



DOC18/664903-02  
SSD 8766

11 October 2018

Ms Teresa Gizzi  
Department of Planning and Environment  
GPO BOX 39  
SYDNEY NSW 2001

Dear Ms Gizzi

**SSD 8766 – NEPEAN HOSPITAL REDEVELOPMENT (STAGE 1) – ENVIRONMENTAL IMPACT STATEMENT (EIS)**

I am writing to you in reply to your invitation to the EPA to make a submission concerning the above project EIS.

The EPA requests that this submission be read in conjunction with its letter dated 16 October 2017 in respect of the draft SEARs for 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'. Consequently, the EPA has not reviewed any environmental management plan forming part of or referred to in the EIS.

The EPA notes that the proposed development includes –

- (a) demolition of existing structures on the campus, and
- (b) construction of a 14 storey clinical services building with rooftop helipad.

The EPA understands that the EIS should include "... a list of any approvals that must be obtained under any other Act or law before the development, activity or infrastructure may lawfully be carried out ...". The EPA notes that EIS section 7 *Statutory Context* has not included consideration of relevant environment protection legislation, including inter alia –

- Protection of the Environment Operations Act 1997,
- Protection of the Environment Operations (Waste) Regulation 2014,
- Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2014,

- Radiation Control Act 1990, and
- Radiation Control Regulation 2013.

The EPA notes that NSW Health and the Nepean Blue Mountains Local Health District are each a 'public authority' within the meaning of the Protection of the Environment Administration Act 1991. And further, that the Environment Protection Authority has general responsibility under that Act for amongst other things:

- (a) ensuring that the best practicable measures are taken for environment protection in accordance with the environment protection legislation and other legislation, and
- (b) coordinating the activities of all public authorities in respect of those measures"

For instance, Table 1 to the EPA's Interim Construction Noise Guideline clearly identifies the best practicable measures in respect of the recommended standard hours of construction (absent strong justification for alternative hours in the particular case).

EIS section 4.3 indicates that works to remove existing at grade carparks and driveways may be undertaken as Exempt Development. The EPA anticipates that NSW Health nonetheless would ensure any works to remove existing at grade carparks and driveways and subsequent waste removal would be undertaken in a manner consistent with the recommendations in this submission (concerning demolition, site preparation, bulk earthworks, construction and construction-related activities) as well as relevant EPA guidance material.

The EPA acknowledges that the proponent may consider it useful to engage different contractors to undertake demolition, site preparation, bulk excavation, and construction stages of the project. The EPA thus expects the proponent to adopt all such means as may be necessary to ensure a seamless transition of environmental impact mitigation measures between demolition, site preparation, bulk excavation, and construction stages of the project, particularly if different contractors are to be engaged for some or all of those stages of the project.

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, acid sulfate soils and a detailed assessment of the footprint and surrounds of existing buildings following their demolition;
- (b) 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, especially surrounding residences and Nepean Private Hospital;
- (c) construction phase dust control and management,
- (e) construction phase erosion and sediment control and management;
- (f) operational noise impacts on noise sensitive receivers (especially surrounding residences) arising from operational mechanical services (especially air conditioning and steam generation plant);

- (g) the need to assess feasible and reasonable noise mitigation and management measures to minimise operational noise impacts on surrounding residences;
- (h) operational management at the development site of 'regulated material' within the meaning of the Radiation Control Act and Regulation (including the need to vary the existing radiation management licence held by Nepean and Blue Mountains Local Health District);
- (i) operational assessment, storage, handling, transport and disposal of 'clinical and related wastes';
- (j) design, installation and operation of any underground petroleum storage system proposed to serve back-up emergency generation;
- (k) practical opportunities to implement water sensitive urban design principles, including stormwater re-use; and
- (l) 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



**MIKE SHARPIN**  
**A/Manager Regional Operations - Metropolitan Infrastructure**  
**NSW Environment Protection Authority**

**Attachment A**

## ATTACHMENT A

### - ENVIRONMENT PROTECTION AUTHORITY COMMENTS –

#### NEPEAN HOSPITAL REDEVELOPMENT STAGE 1

#### 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 particular 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)

Table 9-1 to EIS Appendix 6a '*Preliminary Stage 2 Environmental Site Assessment*' confirms the presence of asbestos containing material "... within the fill material and on the surface of the site."

