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SSD 9606

22/2/19

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

Dear Mr Hill

SSD 9606 – UNSW D14 ACADEMIC 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 20 September 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 notes that the development does not include demolition of existing structures (e.g. University Hall) and redundant utility services, which work is proposed to be undertaken in conjunction with site establishment via a separate internal assessment process.

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 information about groundwater and a detailed assessment of the footprint and surrounds of existing buildings following their demolition;

(b) bulk earthworks and construction phase 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;

(c) bulk earthworks and construction phase dust control and management,

(d) bulk earthworks and construction phase erosion and sediment control and management;

(e) practical opportunities to implement water sensitive urban design principles, including stormwater re-use; and

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(f) 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
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ATTACHMENT A

- ENVIRONMENT PROTECTION AUTHORITY COMMENTS –

UNSW BUILDING D14 ACADEMIC 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 and hazardous materials

Section 13.1 to EIS Appendix U states “No asbestos was observed during drilling or detected in laboratory analysis”. The EPA notes section 14 to EIS Appendix U recommends development of an unexpected finds procedure and ‘... that following demolition of the existing structures, further (data gap) investigation ...” should be undertaken. Section 14 to EIS Appendix U also proposes that “[b]ased on the results of the investigation it is considered the risk of contamination at the site is low ...”.

However, the EPA notes:

(a) Appendix U of the EIS refers to previous investigations close to the development site but those reports are not included with the EIS;

(b) only two groundwater monitoring wells were installed preventing determination of the direction of groundwater flow;

(c) despite a site area more than 5,000 square metres, soil samples were collected from only six boreholes whereas the *EPA Sampling Design Guidelines* anticipate sampling would have been undertaken from at least 13 boreholes.

Accordingly, the EPA considers that as the contamination assessment report does not satisfy minimum sampling requirements, and the proponent recommends further (data gap) investigation, it is inappropriate to conclude at this time that the risk of contamination at the site is low. The EPA

considers that the unexpected finds protocol outlined in EIS Appendix V (RAP) should be updated to consider any additional contamination uncovered during further investigation, including post-demolition (data gap) investigation. The EPA further considers that validation of the removal of any hazardous building materials encountered during demolition should be undertaken prior to commencement of any construction.

Recommendations

1. The proponent be required to ensure that following demolition of any existing structures, infrastructure and in ground utilities further investigation be undertaken of soil contamination within the footprint of those structures and utilities prior to undertaking any construction.

2. The proponent be required prior to commencing work to –

   (a) prepare and implement an appropriate procedure for identifying and dealing with unexpected finds of site contamination, including asbestos containing materials and lead-based paint, and

   (b) include in the aforementioned procedure, details of who will be responsible for implementing the unexpected finds procedure and the roles and responsibilities of all parties involved.

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 (including post-demolition investigation) and validation -

   - Technical Note: Investigation of Service Station Sites, 2014,
   - NSW EPA Sampling Design Guidelines,
   - Guidelines for the NSW Site Auditor Scheme (3rd 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 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.

8. 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

Section 2.4 to EIS Appendix K 'Construction & Operational Noise Report' proposes extended hours of construction on Saturdays from 8.00 am to **5.00 pm** instead of the recommended 1.00 pm curfew. The proponent did not undertake background noise monitoring at the most or potentially most affected residence to the southeast of the development site. Nevertheless, Section 3.1 to EIS Appendix K proposes that "... there are no noise sensitive receivers that are located beyond the university campus that have the potential to be impacted by either construction or operational noise". Whilst the EPA acknowledges that existing structures on the campus are likely to provide acoustic shielding, construction activities that emit noise with particularly annoying characteristics, particularly during later (upper level) stages of construction, may have significant impacts on residences to the south east of the development site.

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 a one 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, 4th 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 with regard to:

(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 anticipates the proposed development may have significant operational noise impacts on nearby sensitive receivers, especially residences to the southeast of the development site.

Background noise measurement

The EPA emphasises that properly establishing background noise levels in accordance with guidance material (i.e. Fact Sheets A and B) of the New South Wales Noise Policy for Industry (NPI) 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 Figure 3-1 to EIS Appendix K indicates that background noise monitoring was undertaken on the northern side of the development site rather than at the most affected residence to the southeast of the development site

Mechanical plant and equipment

Section 5.4 to EIS Appendix K indicates that details of mechanical services, plant and equipment are not yet available and that the noisiest plant (e.g. chillers, fans) are to be located in a rooftop plant room.

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;

(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 Noise Trigger Level (day, evening and night assessment periods) measured at the boundary of the most affected residence, and

  (ii) noise emissions that exhibit tonal or other annoying characteristics.

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 R comprises an environmentally sustainable development report that proposes –

(a) a range of water sensitive urban design measures, including extraction of bore water non-potable uses, and water efficient fixtures; and

(b) a range of measures to maximise energy efficiency and minimise energy consumption, including installation of a rooftop solar photovoltaic array.
