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21 August 2020

Daniel Iuliano
Project Manager
Mace Australia Pty Ltd
Level 17, 44 Market Street
Sydney NSW 2000

Via email: Daniel.Iuliano@macegroup.com

Dear Daniel,

Re: Interim Advice 2 (IA2) – Endorsement of Remediation Action Plan for Proposed Upgrade Works, Darlington Public School, 417 Abercrombie Street, Darlington, NSW.

1 Introduction

Mace Australia Pty Ltd (Mace), on behalf of NSW Department of Education School Infrastructure (SINSW), has engaged Rebeka Hall of Zoic Environmental Pty Ltd (Zoic), a NSW EPA Auditor accredited (No. 0802) under the Contaminated Land Management (CLM) Act 1997, to conduct an Audit of the property located at 417 Abercrombie Street, Darlington, NSW (“the site”).

The site is legally identified as Lot 592 in DP 752049 and Lot 100 in DP 623500, occupies an area of approximately 7,200m² and is currently used as Darlington Public primary school.

A State Significant Development (SSD) application for the Darlington Public School Redevelopment (No. SSD-9914) is currently under assessment with Department of Planning, Industry and Environment. The proposed development comprises the construction of a multi-storey school building, new administration and staff facilities, library, special programs rooms, hall, canteen facilities, preschool classrooms and associated landscaping and playgrounds.

The Audit is currently non statutory in nature. The Auditor has been engaged to review available environmental investigation reports, comment on the nature and extent of contamination and whether the proposed remedial strategy is appropriate for the contamination identified and future use, and what further works (if any) are required.

The Audit is being conducted in accordance with the NSW EPA (2017) Contaminated Land Management Guidelines for the NSW Site Auditor Scheme (3rd edition).



2 Scope of Audit and Nature of Interim Advice

NSW EPA (2017) describes the site assessment and audit process as:

1. *Consultant is commissioned to assess contamination.* The contaminated site consultant designs and undertakes the site assessment and, where required, all remediation and validation activities to achieve the objectives specified by the owner or developer; and
2. *Site auditor reviews the consultant's work.* The site owner or developer commissions the Auditor to review the consultant's work. The Auditor then prepares a SAR and SAS at the conclusion of the review, which are given to the owner or developer.

Therefore, the contaminated land consultant and other relevant parties should be satisfied that the work to be conducted conforms to all appropriate regulations, standards and guidelines and is suitable based on the site history and the proposed land use.

3 Current Interim Advice

During the course of the Audit, the Auditor issued Interim Advice No.1 (IA1) (31 July 2020) which provided comment on the investigation findings and remedial strategy documented in the following reports:

- Douglas Partners (April 2018) Hazardous Building Materials Assessment, Darlington Public School Upgrade, 417 Abercrombie Street Darlington Public School 92277.01;
- Douglas Partners (April 2018) Preliminary Site Investigation (PSI), Darlington Public School Upgrade, 417 Abercrombie Street Darlington Public School 92277.00
- Douglas Partners (February 2019) Detailed Site Investigation (DSI) for Contamination, Proposed Upgrade Works, 417 Abercrombie Street, Darlington, NSW 92277.01;
- Douglas Partners (May 2020) Soil Vapour Assessment (SVA), Proposed Upgrade Works, 417 Abercrombie Street, Darlington, NSW 92277.02;
- Douglas Partners (4 June 2020) Remediation Action Plan (RAP), Proposed Upgrade Works, 417 Abercrombie Street, Darlington, NSW, 92277.02. R001.Rev2

Douglas Partners (DP) provided a response to IA1 and a revised Remediation Action Plan.

The purpose of the current Interim Advice is to provide the Auditor's opinion on whether the site is capable of being made suitable for the proposed development by endorsing the remedial approach as outlined in the following report:

- Douglas Partners (DP) (19 August 2020) Remediation Action Plan (RAP), Proposed Upgrade Works, 417 Abercrombie Street, Darlington, NSW, 92277.02.R.001.Rev4.

The remediation action plan (RAP) has been evaluated against the requirements outlined in NSW EPA (2017) Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (third edition) and other guidelines made or endorsed by NSW EPA.

4 Summary of Contamination Status of the Site

Investigations to date have confirmed the presence of fill material impacted with PAH (including BaP TEQ and naphthalene), isolated asbestos and lead above human health criteria (NEPM 2013, HIL-A); and TRH, BaP and zinc above ecological criteria (NEPM 2013; EILs/ESLs). Majority of the contaminants exceeded 250% of adopted assessment criteria (in particular BaP TEQ, total PAH and lead greater than respective HIL-A). The leachability of the fill material has not been fully assessed.



Preliminary (and limited) waste classification has indicated that the fill material could be classed as General Solid Waste; Restricted Solid Waste and possibly Special Waste (subject to confirmation of asbestos presence). However, further waste classification is proposed as part of remedial works.

