

Mr Alex Hill  
Department of Planning and Environment  
GPO BOX 39  
SYDNEY NSW 2001

Dear Mr Hill

**SSD 9313 – MACQUARIE UNIVERSITY OFFICE AND LABORATORY BUILDING –  
ENVIRONMENTAL IMPACT STATEMENT (EIS)**

I am writing to you in reply to your invitation to the Environment Protection Authority (EPA) to make a submission concerning the above project EIS.

The EPA requests that this submission be read in conjunction with its letter dated 21 May 2018 in respect of the draft Secretary's environmental assessment requirements for the project.

The EPA emphasises that it does not review or endorse environmental management plans or the like for reasons of maintaining regulatory 'arm's length'. The EPA has not reviewed any environmental management plan forming part of or referred to in the EIS.

The EPA has identified the following site specific concerns based on the project information available on the Department of Planning and Environment major projects web site:

- (a) the need for a detailed assessment of potential site contamination, including a detailed assessment of the footprint and surrounds of existing buildings, surface infrastructure and in ground utilities following their demolition;
- (b) construction phase noise impacts (including recommended standard construction hours and intra-day respite periods for highly intrusive noise generating work) on noise sensitive receivers such as surrounding residences;
- (c) construction phase dust control and management,
- (d) construction phase erosion and sediment control and management;
- (e) operational noise impacts on noise sensitive receivers (especially surrounding residences on adjoining and adjacent holdings) arising from operational activities such as waste collection services and mechanical services (especially air conditioning plant);
- (f) practical opportunities to implement water sensitive urban design principles, including stormwater re-use; and

- (g) practical opportunities to minimise consumption of energy generated from non-renewable sources and to implement effective energy efficiency measures.

Should you require clarification of any of the above please contact John Goodwin on 9995 6838.

Yours sincerely



**SARAH THOMSON**  
**Unit Head, Metropolitan Infrastructure**  
**NSW Environment Protection Authority**

**Attachment A**

Contact officer: JOHN GOODWIN

## ATTACHMENT A

### - ENVIRONMENT PROTECTION AUTHORITY COMMENTS -

#### MACQUARIE UNIVERSITY OFFICE AND LABORATORY BUILDING

#### 1. General

The EPA considers that the project comprises distinct phases of construction and operation and has set out its comments on that basis. The EPA notes the proximity of surrounding residences which may be adversely affected by noise impacts during demolition, site preparation, construction and operation phases of the project.

#### 2. Construction phase

The EPA anticipates that site establishment, demolition, bulk earthworks, construction and construction-related activities will be undertaken in an environmentally responsible manner with emphasis on –

- the site contamination remediation action plan accompanying the EIS,
- compliance with recommended standard construction hours,
- intra-day respite periods from high noise generating construction activities (including jack hammering, rock breaking, pile boring or driving, saw cutting),
- feasible and reasonable noise and vibration minimisation and mitigation,
- effective dust control and management,
- erosion and sediment control, and
- waste handling and management, particularly concrete waste and rinse water.

##### 2.1 Site contamination (incl. asbestos containing material)

The architectural drawings accompanying the EIS indicate that the project involves construction of three levels of basement parking and thus significant bulk earthworks to accommodate those parking levels. EIS Appendix U indicates that the proponent undertook soil samples from 17 boreholes instead of the minimum 25 sampling points anticipated by the EPA Sampling Design Guidelines for a development site with an area of approximately 15,000 square metres. Table 5.3 EIS Appendix U further acknowledges data gaps arising from sampling not being able to be undertaken “... beneath the existing security and substation building”. Whilst the EIS Appendix U ‘Executive Summary’ also mentions similar data gaps in respect of sampling not undertaken at “... 3<sup>rd</sup> car park to the east (E1) ...”

Section 11.1.2 to EIS Appendix U confirms the presence of asbestos containing material in fill material on the development site and that “... more asbestos could be encountered during earthworks.” However, the proponent’s planning and environmental consultants differ in their opinion of whether site remediation works should be classified as Category 1 or Category 2.

Accordingly, the EPA considers that the proponent should engage a site auditor accredited under the Contaminated Land Management Act to provide a Section A site audit statement (SAS) and accompanying site audit report (SAR) certifying suitability of the land for the proposed land use.