EIS Appendix 6b 'Remediation Action Plan' (RAP) appears to indicate a mixed approach with some removal and some capping of contaminated soil/fill.

EIS Appendices 6a and 6b further identified data gaps, including:

- the vertical and horizontal extent of fill material at the site has not been fully assessed; and
- the proposed development area has been moved to the east, increased in area to the south east; and

- the areas of the development site were occupied by existing buildings in the central and north west sections and have not been assessed; and
- the central/east section of the development site was occupied by an at grade asphaltic car park.

The EPA understands that the development site has a revised development area of 25,300 square metres (see RAP Table 2-1) and notes that whilst the Sampling Design Guidelines recommend a minimum of 35 sampling points, however soil samples were obtained from only 24 boreholes.

The EPA understands that disused Underground Petroleum Storage System (UPSS) infrastructure is located on the hospital campus but the shift of the development site indicates that infrastructure would be 100 metres away. Nevertheless, the EPA considers that the disused UPSS should be removed from the hospital campus and the site remediated and validated in conjunction with remediation of the development site.

The EPA considers that –

- the unexpected finds procedure outlined in section 8.1 the RAP (i.e. Appendix 6b) is not site specific and sufficiently detailed, and
- the RAP should be revised having regard to the results of additional site investigation.

Therefore, the EPA having regard to foregoing and the nature of the proposed use, considers that the proponent should engage an accredited site auditor.

### **Recommendation**

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 –
  - (i) asbestos containing materials,
  - (ii) incinerator and boiler ash,
  - (iii) clinical waste, and
  - (iv) hydrocarbon contamination associated with any underground petroleum storage system.
- (b) includes details of who will be responsible for implementing the unexpected finds procedure and the roles and responsibilities of all parties involved.

### **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.

### **Recommendation**

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.

### **Recommendation**

The proponent be required to undertake a detailed site assessment of the entire development site having due regard to identified data gaps including uncertainties about historic fill and waste management practices across the development site and its immediate surrounds.

### **Recommendation**

The proponent be required consider the guidance material provided in *The National Environment Protection (assessment of contamination) Measures, 2013* as amended 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.

### **Recommendation**

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.

### **Recommendation**

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 so as to result in significant contamination.

### **Recommendation**

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*.

### **Recommendation**

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 remediation action 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.

### **Recommendation**

That the proponent be required to implement the recommendations of the Remedial Action Plan as conditioned by the accredited site auditor.

### **Recommendation**

The proponent be required to ensure:

- (d) 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;
- (e) an Asbestos Works Management Plan (AWMP), including stringent controls on dust emissions, is prepared and submitted to the site auditor for review; and
- (f) a long term Environmental Management Plan (LTEMP) is prepared following remediation of the development site to document -
  - (i) the expected limitations on the development site use,
  - (ii) relevant environmental and health and safety processes and procedures,
  - (iii) management processes, procedures and responsibilities to be adopted by future site users within the development site, and
  - (iv) details on the location and extent of placed or residual asbestos contaminated fill materials, capping layers and marker barriers within the development site.

### **Recommendation**

The proponent be required to ensure all disused Underground Petroleum Storage System (UPSS) infrastructure is decommissioned, the site validated, and the process documented and reported in accordance with the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2014

## **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, especially surrounding residences and the adjoining Nepean Private Hospital.

EIS Table 14 'mitigation measures' indicates proposed construction hours on Saturdays (i.e. 7.00 am to 5.00 pm) that are inconsistent with the standard construction hours of 8.00 am to 1.00 pm on Saturdays recommended in Table 1 to Interim Construction Noise Guidelines. It is noted that table

14 states that “No work will be carried outside of standard construction hours, due to the nature of the Hospital services and the surrounding residential properties, ...”

### 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 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 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 (M2 Upgrade project) 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.

### 2.4 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 :

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

### 2.5 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.

## 2.6 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.

## 2.7 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

- (a) not disposed of on the development site, and
- (b) 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) radiation control;
- (c) clinical and related waste management
- (d) waste management in accordance with the waste management hierarchy;
- (e) design, installation and operation of any underground petroleum storage system;
- (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 surrounding residences in Parker, Somerset and Derby Streets as well as the adjoining Nepean Private Hospital.