Due to site access restrictions environmental investigations have only been via hand auger, and therefore vertical characterisation of contaminant conditions for the fill profile has not been completed. A review of environmental and geotechnical borehole logs indicate that fill occurs across the entire site, varying in thickness between 0.5m and 2.4m. The fill was described as grey mottled silty clay with slag, charcoal type gravel, and coal wash with widespread presence of crushed bricks, ceramics and concrete. The underlying natural soil comprised stiff, silty clay followed by weathered shale, and interbedded siltstone and sandstone at depth. No groundwater was encountered during the PSI, DSI or geotechnical investigations conducted by DP.

An asbestos management plan (AMP) exists for the northern portion of the site, where historically Asbestos Containing Material (ACM) fragments were observed on the surface of the playground. The AMP requires periodic inspections in the management of asbestos. Although only one sample collected during DP's DSI confirmed the presence of asbestos in a fragment the limitations associated with the collection of samples from hand augers and absence of fill penetration during the completion of the PSI and DSI works, the presence of asbestos (in forms) cannot be discounted for the site.

Groundwater was not investigated as DP considered that there was an incomplete pathway between impacted fill and groundwater, as concentrations of contaminants did not exceed adopted criteria in natural samples analysed. The Auditor notes that based on the environmental investigations reviewed, site history and environmental setting, groundwater occurs at depths greater than 10m and the potential impact to the groundwater from past and present land uses onsite is considered to be low.

5 Overview of the Proposed Remedial Strategy

Remediation will be conducted in a staged manner comprising Early Works (completion of upper games court and partial demolition of Block C); Stage 1 construction of new buildings in the northwest; and Stage 2 completion of a new build in the southern portion of site and demolition of Block A, B and remainder of C.

As outlined in the DP (19 August 2020) Remediation Action Plan (RAP) the proposed remedial strategy can be summarised as follows:

- Onsite retention of contaminated material by excavating and creating engineered containment cells followed by the installation of a capping layer over the impacted material. The proposed minimum thickness of the cap is 0.3m of clean fill (increased to 0.5m in soft landscaping areas), with a high visibility marker layer on top of the contaminated material. Final ground cover will be dependent on the development however can comprise asphalt, concrete or 'soft fall' material. This strategy provides a physical barrier and minimises the exposure to contaminated material. Where a concrete slab is retained, is in good condition and will not be disturbed, it is considered as a sufficient barrier.
- Excavation, waste classification and offsite disposal of any material not suitable to remain onsite (for example material that is highly leachable) or surplus to the development; and



- Preparation and implementation of a long-term Environmental Management Plan (EMP) at the completion of remediation outlining ongoing management and maintenance obligations for the residual, capped contamination.

6 Auditor Comments

The Auditor considers that the proposed remediation strategy, as documented in the DP (19 August 2020) RAP, is sufficiently robust for the contamination known for the site and the proposed staged development (outlined in Appendix D of RAP), with appropriate contingencies should contamination be greater than initially identified or the material found to leach at unacceptable concentrations.

The Auditor concludes that the site is capable of being made suitable for the proposed development provided that the DP (19 August 2020) RAP is implemented, and the following conditions are met:

1. A remedial work plan (RWP) (or specification) must be prepared once civil plans, development layout and ground cover have been finalised. The RWP must provide detail on the proposed capping systems for the site and design specification for the proposed containment cells including the location and depth of construction, and with due consideration any underground services to be installed within remediation areas. Suitable capping within Tree Protection Zones (TPZ) must provide a suitable barrier for site users as well as safeguarding tree health. The RWP must be reviewed and endorsed by the Site Auditor prior to its implementation.
2. As part of remediation sampling, further characterisation of retained fill including testing of fill under buildings once demolished; confirmation on whether asbestos (in any form) is present; and the leachability of retained fill must be undertaken.
3. In addition to human health validation criteria, relevant ecological investigation, and screening levels (EIL/ESL) must be considered as part of validation.
4. Following the completion of remediation works, a validation report (or reports if staged sign-off by Site Auditor is required) must be prepared in accordance with NSW EPA (2020) Guidelines for Consultants Reporting on Contaminated Sites (second edition) and requirements as outlined in the POEO (Waste) Regulation 2014 for waste classification, disposal and documentation. The validation report(s) must be provided to the Site Auditor for review.
5. As the remedial strategy is cap and containment of contaminated material onsite, a long-term Environmental Management Plan (EMP) will be required. The EMP must be appropriate for the contamination remaining and site activities/operation as a school, must outline how it will be legally enforceable, and will require public notification and acceptance by the landowner. The EMP must be reviewed and endorsed by the Site Auditor. The EMP will be attached to any Site Audit Statement (and Report) prepared for the site.
6. At the completion of remediation works, a Site Audit Statement(s) and Report(s) should be prepared, by the Site Auditor, confirming that the site is suitable for the proposed development.



This interim advice does not constitute a SAS or a SAR, but rather is provided to assist the Client in the assessment and management of contamination issues at the site. The information provided herein should not be considered pre-emptive of the final Audit conclusions. It represents the Auditor's opinion based on the review of currently available information.

Should you have any queries or wish to discuss any points, please do not hesitate to contact the undersigned.

Yours sincerely,

Rebeka Hall
NSW EPA Accredited Site Auditor
Zoic Environmental Pty Ltd