



Your reference      SSD 7382  
Our reference:      EF13/5547, DOC16/230750-01  
Contact:            J Goodwin 9995 6838

Ms Megan Fu  
Department of Planning and Environment  
GPO BOX 39  
SYDNEY 2001

Dear Ms Fu

**SSD 7382 – UNIVERSITY OF TECHNOLOGY SYDNEY (BUILDINGS 1 AND 2) - EIS**

I am writing to you in reply to your invitation to the EPA to provide a submission in respect of the project EIS.

The EPA requests that the following advice be considered together with its letter dated 21 September 2015 concerning Modification 05 to the Precinct Concept Plan, and its letter dated 30 November 2015 concerning the draft SEARs for the project.

The EPA notes the proximity of residences in 2 towers on the opposite side of Broadway to the development site and remains concerned about noise impacts on those residences and other surrounding noise sensitive receivers.

The EPA understands that the 3 underground petroleum storage systems on the development site are currently inoperative and either have been or are proposed to be removed during the course of the project.

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

The EPA has identified the following site specific concerns based on the information (including the draft SEARs) available on the Department of Planning and Environment major projects web site:

- (a) handling, transport and disposal of any asbestos waste and any lead-based paint waste encountered during demolition;
- (b) removal and validation of 3 de-commissioned underground petroleum storage tanks;
- (c) demolition and construction-related noise and vibration 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, including high density residences located on the opposite side of Broadway;

- (d) demolition, site preparation and construction phase dust control and management,
- (e) demolition, site preparation and construction phase erosion and sediment control and management;
- (f) operational noise impacts on noise sensitive receivers (especially surrounding residences) arising from operational activities such as waste collection, loading dock activities and mechanical services, (including commissioning of mechanical air handling plant and equipment);
- (g) operational waste management; and
- (h) the absence of clarification of whether the operation of the proposed buildings will involve activities likely to –
  - (i) warrant a review and variation of the University's existing radiation management licence issued under the Radiation Control Act and Regulation, or
  - (ii) generate 'clinical and related wastes'.

The EPA expands on its concerns in Attachment A.

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

Yours sincerely



**MIKE SHARPIN** 10-6-16  
**Acting Manager, Metropolitan Infrastructure**  
**NSW Environment Protection Authority**

Attachment A

## ATTACHMENT A

### ENVIRONMENT PROTECTION AUTHORITY COMMENTS

#### UTS CENTRAL PRECINCT (RE-DEVELOPMENT OF BUILDINGS 1 AND 2)

#### 1. General

The EPA considers that the project comprises distinct phases of construction (including demolition) 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 demolition, construction and construction-related activities will be undertaken in an environmentally responsible manner with particular emphasis on –

- Site investigation, remediation,
- 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,
- runoff, erosion and sediment, and
- waste handling and management, particularly concrete waste and rinse water, and

##### 2.1 Site investigation and remediation

The EPA understands from the EIS that a preliminary site investigation was undertaken by Douglas Partners as outlined in EIS Appendix E. EIS section 2.3.2 in referring to Appendix E suggests that "... the potential for contamination to be present within the development areas is low."

##### *Underground Petroleum Storage System (UPSS)*

Section 6.6 to EIS Appendix E (p.5) refers to a previous EIS report that indicated the presence of three UPSSs each of which has been de-commissioned. Section 9 to EIS Appendix E (p.7) recommends removal of the 2 of the 3 UPSSs that are located in room 216 of existing Building 2.

The EPA emphasises that the UPSS removal work must be undertaken in accordance the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2014 and related technical notes and guidelines available on the EPA web site via the following links –

<http://www.epa.nsw.gov.au/clm/upssguidelines.htm>

<http://www.epa.nsw.gov.au/resources/clm/1036technotedecom.pdf>

## Recommendation

The proponent be required to obtain a validation report pursuant to the requirements of the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2014 in respect of Underground Petroleum Storage Systems removed from the site.

### Asbestos material and lead-based paint

Section 7 to EIS Appendix E (p.5) indicates the presence of boilers in the existing building and section 8 to Appendix indicates the existing buildings were constructed in the 1960s and 1970s. Thus as indicated in the final dot point (p.6) to section 7 of EIS Appendix E, both friable and bonded asbestos material as well as lead-based paint are likely to be encountered in the course of the project.

The EPA understands that the partial demolition of existing building 2 does not involve disturbance of basement levels. And notes, that Section 8 to EIS Appendix E (final para, p.6) argues that groundwater quality is not expected to hinder the re-development.

