



DOC20/490860

23 June 2020

Ms Megan Fu
Senior Planning Officer
Social Infrastructure and Other Assessments
Department of Planning, Industry and Environment
GPO Box 39
Sydney NSW 2001

Dear Ms Fu

**Liverpool Hospital Redevelopment (SSD 10389)
Advice on the Environmental Impact Statement (EIS)**

I am writing to you in reply to the invitation to the Environment Protection Authority (EPA) to provide advice on the Environmental Impact Statement (EIS) for the above proposal.

The EPA understands that the project involves the construction and operation of the Integrated Services Building and refurbishment involving: a new eight storey building; tree removal; the demolition, remediation, road, landscaping and utility works; and a skybridge over Campbell Street.

The EPA has reviewed the EIS provided by the Department of Planning, Industry and Environment (DPIE) and provides advice regarding noise and vibration and contaminated lands in Appendix A.

Should you require clarification of any of the above please contact Anna Timbrell on 9274 6345 or email anna.timbrell@epa.nsw.gov.au

Yours sincerely

A handwritten signature in black ink, appearing to read 'B. Treharne'.

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APPENDIX A

1. Noise

The EPA reviewed the *Acoustic Assessment Report*, dated 08.05.20, prepared by Acoustic Logic (AAR) and has considered both construction and operational noise matters as follows:

Construction Noise Assessment

The EPA considers additional information must be provided regarding:

- the application of a 5 dB penalty to the sound power level of some construction equipment;
- an assessment of the cumulative impact of plant and equipment for construction scenarios;
- more assessment of the application of mitigation measures for specific construction scenarios; and
- justification for out of standard hours work in accordance with the *Interim Construction Noise Guideline* (DEC, 2009) (ICNG).

The AAR lists in Table 29 the sound power levels for items of construction plant and equipment proposed to be used during construction activities for the project. It is noted that two of these items (a handheld jackhammer and powered hand tools) have been labelled as attracting a 5 dB penalty due to their annoying noise characteristics. The EPA considers that other items in Table 29, such as the excavator with hydraulic hammer and demolition saw, would also be likely to attract a 5 dB penalty due to annoying characteristics, however have not been marked as such in the table. The applicant should review the sound power levels in Table 29 and whether any additional penalties are applicable.

The applicant should also provide an assessment of the predicted impacts from the proposed construction activity scenarios (e.g. demolition of existing structures, foundation excavation, construction of new building, etc.) which will comprise the use of a number of the plant and equipment items concurrently, as well as predicted noise impacts for individual plant items.

The EPA notes that significant noise impacts are predicted from the proposed construction activities both during standard construction hours and outside standard construction hours. This is particularly the case at Receiver 2 (Goulburn Street Residences), where noise levels are predicted to exceed the 'highly noise affected' level in the ICNG. The AAR makes a range of general recommendations for mitigation measures that could be employed to reduce noise from construction activities. However, no specific assessment of how these measures could be applied to the equipment list of Table 29 and the resultant reductions in overall impacts at sensitive receivers for the various construction activity scenarios has been provided.

The AAR has put forward a very brief justification for adopting construction hours outside the standard hours in Sections 13.1 and 15.1. Proposed hours are:

- Friday – 6:00 pm to 10:00 pm period
- Saturday – 1:00 pm to 3:00 pm
- Saturday – 5:00 pm to 10:00 pm;
- Sunday – 8:00 am to 5:00 pm; and
- Sunday – 5:00 pm to 10:00 pm

Based on the information provided the EPA does not have sufficient information to support the out of hours construction activity, including the need for: 1) detailed justification (refer section 2.3 of the ICNG); 2) details of construction scenarios; and 3) appropriate mitigation measures being put forward to reduce noise impacts to an acceptable levels.

Operational Noise Assessment

The AAR has set noise criteria for operational noise emissions from the proposal in Section 8.3.4. Section 8.3.5 discusses the generic operational noise sources likely to be installed on site, together with a broad description of whether they will be able to satisfy the operational noise criteria, and what mitigation measures may be required to address these noise emissions. However, detailed and specific assessment and discussion on these matters has not been included in the AAR and has been deferred to the post-consent detailed design stage.

