

MEMORANDUM

To: Graham Fowler

From: Lowe Environmental Impact Ltd

Date: 21 March 2016

Subject: Clarification on PC47 Stratford - Technical peer review of preliminary site investigation report

Dear Graham,

Please find outlined below the requested clarifications on the points raised by the Tonkin & Taylor peer review report of our Preliminary Site Investigation (PSI) report prepared for M J Stratford's property (631 Shands Road).

Clarification #1 in response to:

"The identified HAIL activities have occurred within a relatively small area interior and exterior to outbuildings adjacent to the residential property located in the centre of the site. LEI has not identified HAIL activities outside of this area – i.e. within the pasture and horse track that forms the majority of the site. We would suggest that the report should more clearly define the extent of the 'piece of land' as defined in the NES Soil, and therefore the area of the site to which its recommendations for DSI apply."

The Preliminary Site Investigation was undertaken on the whole property referenced as Lot 1 DP 53113, as requested by Selwyn District Council (SDC).

On this property, the only parts on which HAIL activities are more likely than not to have been undertaken (i.e. "the piece of land") is the area surrounding the existing buildings comprised in Lot 14 of the proposed subdivision, as shown by **Figure 4.2.1** in the PSI report.

The recommendations for a Detailed Site Investigation (DSI) apply to that area only.

Clarification #2 in response to:

"A horse track appears to have been present in a paddock north of the residential property since approximately the mid-2000s. Whilst unlikely given the recent construction of the track, it is possible that oil or other chemical dust suppressants have been used on this track and we would suggest that this is confirmed (or otherwise) by LEI and stated in the report."

Based on the discussion held with the current site owner during the site visit, no chemicals were used on the horse training track. According to the site owner, the type of processes and material used to build the tracks mostly consist of heavily compacted limestone.



Moreover, although such practice may be used for roads or driveways, the use of oil as a dust suppressant is highly unlikely (and not recommended) as a practice for horse training tracks, given the risks involved with the use of such substance for horses and drivers/riders.

Clarification #3 in response to:

"Based on the HAIL activities identified, soil sampling for TPH, PAHs and metals has been recommended. Given that building rubble of unspecified origin was noted by LEI to be present at the site, the potential for asbestos to be present in this material should be considered in the PSI, and recommendations for asbestos analysis included in the recommended analytical suite, if appropriate."

Asbestos was one of the concerns, given the type of activities undertaken by the site owner and the use of the property to store some construction debris.

However, the visual inspection done in the frame of the site visit did not identify any potential Asbestos Containing Material (ACM).

Clarification #4 in response to:

"The report comments on soil remediation and validation completed on an adjacent property, in relation to an above ground storage tank. The investigation and site validation reports referred to by LEI have not been attached to the PSI report and so the conclusions of those investigations cannot be verified. Given the inclusion of these investigations in the PSI, we would suggest that LEI comment on the potential for contamination associated with the off-site above ground tank to have impacted the subject site."

A Detailed Site Investigation (DSI), soil remediation and site validation were performed on the 311 Trents Road site. The contamination consisted of approximately 3 m² of soil contaminated to a depth not exceeding 300 mm below ground level, due to repeated leaks from an above ground diesel storage tank. The contamination was delineated and remediated by excavation of the contaminated soil and disposal to an approved facility.

Results show that, by 1 m away from the visually contaminated surface, that no detectable contamination was present. Validation sampling has shown that the remediation actions taken in the identified contaminated area were successful.

Given the above, it is highly unlikely that the contamination on 311 Trents Road will have any impact on the subject site.

Clarification #5 in response to:

"We suggest that the report provide greater clarity on the potential extent of soil contamination associated with the identified HAIL activities, particularly as the volumes of chemicals stored appears to be relatively small, and that soil impacts are likely to have been highly localised."



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Some of the points of interest outlined in the PSI report show more than “small” volumes of hazardous substances and the land use history, in terms of actual quantities stored and for how long, is not known.

For some points of interest, it is more the type of activities, the current practices and the areas on which those activities are undertaken that are of concern.

For some of these points of interest, the impacts on soil can be considered as highly localised (i.e. Point of Interest #2, the storage shed where different type of paint and hazardous substances are stored on bare ground and where grinding polishing residues were found accumulating on the ground).

Other points of interest mostly concern areas with a land use history that is broader than the situation described in the photographs taken during the site visit (i.e. Points of Interest #1 and #6 - #8). The HAIL activities undertaken at these points of interest are most likely carried out in larger areas and for some (undetermined) period of time.

Clarification #6 in response to:

“In its assessment of exposure routes (Table 6.1), the assessment states that the inhalation of volatiles (indoor and outdoor) exposure pathway does not apply to post-development site users. Given the nature of the chemicals reported to be stored at the site (a number of which are likely to contain highly volatile components) we would suggest that if soil contamination by these chemicals has occurred it is possible that it would include volatile contaminants. Depending on the extent and magnitude of impact, and unless remediation or management of impacted soils occurs, the inhalation pathway is, in fact a plausible exposure pathway for future site users, including residents.”

This is a valid point. **Table 6.1** has been updated as follows:

Table 6.1: Pathways Assessment

| Pathway | Soil Depth | Is Pathway complete? | | | |
|--|-------------|----------------------------|---------------------|------------------------|-----------------------------------|
| | | Users of Surrounding Sites | Development Workers | Post-Development Users | Service and Maintenance Personnel |
| Soil ingestion | Surface | No | Yes | Yes | Yes |
| | Sub-surface | No | Yes | Very limited | Yes |
| Dermal contact | Surface | N/A | Yes | Yes | Yes |
| | Sub-surface | N/A | Yes | Very limited | Yes |
| Inhalation of volatiles (indoor & outdoor) | Surface | N/A | Yes | Yes | Yes |
| | Subsurface | N/A | Yes | Yes | Yes |
| Inhalation (particulate, dust) | Surface | Yes | Yes | Yes | Yes |
| | Sub-surface | N/A | Yes | Very limited | Yes |

We trust this addresses the matters raised by the Tonkin & Taylor report.



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Should you have any questions or concerns about this, feel free to contact me.

Kind Regards

Philippe Dumont