## Recommendations

1. The proponent be required to ensure that prior to commencing any work on the development site, an appropriate procedure:
  - (a) is prepared and implemented to identify and deal with unexpected finds of site contamination, including asbestos containing materials and PCBs (associated with the former substation); and
  - (b) details of who will be responsible for implementing the unexpected finds procedure and the roles and responsibilities of all parties involved.
2. The proponent be required to ensure that (following demolition of any existing structures, parking infrastructure, and underground utilities) further detailed investigation be undertaken of soil and groundwater contamination within the footprint of those structures, that infrastructure and those utilities prior to undertaking any site preparation, bulk earthworks or construction.
3. The proponent be required consider the guidance material provided in the *National Environment Protection (Assessment of Site Contamination) Measure* as well as the following EPA documents when undertaking further site assessment and validation -
  - Technical Note: Investigation of Service Station Sites, 2014,
  - NSW EPA Sampling Design Guidelines,
  - Guidelines for the NSW Site Auditor Scheme (3<sup>rd</sup> edition) 2017, and
  - Guidelines for Consultants Reporting on Contaminated Sites, 2011.
4. The proponent be required to ensure that the processes outlined in *State Environmental Planning Policy 55 - Remediation of Land (SEPP55)* are followed in assessing the suitability of the land and any remediation required in relation to the proposed use.
5. The proponent be required to ensure that the proposed development does not result in a change of risk in relation to any pre-existing contamination on the site to result in significant contamination.
6. The proponent be required to notify the EPA should any contamination of the development site be identified which meets the triggers in the *Guidelines for the Duty to Report Contamination*.
7. The proponent be required to engage a site auditor (accredited under the *Contaminated Land Management Act 1997*) to:
  - (a) review the adequacy of contamination assessment reports, any asbestos management plan and unexpected finds procedure, and
  - (b) provide a Section A Site Audit Statement (SAS) and accompanying Site Audit Report (SAR) certifying the suitability of the development site for the proposed use.
8. The proponent be required to ensure:
  - (a) further details of the proposed remediation and validation strategy are provided to the site auditor in a Works Plan and a Validation Sampling and Analysis Quality Plan (VSAQP) for review by the site auditor prior to remediation commencing;
  - (b) an Asbestos Works Management Plan (AWMP), including stringent controls on dust emissions, is prepared and submitted to the site auditor for review and the scope of that investigation detailed in a sampling and analysis quality plan to be provided to the site auditor for review;

9. The proponent be required to satisfy the requirements of the Protection of the Environment Operations (Waste) Regulation 2014 with particular reference to Part 7 'asbestos wastes'.

**Note:** The EPA provides additional guidance material at its web-site

<http://www.environment.nsw.gov.au/waste/asbestos/index.htm>.

10. The proponent be required to consult with Safework NSW concerning the handling of any asbestos waste that may be encountered during the course of the project.

#### Polychlorinated Biphenyl (PCB) materials and waste

Table 5.3 to EIS Appendix U indicates that sampling had not been able to be undertaken "... beneath the existing security and substation building." The data gap investigation required to be undertaken following demolition of existing structures may identify the presence of PCBs in and around the footprint of the substation building.

The *Polychlorinated Biphenyl (PCB) Chemical Control Order 1997* sets out requirements for managing PCB materials and wastes, including activities such as -

- processing,
- storage,
- transport, and
- disposal

The Control Order is made under the Environmentally Hazardous Chemicals Act 1985. The proponent may readily obtain a copy of the Order on the EPA web site via the following link –

<https://www.epa.nsw.gov.au/your-environment/chemicals/chemical-control-orders>

#### **Recommendation**

The proponent be required to ensure that any PCB material or waste kept on the development site –

- (a) is stored and handled in accordance with the *Polychlorinated Biphenyl (PCB) Chemical Control Order 1997*, and
- (b) is assessed, classified and managed in accordance with the EPA "*Waste Classification Guidelines Part 1: Classifying Waste*" November 2014 and the 2016 Addendum thereto.

#### 2.2 noise and vibration

The EPA anticipates that demolition, site preparation (including tree clearing), bulk earthworks, construction and construction-related activities are likely to have significant noise and vibration impacts on surrounding residences and the nearby Baptist aged care facility.

##### 2.2.1 *general construction hours*

The EPA emphasises that demolition, site preparation, bulk earthworks, construction and construction-related activities should be undertaken during the recommended standard construction hours.

#### **Recommendation**

The proponent be required to ensure that as far as practicable all demolition, site preparation, bulk earthworks, construction and construction-related activities likely to be audible at any noise sensitive receivers such as surrounding residences are only undertaken during the standard construction hours, being:

- (a) 7.00 am to 6.00 pm Monday to Friday,
- (b) 8.00 am to 1.00 pm Saturday, and
- (c) no work on Sundays or gazetted public holidays.

### 2.2.2 *intra-day respite periods*

The EPA anticipates that those demolition, site preparation, bulk earthworks, construction and construction-related activities generating noise with particularly annoying or intrusive characteristics (such as those identified as particularly annoying in section 4.5 of the Interim Construction Noise Guideline) would be subject to a regime of intra-day respite periods where –

- (a) they are only undertaken after 8.00 am,
- (b) they are only undertaken over continuous periods not exceeding three hours with at least an hour respite every three hours, and
- (c) ‘continuous’ means any period during which there is less than an uninterrupted 60 minute respite between temporarily halting and recommencing any of the intrusive and annoying work referred to in Interim Construction Noise Guideline section 4.5.