The EPA recognises the staged nature of the design process in significant projects such as these, and that limited detail may be available on which to base a comprehensive assessment of operational noise in the early stages of this process. However, the SEARs for the project clearly require that the applicant 'identify and provide a quantitative assessment of the potential noise and vibration impacts on the identified sensitive receivers due to the operations of the hospital'.

A more detailed quantitative assessment of the potential operational noise impacts from the proposal – using representative items of plant and equipment referenced from similar projects or other suitable sources – should be provided to satisfy the SEARs requirement. This should include a quantitative assessment of the effectiveness of any feasible and reasonable noise mitigation and management measures, should they be required, to achieve the noise criteria put forward in the AAR. In lieu of this, specifying target operational noise design criteria is an appropriate alternative.

Unless additional assessment is undertaken, the EPA recommends the following conditions of consent for construction and operational noise and vibration.

Construction Noise Conditions

Hours of Construction

L6.11 All construction work at the premises must be conducted between 7am and 6pm Monday to Friday and between 8am and 1pm Saturdays and at no time on Sundays and public holidays, unless inaudible at any residential premises.

Exceptions to construction hours

The following activities may be carried out outside the recommended construction hours:

- a) construction that causes $L_{Aeq(15\text{minute})}$ noise levels that are:
 - i. no more than 5dB above Rating Background Level at any residence in accordance with the *Interim Construction Noise Guideline* (DECC, 2009); and
 - ii. no more than the Noise Management Levels specified in Table 3 of the *Interim Construction Noise Guideline* (DECC, 2009) at other sensitive land uses; or
- b) for the delivery of materials required by the police or other authorities for safety reasons; or
- c) where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm; or
- d) as approved through the process outlined in "Variation of construction hours" of this consent.

Variation of construction hours

The hours of construction activities specified under "Exceptions to construction hours" d) of this consent may be varied with the prior written approval of the Secretary. Any request to alter the hours of construction shall be:

- a) considered on a case-by-case or activity-specific basis
- b) accompanied by details of the nature and justification for activities to be conducted during the varied construction hours
- c) accompanied by written evidence that appropriate consultation with potentially affected sensitive receivers and notification of relevant Council(s) (and other relevant agencies) has been and will be undertaken
- d) all feasible and reasonable noise mitigation measures have been put in place
- e) accompanied by a noise impact assessment consistent with the requirements of the *Interim Construction Noise Guideline* (DECCW, 2009).

Operational Noise Conditions

L6.1 Noise generated at the premises must not exceed the noise limits at the times and locations in the table below. The locations referred to in the table below are indicated by Liverpool Health and Academic Precinct Main Works (SSD:10389) Acoustic Assessment Report prepared by Acoustic Logic (Ref 20181547.10 Rev 4 dated 7 May 2020).

Location	Noise Limits in dB(A)			
	Day	Evening	Night	Night
	L _{Aeq} (15 minute)	L _{Aeq} (15 minute)	L _{Aeq} (15 minute)	L _{AFmax}
Any residence	47	43	38	53

L6.2 For the purposes of condition L6.1:

- Day means the period from 7am to 6pm Monday to Saturday and the period from 8am to 6pm Sunday and public holidays.
- Evening means the period from 6pm to 10pm.
- Night means the period from 10pm to 7am Monday to Saturday and the period from 10pm to 8am Sunday and public holidays.

L6.3 - Standard Meteorological Conditions

- a) The noise limits set out in condition L6.1 apply under the following meteorological conditions:

Assessment Period	Meteorological Conditions
Day	Stability Categories A, B, C and D with wind speeds up to and including 0.5m/s at 10m above ground level
Evening	Stability Categories A, B, C and D with wind speeds up to and including 0.5m/s at 10m above ground level
Night	Stability Categories A, B, C and D with wind speeds up to and including 0.5m/s at 10m above ground level

- b) For those meteorological conditions not referred to in condition L6.3(a), the noise limits that apply are the noise limits in condition L6.1 plus 5dB.