The EPA notes that the shading on Figures 1 and 2 to EIS Appendix 15 '*Acoustic Assessment*' gives the impression that the Nepean Private Hospital is located on the hospital campus, which is not the EPA's understanding.

#### 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 (NPfI) is fundamental to a consistent approach to the quantitative assessment of noise impacts of development.

The Npfi 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 and when wind speeds exceed 5 metres per second (i.e. 18 kilometres per hour) should be excluded when deriving those background levels.

The Npfi guidance material also specifies that noise from an existing development should be excluded from background noise measurements.

However, Figure 2 to EIS Appendix 15 indicates that 2 noise loggers were deployed for the purposes of background noise monitoring.

Logger A was deployed at a residence in Barber Street over 11 days between 31 January 2017 and 10 February 2017 but no meteorological data is reported.

However, Logger B was deployed –

- (a) between 25 May 2018 and 1 June 2018 during which period background noise measurements were likely to be affected by rain on 28 and 30 May as well as wind speeds in excess of 5 metres per second on several days, and
- (b) on the hospital campus instead of at the most affected or potentially most affected residence in Somerset Street.

The EIS is not supported by a graphical representation of the daily background noise monitoring data and observed meteorological conditions.

Accordingly, the EPA is unable to provide an informed assessment of the suitability of the rating background levels and applicable noise criteria.

### **Recommendation**

The proponent be required to undertake background noise monitoring in accordance with the guidance material provided in Chapter 3 and Appendix B of the NPfI.

### **Recommendation**

The proponent be required to determine project specific noise levels in accordance with the NPfI with those levels being unaffected by noise from the existing hospital.

#### ambulance bay

Section 6.1.1 and Table 15 to EIS appendix 15 assess noise level exceedance by reference to the *Environmental Criteria for Road Traffic Noise*, 1999 which has been superseded by *Road Noise Policy* 2011.

### **Recommendation**

The proponent be required to revise the ambulance bay noise impact assessment having regard to the Road Noise Policy 2011.

#### mechanical plant and equipment

Section 6.4 to EIS Appendix 15 includes a qualitative assessment of the “... initial design of primary plant items ..”, proposes acoustic treatments, and indicates the need to undertake a detailed quantitative assessment “... once plant is selected ...”.

## Recommendation

The proponent be required to:

- (a) provide a comprehensive quantitative assessment of operational noise impacts of mechanical plant and equipment on surrounding noise sensitive receivers, especially surrounding residences and the adjoining Nepean Private Hospital;
- (b) ensure mechanical plant and equipment installed on the development site does not generate noise that –
  - (i) exceeds 5 dBA above the rating background noise level (day, evening and night) measured at the boundary of the development site, and
  - (ii) exhibits tonal or other annoying characteristics.

### waste collection services

The EPA notes numerous reports of community concern arising from waste collection services undertaken at public facilities and 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 Saturday.

### *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) during early morning and evening periods as well as on weekends and public holidays.

## 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.

### helicopter operations

EIS architectural drawings indicate that a rooftop helipad is proposed.

The EPA understands that use of the helipad would be restricted to only critical care flights which are directed to Nepean Hospital on a patient care basis by the Ambulance Service Aeromedical Operations Centre in consultation with a senior trauma care doctor. The transport of critical care patients is an operational matter for NSW Health with the focus of saving human life and the decision on where patients are sent is based of the best chance of survival for the patient,

The EPA further understands NSW Health has implemented a range of reasonable and feasible measures to minimise impacts on surrounding residents, including shutting down aircraft engines as soon as practicable after landing and providing aircraft pilots with remote control of helipad landing lights to minimise periods of potential glare nuisance.

The EPA notes that the New South Wales government has no jurisdiction in regard to aircraft in the air which instead is a matter the subject of Commonwealth Government legislation. And in that regard, the EPA understands that any noise complaint about aircraft in the air should be lodged with Air Services Australia.

### 3.2 Emergency back-up generators and Underground Petroleum Storage System

The EPA is unclear whether operation of the building during an emergency will be secured by an existing or proposed back-up generation system. The EPA anticipates that any back-up emergency generator system would be served by an Underground Petroleum Storage System (UPSS).

