the dockets and certificate available for review?

DSI/ RAP

11. Please include details on the sampling location rationale for the samples taken to date.
12. There is potential for volatile and semi-volatile contaminants in the soil and groundwater samples collected in both the PSI and DSI/ RAP to be under-represented in the laboratory results for the following reasons:
 - a. The majority of soil samples were collected from the auger flights (which only allows for a highly disturbed sample collection) and the only groundwater sample was collected using a bailer (which can lead to loss of volatiles due to agitation of the water column).
 - b. The sample receipt temperature for all laboratory samples was between 10.2 °C and 18.3 °C. Although it is unlikely that significant amounts of volatile and semi-volatile contamination are present on site, they were identified as contaminants of concern in the conceptual site model and as such, a discussion of the potential implications of this should be included in the DSI/ RAP.
13. Please include calibration sheets for the PID for all investigation phases. Section 6 references standard sampling procedures attached to the DSI/ RAP, although none appeared to be attached. Could EIS include a copy/ summary in the DSI/ RAP?
14. From a review of the groundwater monitoring sheet provided in Appendix F and the log for BH208, it would appear that the well was installed, developed and sampled on the same day. Pursuant to Section 8.2.3.5 of Schedule B2 of the NEPM which states, "*After development, bores should be left for a period until borewater chemistry can be demonstrated to have stabilised (generally between 24 hours and seven days) before samples are collected...*", please provide a discussion on the potential implications of this. It is also noted that parameters were not allowed to stabilise before obtaining a groundwater sample. This should also be included in the discussion.
15. The date on the logs for the majority of samples was provided as 9 September 2017, although the sample dates on the laboratory certificates were given as 25 September 2017. Please clarify.
16. Given the heterogenous nature of fill material in general (and at the site, as confirmed by the borelogs) and that the majority of samples were collected from auger flights which only allow for a highly disturbed, churned sample to be collected, the most conservative criteria for either a coarse or fine soil should be assumed for human health and ecological assessment criteria for all samples.
17. Any emu picking should be done in accordance with Section 4.1.1 of the *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia* (WA DoH), and as such, Table 13-2 should be updated to reflect the additional details contained therein.
18. Table 13-1 states "*all fill within the garden bed should be excavated down to the surface of the underlying natural soil...*". Therefore, does Table 14-1 refer to validation of natural material only? In addition, given that total recoverable hydrocarbons in the fraction C₁₆-C₃₄ exceeded the



ecological screening criteria, it would be prudent to include the analysis of total recoverable hydrocarbons in the validation suite, in addition to PAHs.

19. With regards to the imported material:

- a. The expectation is that any asbestos assessment would be done using gravimetric methods.
- b. Recycled aggregate should be sampled at a minimum of three samples per source site or at least one sample per 100 cubic metre, whichever is the greater.
- c. Quarried material should be sampled at a rate of one sample per source site or one sample per 200 cubic metre, whichever is the greater.

20. To ensure the remedial works are carried out at the appropriate time of the development, Section 16.4 should be expanded to include the main components of the investigation and remediation works. Currently, the section is considered to be very brief.

21. It would be prudent to include a separate segment in Section 16 detailing how stockpiles should be managed. Alternatively, this could be included in a Construction Environment Management Plan.

3. Additional Items and Issues for Future Considerations

3.1 Additional Items

Noting that the development plans are yet to be finalised, could PPA/ SI confirm whether the development is likely to include a basement and whether the vegetable patch will be retained as part of the proposed development?

Could I also request to receive a copy of the development consent once received? It is likely that there will be conditions included therein which will make the audit statutory and as such, I will be required to notify the EPA of my engagement as soon as possible.

Once the buildings have been demolished and the hardstand has been removed, I would also need to complete a site visit as part of my audit. This would ideally be done after the asbestos clearance certificate has been issued.

3.2 Issues for Future Consideration

In addition to the above, consideration should also be given to the following during the next stages of development:

- Although not identified as yet, there is potential for asbestos to be present within the soils given that construction waste was identified below the surface and that assessment so far has been through boreholes and hand augers, which do not allow for a good visual inspection of the sub-surface.
- State Environmental Planning Policy 55 is currently undergoing review and it is likely to be revised in the coming months. If the proposed changes are incorporated into the final legislation, there may be additional obligations for the remediation and development works. The RAP in particular should be revisited, and, if required, revised to reflect new legislative requirements as required (for example, whether the works remain Category 2 or will become Category 1).
- Due to changes in the *Guidelines for the NSW Site Auditor Scheme (3rd Edition)* which were released by the NSW EPA in October 2017, there are fairly strict and onerous requirements for an auditor to check that waste management/ material tracking is being appropriately managed on-site.



4. Close

We look forward to receiving a response to the comments above and trust this meets your current requirements. Should you have any queries or require further information, please do not hesitate to contact the undersigned.

Yours sincerely,
On behalf of **Senversa Pty Ltd**

Melissa Porter

NSW EPA Accredited Site Auditor (0803)

EL/MP

Technical Limitations and Uncertainty – This Interim Advice is not a Site Audit Report or a Site Audit Statement, as defined in the Contaminated Land Management Act 1997, but forms part of the Site Audit process. It is intended that a Site Audit Statement and report will be issued at the completion of the site audit.

Consistent with NSW EPA requirements for staged “sign-off” of sites that are the subject of progressive assessment, remediation and validation, the Auditor is required to advise that:

- This site audit advice does not constitute a site audit report or statement.
- This letter is considered by the Auditor to be consistent with NSW EPA guidelines and policies.
- This letter will be documented in the final Site Audit Statement and associated documentation.
- At the completion of the site audit, a Site Audit Statement will be prepared, for the consent agency to include the Site’s property information, held by the local council.

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