The EPA emphasises that intra-day respite periods are not proposed to apply to those demolition, site preparation, bulk earthworks, construction and construction-related activities that do not generate noise with particularly annoying or intrusive characteristics.

### **Recommendation**

The proponent be required to schedule intra-day ‘respite periods’ for construction activities identified in section 4.5 of the Interim Construction Noise Guideline as being particularly annoying to noise sensitive receivers, including surrounding residents.

### 2.2.3 *idling and queuing construction vehicles*

The EPA is aware from previous major infrastructure projects that community concerns are likely to arise from noise impacts associated with the early arrival and idling of construction vehicles (including concrete agitator trucks) at the development site and in the residential precincts surrounding that site.

### **Recommendation**

The proponent be required to ensure construction vehicles (including concrete agitator trucks) involved in demolition, site preparation, bulk earthworks, construction and construction-related activities do not arrive at the project site or in surrounding residential precincts outside approved construction hours.

### 2.2.4 *reversing and movement alarms*

The EPA has identified the noise from ‘beeper’ type plant movement alarms to be particularly intrusive and is aware of feasible and reasonable alternatives. Transport for NSW, Barangaroo Delivery Authority/Lend Lease and Leighton Contractors have undertaken safety risk assessments of alternatives to the traditional ‘beeper’ alarms. Each determined that adoption of ‘quacker’ type movement/reversing alarms instead of traditional beepers on all plant and vehicles would not only maintain a safe workplace but also deliver improved outcomes of reduced noise impacts on surrounding residents. Interim Construction Noise Guideline Appendix C provides additional background material on this issue.

## Recommendation

The proponent be required to consider undertaking a safety risk assessment of site preparation, bulk earth works, construction and construction-related activities to determine whether it is practicable to use audible movement alarms of a type that would minimise the noise impact on surrounding noise sensitive receivers, without compromising safety.

### 2.3 Dust control and management

The EPA considers dust control and management to be an important air quality issue during demolition, site preparation, bulk earthworks and subsequent construction.

## Recommendation

The proponent be required to minimise dust emissions on the site, and prevent dust emissions from the site.

### 2.4 Sediment control

*Managing Urban Stormwater Soils and Construction, 4<sup>th</sup> Edition* published by Landcom (the so-called 'Blue Book') provides guidance material for achieving effective sediment control on construction sites. The proponent should implement all such feasible and reasonable measures as may be necessary to prevent water pollution in the course of developing the site.

The EPA emphasises the importance of –

- (a) not commencing demolition, site preparation, bulk earthworks, construction and construction-related activities until appropriate and effective sediment controls are in place, and
- (b) daily inspection of sediment controls which is fundamental to ensuring timely maintenance and repair of those controls.

### 2.5 Waste control and management (general)

The proponent should manage waste in accordance with the waste management hierarchy. The waste hierarchy, established under the [Waste Avoidance and Resource Recovery Act 2001](#), is one that ensures that resource management options are considered against the following priorities:

**Avoidance** including action to reduce the amount of waste generated by households, industry and all levels of government

**Resource recovery** including reuse, recycling, reprocessing and energy recovery, consistent with the most efficient use of the recovered resources

**Disposal** including management of all disposal options in the most environmentally responsible manner.

All wastes generated during the project must be properly assessed, classified and managed in accordance with the EPA's guidelines to ensure proper treatment, transport and disposal at a landfill legally able to accept those wastes.

The EPA further anticipates that, without proper site controls and management, mud and waste may be tracked off the site during the course of the project.

## Recommendation

The proponent be required to ensure that:

- (1) all waste generated during the project is assessed, classified and managed in accordance with the EPA "*Waste Classification Guidelines Part 1: Classifying Waste*", November 2014 and the 2016 Addendum thereto;
- (2) the body of any vehicle or trailer, used to transport waste or excavation spoil from the premises, is covered before leaving the premises to prevent any spill or escape of any dust, waste, or spoil from the vehicle or trailer; and
- (3) mud, splatter, dust and other material likely to fall from or be cast off the wheels, underside or body of any vehicle, trailer or motorised plant leaving the site, is removed before the vehicle, trailer or motorised plant leaves the premises.

### 2.6 Waste control and management (concrete and concrete rinse water)

The EPA anticipates that during the course of the project concrete deliveries and pumping are likely to generate significant volumes of concrete waste and rinse water. The proponent should ensure that concrete waste and rinse water is not disposed of on the project site and instead that –

- (a) waste concrete is either returned in the agitator trucks to the supplier or directed to a dedicated watertight skip protected from the entry of precipitation, and
- (b) concrete rinse water is directed to a dedicated watertight skip protected from the entry of precipitation or a suitable water treatment plant.