The proponent may only use a UPSS in accordance with the requirements of the Protection of the Environment Operations (Underground Petroleum Storage System) Regulation 2014. And, any such UPSS must be designed, installed and operated with regard to Guidelines issued by the EPA.

### **Recommendation**

The proponent be required to design, install and operate any underground petroleum storage system in accordance with the requirements of the Protection of the Environment Operations (Underground Petroleum Storage System) Regulation 2014.

### 3.3 Radiation control

The EPA is unclear whether diagnostic imaging or nuclear medicine are proposed to be provided in the new tower building.

The EPA administers the Radiation Control Act 1990 (and Radiation Control Regulation 2013) and anticipates that 'regulated material' will be stored and possessed on the hospital 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.

A 'person responsible' within the meaning of section 6 of the Radiation Control Act 1990 is obliged to hold an appropriate 'radiation management licence' in respect of regulated material at the hospital campus.

A natural person who uses regulated material at the hospital campus must hold a 'radiation user licence' and must comply with any conditions to which the licence is subject.

The EPA notes that the EIS does not appear to acknowledge any implications for the radiation management licence held by the Nepean Blue Mountains Local Health District.

The EPA's "*Radiation Guideline 7 - Radiation shielding design assessment and verification requirements*" provides guidance concerning shielding assessment and calculations. The EPA encourages the proponent to engage a specialist consultant to undertake shielding calculations.

## Recommendation

The proponent be required to ensure shielding of 'regulated material', including diagnostic imaging equipment is assessed and calculated in accordance with the EPA's guidance material provided in *"Radiation Guideline 7 - Radiation shielding design assessment and verification requirements"*.

## Recommendation

The proponent be required to apply for and obtain any necessary amendment to the 'radiation management licence' currently held under the name of the Nepean Blue Mountains Local Health District in respect of 'regulated material' at the new facilities and the management and handling of any waste containing radioactive material.

### 3.4 Waste 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.

## Recommendation

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

### 3.5 Waste management (clinical and related waste)

The EPA anticipates that the development will generate 'clinical and related waste' which are defined under the Protection of the Environment Operations Act 1997, as follows -

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

*"Clinical waste means any waste resulting from medical, nursing, dental, pharmaceutical, skin penetration or other related clinical activity, being waste that has the potential to cause injury, infection or offence, and includes waste containing any of the following:*

- (a) human tissue (other than hair, teeth and nails),*
- (b) bulk body fluids or blood,*
- (c) visibly blood-stained body fluids, materials or equipment,*
- (d) laboratory specimens or cultures,*
- (e) animal tissue, carcasses or other waste from animals used for medical research,*

*but does not include any such waste that has been treated by a method approved in writing by the Director-General of the Department of Health.”*

The occupier of any premises comprising a hospital, day procedure centre, pathology laboratory, mortuary or medical research facility where clinical and related waste is generated, must ensure that there is a waste management plan, in respect of that waste, for the premises. And, should prepare that plan with due regard to the relevant provisions of clause 113 of the Protection of the Environment Operations (Waste) Regulation 2014.

### **Recommendation**

The proponent be required to properly classify and manage clinical and related waste in accordance with the EPA's Waste Classification Guidelines.

### **Recommendation**

The proponent be required to ensure that the occupier of the hospital prepares and implements a revised waste management plan, in respect of clinical and related waste generated at the development site in accordance with NSW Health policy directive 2017\_026 titled “*Clinical and Related Waste Management for Health Services*”, dated August 2017.

### **3.6 Water sensitive urban design and energy conservation and efficiency**

The EPA notes that hospitals are typically heavy users of potable water and electricity.

EIS section 9.5.3 indicates that implementation of ESD principles is to be measured in accordance Engineering Services Guidelines (August 2016) to achieve Green Star 4 rating.

EIS section 9.5.4 indicates that the proponent would adopt a range of passive and active measures to maximise energy efficiency and minimise energy consumption as well as adopting water sensitive urban design encompassing stormwater treatment and rainwater harvesting for irrigation purposes.

However, both section 5.3 to EIS Appendix 9 (Utilities) and section 2.2 to EIS Appendix 21 (ESD) indicate that rainwater harvesting has not been considered on the basis of cost and infection control considerations.

### **Recommendation**

The proponent be required to clarify whether rainwater is to be harvested, treated, stored and used for irrigation and other non-potable water uses.

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