L6.4 For the purposes of condition L6.3:

- The meteorological conditions are to be determined from meteorological data obtained from the meteorological weather station identified as **Bureau of Meteorology AWS at Bankstown Airport**
- Stability category shall be determined using the following method from Fact Sheet D of the *Noise Policy for Industry* (NSW EPA, 2017):
 - Use of sigma-theta data (section D1.4).

L6.5 To assess compliance:

- a) with the $L_{Aeq(15 \text{ minutes})}$ or the L_{Amax} noise limits in condition L6.1 and L6.3, the noise measurement equipment must be located:
 - (i) approximately on the property boundary, where any residence is situated 30 metres or less from the property boundary closest to premises; or where applicable,
 - (ii) in an area within 30 metres of a residence façade, but not closer than 3 metres where any residence on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable,
 - (iii) in an area within 50 metres of the boundary of a National Park or Nature Reserve,
 - (iv) at any other location identified in condition L6.1
- b) with the $L_{Aeq(15 \text{ minutes})}$ or the L_{Amax} noise limits in condition L6.1 and L6.3, the noise measurement equipment must be located:
 - (i) at the reasonably most affected point at a location where there is no residence at the location; or,
 - (ii) at the reasonably most affected point within an area at a location prescribed by condition L6.5 (a).

L6.6 A non-compliance of conditions L6.1 and L6.3 will still occur where noise generated from the premises is measured in excess of the noise limit at a point other than the reasonably most affected point at the locations referred to in condition L6.5 (a) or L6.5 (b).

NOTE to L6.5 and L6.6: The reasonably most affected point is a point at a location or within an area at a location experiencing or expected to experience the highest sound pressure level from the premises.

L6.7 For the purpose of determining the noise generated from the premises, the modifying factor corrections in Table C1 in Fact Sheet C of the *Noise Policy for Industry* (NSW EPA, 2017) may be applied, if appropriate, to the noise measurements by the noise monitoring equipment.

L6.8 Noise measurements must not be undertaken where rain or wind speed at microphone level will affect the acquisition of valid measurements.

Other Conditions

The EPA recommends that any consent for the project includes conditions requiring:

- A compliance tracking program and reporting, to monitor compliance with the conditions of consent;
- An environmental auditing program and reporting, to assess compliance of the project with the conditions of consent;
- A requirement to notify incidents to the Department of Planning and Environment, in addition to the EPA's notification requirements;
- Preparation and implementation of a community communication strategy;
- Preparation and implementation of a complaints management system;
- An independent community complaints commissioner to follow up on complaints not resolved by the applicant to the complainant's satisfaction;
- Preparation and implementation of a construction environmental management plan detailing how performance outcomes, commitments and mitigation measures will be implemented;
- Preparation and implementation of a noise and vibration sub-plan, in consultation with relevant authorities;
- Construction noise and vibration impact statements for each construction site, specifying mitigation measures identified through consultation with affected noise sensitive receivers;
- An out-of-hours works protocol;
- Implementation of the applicant's construction noise and vibration strategy; and
- Construction noise and vibration monitoring programs.

2. Contaminated Lands

Two specialist reports were provided in the EIS regarding contamination at the site: *Stage 1 and Preliminary Stage 2 Environmental Site Assessment*, dated 23.02.20, prepared by JK Environments (site assessment report); and *Remediation Action Plan*, dated 29.04.20, prepared by JK Environments (RAP).

The site assessment report identified a number of contaminants of concern in soils that exceeded their nominated soil acceptance criteria as well as friable asbestos, which resulted from previous demolition works at the site. The report noted the need for capping and containment to address asbestos in the soil and to make the site suitable for the proposed use. A Long-Term Environmental Management Plan (EMP) will need to be prepared at the completion of remediation and validation works, if the capping and containment approach is used.

