



DOC18/619513-02
SSD 9241

26/9/18

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

Dear Ms Fu

SSD 9241 – CAMPBELLTOWN HOSPITAL REDEVELOPMENT STAGE 2 – 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 17 April 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 'arms length'. As such, the EPA has not reviewed any environmental management plan forming part of or referred to in the EIS.

The EPA is concerned that the EIS appears to omit any reference to applicable 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 understands that other development, including construction of a multi-storey car park, on the development site is proposed to be undertaken pursuant to separate assessment processes (e.g. council DA, REF).

The EPA notes that NSW Health and South Western Sydney Local Health District are each a 'public authority' within the meaning of the *Protection of the Environment Administration Act 1991*. Further, that the EPA has general responsibility under that Act for amongst other things:

Phone 131 555
Phone +61 2 9995 5555
(from outside NSW)

Fax +61 2 9995 5999
TTY 133 677
ABN 43 692 285 758

PO Box 668
Parramatta
NSW 2124 Australia

Level 13
10 Valentine Av
Parramatta NSW
2150 Australia

info@epa.nsw.gov.au
www.epa.nsw.gov.au

- (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.

As a result, the EPA expects NSW Health to meet appropriate requirements. 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 (in the absence of strong justification for alternative hours in the particular case).

Similarly, the EPA anticipates that NSW Health would, despite any council approval or REF, ensure that demolition and subsequent waste removal is undertaken in a manner consistent with the recommendations in this submission (concerning 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 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 such as surrounding residences;
- (c) construction phase dust control and management,
- (d) construction phase erosion and sediment control and management;
- (e) operational noise impacts on noise sensitive receivers (especially surrounding residences on adjoining and adjacent holdings) arising from operational activities such as waste collection services and mechanical services (especially air conditioning plant);
- (f) the need to assess feasible and reasonable noise mitigation and management measures to minimise operational noise impacts on surrounding residences;
- (g) 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 South Western Sydney Local Health District);
- (h) operational assessment, storage, handling, transport and disposal of 'clinical and related wastes';
- (i) design, installation and operation of any underground petroleum storage system proposed to serve back-up generators;
- (j) practical opportunities to implement water sensitive urban design principles, including stormwater re-use; and

- (k) 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

ATTACHMENT A
ENVIRONMENT PROTECTION AUTHORITY COMMENTS –
CAMPBELLTOWN HOSPITAL REDEVELOPMENT STAGE 2

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. hazardous building materials)

EIS Appendix T *Detailed Site Investigation* (DSI) notes the potential for hidden underground structures (such as fuel tanks, septic tanks, filled gullies and ACM) within building footprints and should be considered accordingly during earthworks for the proposed development. The likelihood of electrical transformers and infrastructure containing polychlorinated biphenyl contamination should also be considered.

The EPA notes that:

- (a) 17 combined geotechnical and contamination soil cores were advanced across the site, some down to a maximum of 29m below ground level, and for a reason not fully justified in the DSI, only five of those 17 boreholes were tested for contaminant compounds of concern;
- (b) the development area comprises 1.9 hectares (19000 m²), and as such the number of sampling points are insufficient for adequate site characterisation in accordance with the NSW Sampling Design Guidelines (NSW EPA 1995);
- (c) parts of the development area could not be accessed due to infrastructure and buildings and on completion of demolition works, a data gap contamination assessment is required to focus on the areas not previously sampled;
- (d) the maximum depth of the analytical sampling was 1.8 m below ground surface;

- (e) assessment of groundwater at the site is inadequate as it is inappropriate to rely on the findings of the 2012 groundwater assessment as this report is representative of conditions from six years ago, and sampling was concentrated within a small car park only; and
- (f) although chemicals of concern in the soil profile are not reported above health screening levels, Appendix T relies on only five soil sample results, and three of which were obtained from the near surface and as such further assessment of soil contamination across the site is warranted.

