NSW EPA

Your reference SSD 7054 and SSD 7055
Our reference: EF13/5547, DOC16/274903-01
Contact: J Goodwin 9995 6838

Mr Peter McManus
Department of Planning and Environment
GPO BOX 39
SYDNEY 2001

Dear Mr Mc Manus

SSD 7054 and SSD 7055 – LEES 1 AND ADMINISTRATION BUILDINGS PROJECT – 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 14 May 2015 and referenced letters concerning the Campus Improvement Program (CIP), albeit that neither the LEES 1 building nor the Administration building were included in the CIP concept plan.

The EPA understands that :

(a) the development includes 2 multi-storey buildings close to the City Road frontage of the campus;

(b) the most affected (off-campus) noise sensitive receivers are likely to be the Urbanest Student Accommodation at 152 City Road (opposite the proposed Carslaw building extension) and the independent residential colleges adjacent to the southern boundary of the campus (southeast of the Administration building);

(c) the LEES 1 extension to the Carslaw building would provide facilities likely to –

  (i) involve the use of regulated material, including radioactive substances and radiation apparatuses, and

  (ii) generate clinical and related waste; and

(d) fill material to a variable depth of up to 9 metres has been identified across the campus.

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 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 information (including the draft SEARs) available on the Department of Planning and Environment major projects web site:

PO Box 668 Parramatta NSW 2124
Level 7, 79 George Street Parramatta NSW 2150
Tel: (02) 9995 5000 Fax: (02) 9995 6900
ABN 30 841 387 271
www..environment.nsw.gov.au

(a) the need to undertake a detailed assessment of potential site contamination (including information about groundwater following demolition of existing buildings, paved surfaces and infrastructure);

(b) handling, transport and disposal of any asbestos waste encountered during demolition, site preparation and bulk earthworks;

(c) demolition, site preparation, bulk earthworks, construction 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;

(d) demolition, site preparation, bulk earthworks and construction phase dust control and management;

(e) demolition, site preparation, bulk earthworks and construction phase erosion and sediment control and management;

(f) operational noise impacts on noise sensitive receivers (especially surrounding residences and independent residential colleges) 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 within the context of the waste management hierarchy;

(h) storage, handling and disposal of any clinical and related waste (LEES 1 building only);

(i) review and variation of the University's radiation management licence (LEES 1 building only);

(j) operational water and energy conservation and efficiency.

The EPA expands on its concerns in Attachment A to this letter.

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

Yours sincerely

26.7.16

MIKE SHARPIN
Acting Manager, Metropolitan Infrastructure
NSW Environment Protection Authority

Attachment A

ATTACHMENT A

- ENVIRONMENT PROTECTION AUTHORITY COMMENTS –

LEES 1 (EXTENSION TO CARSLAW BUILDING) AND ADMINISTRATION BUILDING F23

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 <u>Site investigation and remediation</u>

SSD 7054 EIS Appendix Q and SSD 7055 EIS Appendix R both indicate a site history of extensive areas of fill material across the development site to depths up to 9 metres. And, previous detection of –

(a) asbestos containing material in near surface and fill material, and

(b) some fill material containing slag and ash.

Both the aforementioned appendices –

(a) recommend further detailed site investigation (including sampling and analysis) for waste classification of excavation spoil, and

(b) recommend development and implementation of an unexpected contamination finds protocol, particularly for asbestos.

SSD 7054 (LEES1 Carslaw Building extension) EIS Appendix Q (Douglas Partners) Geotechnical Investigation, included some sampling from bores "... to provide a preliminary contamination assessment ...". And, section 8.5 indicates that the elevated concentrations of chemicals of concern (i.e. Benzo(a)pyrene

and TRH C16-C34) were detected at "... hotspot concentrations ..." in the vicinity of test borehole 'BH6'. Section 8.5 of Appendix Q goes on to indicate that "... no asbestos was detected in soil samples ..." but given the limitations of the preliminary investigation that sampling does not preclude the presence of asbestos containing material on the site.

SSD 7055 (Administration building) EIS Appendix R (Douglas Partners) indicates the presence of asbestos containing material in near surface and filled areas of the site. And, recommends –

(a) development of an unexpected finds protocol,

(b) detailed site investigation, and

(c) detailed investigation (including sampling and analysis) of fill material to confirm the appropriate waste classification of excavation spoil and the general extent of any contamination beyond the fill footprint.

Given the extent and depth of fill and the prospect of contamination contained therein, the Department should consider requiring the proponent to:

(a) engage a site auditor accredited under the Contaminated Land Management Act 1997; and

(b) provide a Section A site audit statement for the whole of both development sites (and especially the LEES 1 site) by an EPA accredited site auditor determining site suitability for the proposed land use prior to undertaking any construction.

Recommendation

The proponent be required prior to commencing work to prepare and implement an appropriate procedure for identifying and dealing with unexpected finds of site contamination, including asbestos containing materials, for each of the building sites.

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 during the course of the project.

2.2 noise and vibration

The EPA considers that the project is likely to generate significant noise impacts on surrounding noise sensitive receivers during demolition, site preparation, bulk earthworks, construction and construction-related activities.