The site assessment also identified the need for a Salinity Management Plan to be prepared and implemented throughout the works.

The RAP included methodology to do further sampling and assessment of the extent of contamination after demolition, together with an Unexpected Finds Protocol. The RAP also identifies the need for an Asbestos Management Plan.

As part of the Response to Submissions (RtS) the EPA recommends the applicant engage an EPA-accredited Site Auditor to review the appropriateness of the reports prepared to date (including the site assessment report and the RAP) and prepare Interim Audit Advice.

The EPA recommends the following conditions of consent:

1. The applicant must conduct a **Detailed Site Investigation** to determine the full nature and extent of the contamination at the project area after demolition works. The **detailed site investigation(s)** must be undertaken, and the subsequent report(s), must be prepared in accordance with relevant guidelines made or approved by the EPA under section 105 of the *Contaminated Land Management Act 1997*. The reports must be prepared, or reviewed and approved, by consultants certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme.
2. The **Unexpected Finds Procedure** and the **Remediation Action Plan (RAP)** must be updated following results of further detailed site investigations and implemented throughout duration of project work.
3. Prior to commencement of operation, the applicant must submit a **Validation Report** for the development. The **Validation Report** must:
 - a) be prepared, or reviewed and approved, by consultants certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme.
 - b) be prepared in accordance with the relevant guidelines made or approved by the EPA under section 105 of the *Contaminated Land Management Act 1997*.
 - c) Include, but not be limited to:
 - i. comment on the extent and nature of the remediation undertaken;

- ii. if material is to remain in-situ and capped, describe the location, nature and extent of any remaining contamination on site as well as any ongoing management requirements;
 - iii. if treated material is to remain on the subject site, results of sampling of treated material, compared with the treatment criteria in the most updated RAP;
 - iv. results of any validation sampling, compared to relevant guidelines/criteria; and
 - v. comment on the suitability of the area for the intended land use.
 - d) be submitted to the Planning Secretary for review one month after the completion of remediation works
4. Prior to commencement of operation, the applicant must obtain confirmation from the Certifying Authority in writing that the requirements of **condition 3** have been met.
 5. The applicant must engage a NSW EPA-accredited Site Auditor to provide increased certainty to the Department on the appropriateness of the site for the proposed use. The applicant must obtain from a NSW EPA-accredited Site Auditor a **Section A2 Site Audit Statement** accompanied by an **Environmental Management Plan** prepared by a certified consultant, and submit it to the Planning Secretary and relevant Council for information no later than one month before the commencement of operation.
 6. The development must not be used for the purpose approved under the terms of this consent until a Site Audit Statement determines the land is suitable for that purpose and any conditions on the Site Audit Statement have been complied with.

The EPA also reminds the applicant of the following:

1. The processes outlined in *State Environmental Planning Policy 55 – Remediation of Land* (SEPP55) are to be followed in order to assess the suitability of the land and any remediation required in relation to the proposed use.
2. The applicant must ensure the proposed development does not result in a change of risk in relation to any pre-existing contamination on the site so as to result in significant contamination [note that this would render the applicant the 'person responsible' for the contamination under section 6(2) of *Contaminated Land Management Act 1997* (CLM Act)].
3. The EPA should be notified under section 60 of the CLM Act for any contamination identified which meets the triggers in the Guidelines for the Duty to Report Contamination www.epa.nsw.gov.au/resources/clm/150164-report-land-contamination-guidelines.pdf
4. The EPA recommends use of "certified consultants". Please note that the EPA's *Contaminated Land Consultant Certification Policy* (<https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/clm/18520-contaminated-land-consultant-certification-policy.pdf?la=en&hash=D56233C4833022719BCE0F40F870C19DC273A1F7>) supports the development and implementation of nationally consistent certification schemes in Australia, and encourages the use of certified consultants by the community and industry. Note that the EPA requires all reports submitted to the EPA to comply with the requirements of the CLM Act to be prepared, or reviewed and approved, by a certified consultant.