## Recommendation

The proponent be required prior to commencing work –

- (a) to prepare and implement an appropriate procedure for identifying and dealing with unexpected finds of site contamination, and
- (b) to develop and implement site clean up and remediation as necessary.

## Recommendation

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>.

## Recommendation

The proponent be required to consult with SafeWork NSW concerning the handling of any asbestos waste that may be encountered.

### 2.2 Noise and vibration

The EPA considers that the project is likely to generate significant noise and vibration impacts on surrounding residences during demolition, site preparation, construction and construction-related activities. And, notes the proximity of noise sensitive receivers, including residences on the opposite side of Broadway.

The EPA understands that the proposal includes the demolition of existing structures.

The EPA emphasises the importance of properly managing noise and vibration impacts during demolition, site preparation, construction and construction-related activities, especially in regard to high noise impact activities, such as grinding, jack hammering, pile driving, rock breaking and hammering, rock drilling, saw cutting, and vibratory rolling.

The EPA provides guidance material available on its web site including downloadable copies of –

- the Interim Construction Noise Guideline (2009), and
- Assessing Vibration: a technical guideline (2006).

### 2.2.1 *General construction hours*

The EIS does not appear to indicate the hours during which demolition, site preparation, construction and construction-related activities are proposed to be undertaken.

The EPA emphasises that demolition, site preparation, construction and construction-related activities should be undertaken during the recommended standard construction hours set out in Interim Construction Noise Guideline (ICNG) Table 1.

### **Recommendation**

The proponent be required to comply with the standard construction hours as recommended in Table 1 Chapter 2 of the Interim Construction Noise Guideline, July 2009.

### 2.2.2 *Construction hours (intra-day respite periods)*

ICNG section 4.5 identifies construction activities proven to be particularly annoying and intrusive to nearby residents. The EPA anticipates that those demolition, site preparation, construction and construction-related activities generating noise with particularly annoying or intrusive characteristics 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 3 hours with at least a 1 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 work referred to in ICNG section 4.5

### **Recommendation**

The proponent be required to schedule intra-day 'respite periods' for construction activities identified in the Interim Construction Noise Guideline as being particularly annoying to noise sensitive receivers, including surrounding residents and both nearby hospitals.

### 2.2.3 *Queuing and idling construction vehicles and vessels*

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 construction and construction-related activities do not arrive at the project site or in surrounding residential precincts outside approved construction hours.

### 2.3 Dust control and management

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

#### **Recommendation**

The proponent be required to:

- (a) minimise dust emissions on the site, and
- (b) prevent dust emissions from the site.

### 2.4 Erosion and 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 erosion and sediment control on construction sites. However, 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, earthmoving, construction and construction-related activities until appropriate and effective erosion and sediment controls are in place, and
- (b) daily inspection of erosion and 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 "Waste Classification Guidelines Part 1: Classifying Waste" (Department of Environment Climate Change and Water, December 2009);
- (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.

### 2.5 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.

### 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 with regard to:

- (a) feasible and reasonable noise mitigation measures,
- (b) appropriate clinical and related waste management, and
- (c) radiation
- (c) energy efficiency and water conservation measures.

#### 3.1 Noise and vibration impacts

The EIS indicates that the proposed buildings will include rooftop mechanical plant, activities on rooftop terraces as well as continued operation of the existing loading dock.

The EPA anticipates the proposed development may have significant operational noise impacts (especially at night) on nearby sensitive receivers, including residences on the opposite side of Broadway. And, those noise impacts are likely to include noise emitted from amongst other things -

- mechanical ventilation plant and equipment (in the basement and at roof level),
- evening and night-time events (including amplified music) on the rooftop terraces; and
- truck movements (incl. reversing beepers) associated with loading dock use and waste collection services.

The EPA emphasises that properly establishing background noise levels in accordance with guidance material in the New South Wales Industrial Noise Policy (INP) is fundamental to a consistent approach to the quantitative assessment of noise impacts of development on surrounding noise sensitive receivers, such as nearby residences.