The EPA emphasises the importance of properly managing noise and vibration impacts during demolition, site preparation, bulk earthworks, 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 EPA emphasises that demolition, site preparation, bulk earthworks, 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 ensure that demolition, site preparation, construction and construction-related work is undertaken only during the standard construction hours 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, bulk earthworks, 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 development 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, 4th 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.

2.6 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.

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) waste management in accordance with the waste management hierarchy; and

(c) energy efficiency and water conservation measures.

3.1 Noise and vibration impacts

The EPA anticipates the proposed development may have significant operational noise impacts (especially during evening and night-time) on nearby sensitive receivers, including off-campus residences. And, those noise impacts are likely to include noise emitted from amongst other things roof top mechanical plant and equipment.

Background noise

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. The EPA notes the proximity of off-campus noise sensitive receivers, being –

(a) Urbanest Darlington student accommodation (corner of City Road and Cleveland Street) at about 45 metres from LEES 1 Carslaw building externsion, and

(b) St Paul's residential college (City Road) at about from 185 metres from Administration building.

The EPA is concerned that the noise impact assessments for both buildings appear to be inconsistent with the INP guidance material concerning noise monitoring required to establish the background noise levels for the project. The EPA is particularly concerned that:

(1) EIS Appendix T (LEES 1) -

(a) attended monitoring was likely to have been undertaken at street level, whereas the most affected residences are located above street level; and

(c) section 4.2 indicates that the weather was typically calm (BoM observations at it Observatory Hill automatic weather station indicate adverse meteorological conditions in that wind speeds exceeding 5 metres per second were observed on 28 and 29 July 2015, and on 1 to 4 August inclusive); and

(2) EIS Appendix U (Administration Building) –

(a) Section 2.3 identifies 2 receiver locations

(a) Figure 1 indicates that background noise monitoring was only undertaken at receiver location 1 (i.e. proposed accommodation) and not at receiver location 2 which the most affected existing off-campus residence (i.e. boundary of St Paul's residential college at City Road)

However, the EPA recognises that traffic noise is likely to be the dominant noise source in the locality other than during night-time when traffic flows would be expected to be relatively light. Therefore, the EPA considers that in this instance those noise levels are likely to enable the calculation of suitably protective night-time noise criteria against which to assess the projected noise impacts and feasible and reasonable noise mitigation and management measures required to not exceed the relevant design criteria.

Mechanical plant and equipment

Section 6.2 to EIS Appendix T (LEES 1) indicates that certain mechanical ventilation plant will be required to operate at all times. However, section 6.3 to Appendix T does not provide a detailed prediction of noise impacts at the most affected off-campus residence but instead suggests a compliance criteria measured at each plant room boundary.

Section 5.4 EIS Appendix U (administration building) lists different types of plant and outlines the location of that plant (i.e. rooftop cooling tower, basement chillers) and provides a limited assessment of predicted noise impacts from rooftop cooling towers. And, omits the predicted noise level at receiver locations 1 (proposed accommodation) and 2 (existing residential college)

However, the EIS does not provide a detailed noise impact assessment of all mechanical plant and equipment which would be expected to include lift room motors and equipment.

Recommendation

The proponent be required to:

(a) provide a worst-case quantitative assessment of the 'night-time' background noise level in accordance with the guidance material provided in the New South Wales Industrial Noise Policy; and

(b) ensure plant and equipment does not generate noise that exhibits tonal or other annoying characteristics.

Recommendation

That consideration be given to requiring the proponent –

(a) to undertake noise compliance monitoring and assessment during commissioning of the mechanical plant and equipment serving each building; 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 Waste management

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.

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 Clinical and related waste

The EPA anticipates that activities at the LEES1 building would be likely to generate 'clinical and related waste'.

Clause 50 of Schedule 1 to the Protection of the Environment Operations Act 1997defines clinical and related waste.

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 LEES1 (Carslaw building extension) and the measures proposed to handle, store, transport and dispose of those wastes, if any.

3.4 Radiation control

The EPA notes that in respect of the LEES 1 (Carslaw building extension) –

(a) EIS Appendix C (Architectural Drawings) indicates the proposed installation of a facility for X ray crystallography, and
(b) EIS Appendix W (Preliminary Hazard Analysis) indicates the proposed use of radioactive substances being 'regulated material' within the meaning of the Radiation Control Act 1990, and

The EPA further notes that clause 5.2.4 to EIS Appendix W (preliminary hazard analysis) mistakenly refers to compliance with protocols detailed by ARPANSA prior to licensing. However, ARPANSA does not regulate the University for the use of radioactive substances. Instead, the EPA regulates Sydney University use of radioactive substances and radiation apparatuses by way of a 'radiation management licence' issued to University under the Radiation Control Act 1990.

The EPA emphasises that the University would need:

- to apply for a review and variation of its current radiation management licence; and.
- to ensure that the completed facility satisfies all mandatory requirements of the Radiation Control Act and Regulation.

3.5 Water and energy conservation and efficiency

The EPA notes EIS Appendix O in respect of both buildings adopts the University's Sustainable Design Framework and proposes clear strategies to integrate sustainability measures into the design and operation of both buildings. And, to adopt appropriate systems to quantify and compare the performance of the various water and energy conservation and efficiency measures against agreed performance benchmarks.