## Recommendation

The proponent be required to ensure that concrete waste and rinse water are not disposed of on the development site, and prevented from entering waters, including any natural or artificial watercourse.

## 3. Operational phase

The EPA considers that environmental impacts that arise once the development is operational should be able to be largely averted by responsible environmental management practices, particularly about:

- (a) feasible and reasonable noise mitigation measures;
- (b) waste management in accordance with the waste management hierarchy;
- (c) water sensitive urban design; and
- (d) energy conservation and efficiency.

### 3.1 Noise and vibration impacts

The EPA highlighted in its comments concerning the draft SEARs that the operational noise impact assessment should be undertaken in accordance with the Noise Policy for Industry 2017. However, the SEARs required the proponent to undertake its assessment in accordance with the defunct Industrial Noise Policy.

The EPA is aware of a number of complaints about 'offensive noise' from various operational activities on the University campus.



The EPA notes with concern the proximity of noise sensitive receivers (especially residences in Saunders Close and the nearby Baptist aged care facility) and is aware from long experience of the need for appropriate operational noise mitigation and management measures, particularly regarding:

- (a) the design and location of waste storage facilities;
- (b) time restrictions on waste collection services;
- (c) design, selection and operation of mechanical ventilation plant and equipment; and
- (d) time restrictions on grounds maintenance using powered equipment (e.g. leaf blowers, brush cutters and lawn mowers).

#### background noise measurement

The EPA emphasises that properly establishing background noise levels in accordance with guidance material in the New South Wales Noise Policy for Industry (NPI), and the now defunct Industrial Noise Policy, is fundamental to a consistent approach to the quantitative assessment of noise impacts of development.

The NPI specifies that at least a 'week's worth' of monitoring data is required to establish background noise levels and that noise levels measured during rainfall should be excluded when deriving those background levels. However, the EPA notes that EIS Appendix H omits any details of background noise monitoring undertaken by the proponent and instead presents results that may or may not represent the Rating Background Level for the each of the assessment periods (i.e. day, evening and night).

#### **Recommendation**

The proponent be required to provide a detailed report of background noise monitoring undertaken for the purposes of the project in accordance with the guidance material in Fact Sheet B to the Noise Policy for Industry, 2017 to confirm inter alia –

- (a) when unattended and attended monitoring was undertaken,
- (b) where unattended and attended monitoring was undertake,
- (c) whether prevailing meteorological conditions throughout the duration of monitoring were suitable for background noise monitoring, and
- (d) what equipment was used to undertake unattended and attended monitoring.

#### mechanical plant and equipment

Section 6.1.3 to EIS Appendix H states that “ ... plant selections and locations are not finalised.”

#### **Recommendation**

The proponent be required to:

- (a) provide a comprehensive quantitative assessment of operational noise impacts of mechanical plant and equipment (especially ventilation/ air conditioning plant and equipment) on surrounding noise sensitive receivers, especially surrounding residences and aged care facilities;

- (b) ensure mechanical plant and equipment installed on the development site does not generate, (either individually or cumulatively) -
  - (i) noise emissions that exceed the Project Trigger Noise Levels (day, evening and night) measured at the noise sensitive receiver premises adjoining the University campus, and
  - (ii) noise emissions that exhibit tonal or other annoying characteristics.

#### waste collection services

The EPA notes numerous reports of community concern arising from waste collection services undertaken at other educational establishments, especially during evening and night times.

#### **Recommendation**

The proponent be required ensure waste collection services are not undertaken outside the hours of 7.30 am to 6.00 pm Monday to Friday.

#### grounds maintenance using powered equipment

The EPA notes numerous reports of community concern arising from grounds maintenance involving the use of powered equipment (example: leaf blowers, lawn mowers, brush cutters) at the University during early morning.

#### **Recommendation**

The proponent be required ensure grounds maintenance involving the use of powered equipment is not undertaken outside the hours of 7.30 am to 6.00 pm Monday to Friday.

### 3.2 Waste management

The proponent should manage waste in accordance with the waste management hierarchy outlined earlier.

#### **Recommendation**

The proponent be required to identify and implement feasible and reasonable opportunities for the re-use and recycling of waste, including food waste.

### 3.3 Water sensitive urban design and energy conservation and efficiency

The EPA acknowledges that EIS Appendix N comprises an environmentally sustainable development report that proposes –

- (a) a range of water sensitive urban design measures, including water efficient fixtures; and
- (b) a range of measures to maximise energy efficiency and minimise energy consumption.

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