Thus, the EPA is concerned that section 4.1 of EIS Appendix T indicates that the proponent appears to have disregarded the INP guidance material about noise monitoring required to establish the background noise levels for the project. The EPA is particularly concerned that:

- (a) background noise monitoring was undertaken at 2 locations on UTS building CBO2 rather than at the most affected noise sensitive receivers; being residences located on the opposite (i.e. southern) side of Broadway;
- (b) monitoring at locations on a university building may have resulted in higher measured night-time background levels due to the influence of mechanical plant or activities occurring at the university; and
- (c) attended noise monitoring location 1 (Broadway) may not provide representative data to validate unattended monitoring measurements, given that the –
  - (i) residential towers are located above street level and the day of the week, and
  - (ii) comparability (or not) of the attended at street level vs the unattended at rooftop monitoring and, the possibility of affectation of the unattended data by cooling tower, or other such rooftop plant, noise.

The EPA considers that the EIS should have included an indicative worst-case quantitative assessment of the likely noise impact of mechanical plant operation and rooftop terrace usage on nearby residential receivers, together with information on the noise mitigation measures required to achieve applicable worst-case criteria.

The EPA acknowledges that section 6.4 (2<sup>nd</sup> dot point) to EIS Appendix T comments that “Noise from mechanical plant is generally broadband, and will be controlled so that there are no characteristics that will make it particularly irritating.” However, the EPA considers the EIS should instead provide an undertaking that noise emissions from mechanical plant will not be ‘tonal’ or ‘intermittent’ as defined in Chapter 4 of the NSW Industrial Noise Policy (INP).

Waste collection services and loading dock operations should be restricted to ‘day-time’ hours, being 7.00 am to 6.00 pm Monday to Saturday and 8.00 am to 6.00 pm Sundays and public holidays.

### **Recommendation**

That consideration be given to requiring the proponent –

- (a) to undertake noise compliance monitoring and assessment during commissioning of the new building mechanical plant and equipment; and



- (b) to report the results of the compliance assessment monitoring referred to in (a) to confirm that noise levels do not exceed levels predicted in the required noise impact assessment and acceptable noise criteria identified in the NSW Industrial Noise Policy, January 2000.

### 3.2 Radiation Control Act and Regulation

The EPA administers the Radiation Control Act 1990 (and Radiation Control Regulation 2013). UTS holds a 'radiation management licence' in respect of regulated material at the university campus. 'Regulated material' means -

- (a) radioactive substances,
- (b) ionising radiation apparatus,
- (c) non-ionising radiation apparatus of a kind prescribed by the regulations, and
- (d) sealed source devices.

The EPA is unclear whether proposed research functions referred to in EIS section 1.1 will involve the use of regulated material and warrant a variation of the university's current radiation management licence.

#### **Recommendation**

The proponent be required to consult with the Environment Protection Authority in regard to any necessary review and variation of the University's 'radiation management licence' in respect of regulated material, if any, proposed to be used in the new buildings.

### 3.3 Clinical and related waste

The EPA is unclear whether proposed research functions referred to in EIS section 1.1 will result in the generation of 'clinical and related waste'. Should the new buildings accommodate activities that generate 'clinical and related waste'. Clause 50 of Schedule 1 to the Protection of the Environment Operations Act 1997 defines clinical and related waste as follows -

*'Clinical and related waste' includes clinical waste; cytotoxic waste; pharmaceutical, drug or medicine waste; and sharps waste.*

*'Sharps waste' means any waste collected from designated sharps waste containers used in the course of business, commercial or community service activities, being waste resulting from the use of sharps for any of the following purposes:*

- (a) human health care by health professionals and other health care providers,
- (b) medical research or work on cadavers,
- (c) veterinary care or veterinary research,
- (d) skin penetration or the injection of drugs or other substances for medical or non-medical reasons,

*but does not include waste that has been treated on the site where it was generated (and to a standard specified in an EPA Gazettal notice) or waste that has been treated by a method approved in writing by the Secretary of the Ministry of Health.*

#### **Recommendation**

The proponent be required to identify the nature and scope of any clinical and related waste likely to be generated during operation of the new buildings and the measures proposed to handle, store, transport and dispose of those wastes, if any.

### 3.3.1 Trackable waste

Clinical and related waste is identified in Part 1 of Schedule 1 to the Protection of the Environment Operations (Waste) Regulation 2014 as trackable waste subject to the requirements of Part 4 of that Regulation.

However, a limited exemption applies to the tracking of clinical and related waste transported only within New South Wales. The notice of exemption is available via the following link –

<http://www.epa.nsw.gov.au/wasteregulation/track-clinical.htm>

### **Recommendation**

The proponent be required to ensure compliance with any relevant trackable waste requirements of Part 4 of the Protection of the Environment Operations (Waste) Regulation 2014 in relation to clinical and related waste generated in the course of activities in the new buildings.

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