Recommendations

1. The proponent be required to ensure that –
 - (a) following demolition of any existing structures, road pavement and infrastructure, electricity substations/transformers and in ground utilities, further investigation is undertaken of soil and groundwater, including within the footprint and immediate surrounds of those demolished structures, infrastructure, substations/transformers and utilities prior to undertaking any construction.
 - (b) the required additional site investigation includes –
 - (i) post-demolition/removal data gap contamination assessment in the footprint and immediate surrounds of any existing buildings and infrastructure proposed for demolition/removal with the data gap assessment including additional sampling and assessment of soils and groundwater to add to the existing data set, including groundwater assessment to target areas within and down hydraulic gradient of potential contaminating activity;
 - (ii) sampling at sufficient sampling points necessary to properly characterise soil and groundwater contamination of the 1.9 hectare development area in accordance with NSW EPA Sampling Design Guidelines; and
 - (iii) sampling at depths for contaminants of concern to below the known ‘basement’ levels of the proposed clinical services building construction.
2. The proponent be required to consider the guidance material provided in the *National Environment Protection (Assessment of Site Contamination) Measure 2013* 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 (3rd edition) 2017, and
 - Guidelines for Consultants Reporting on Contaminated Sites, 2011.
3. 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.
4. 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.
5. 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*.

6. The proponent be required to engage a site auditor (accredited under the Contaminated Land Management Act) should additional site investigations reveal further contamination of soil or groundwater –
 - (a) to review the adequacy of contamination assessment reports, any remediation action plan and unexpected finds procedure, and
 - (b) to 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.

Asbestos containing materials

The EPA understands that parts of the hospital were constructed in the late 1970s and early 1980s which suggests the likelihood that some of those structures would include asbestos containing materials.

The EPA anticipates that asbestos containing materials are likely to be encountered during the course of the development.

Recommendations

1. The proponent be required to ensure that following demolition of any existing structures, car parks and in ground utilities further investigation be undertaken of soil contamination within the footprint of those structures, car parks and utilities prior to undertaking any construction.
2. The proponent be required (prior to commencing any work on the development site) to undertake a detailed hazardous materials (including asbestos containing materials) survey of existing structures and fill material on the development site.
3. The proponent be required (prior to commencing any work on the development site) to prepare and implement a procedure for identifying and dealing with unexpected finds of site contamination (including asbestos containing materials). Further, that procedure includes details of who will be responsible for implementing the unexpected finds procedure and the roles and responsibilities of all parties involved.
4. 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>.

5. 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.

Polychlorinated Biphenyl (PCB) materials and waste

EIS Appendix T indicates that a hazardous material survey of the existing campus structures was undertaken. The EPA understands that PCBs may have been detected on the campus during the hazardous material survey. However, the EPA notes that a copy of the hazardous materials survey does not appear to accompany the EIS.

The *Polychlorinated Biphenyl (PCB) Chemical Control Order 1997* sets out requirements for managing PCB materials and wastes, including activities such as processing, storage, transport, and disposal. The Control Order is made under the *Environmentally Hazardous Chemicals Act 1985*. The proponent may readily obtain a copy of the Order on the EPA web site via the following link –

<https://www.epa.nsw.gov.au/your-environment/chemicals/chemical-control-orders>

Recommendation

The proponent be required to ensure that any PCB material or waste kept on the development site –

- (a) is stored and handled in accordance with the *Polychlorinated Biphenyl (PCB) Chemical Control Order 1997*, and
- (b) is assessed, classified and managed in accordance with the EPA “*Waste Classification Guidelines Part 1: Classifying Waste*” November 2014 and the 2016 Addendum thereto.

2.2 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.

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.

EIS sections 6.13.1 proposes the following extended construction hours, being –

- **6.30 am** to 6.00 pm Monday to Friday, and
- **7.00 am** to **3.00 pm** Saturdays.

However, the proponent offers no strong justification for working during the night assessment period on weekdays (i.e. 6.30 am to 7.00 am) or for working extended hours on Saturdays (7.00 am to 8.00 am as well as 1.00 pm to 3.00 pm).

The EPA does not accept the premise that productivity represents adequate justification for a departure from the standard hours for this project. At the same time, the EPA confirms that standard hours are not intended to apply to activities that are not audible (i.e. not greater than rating background level plus 5dB).

The EPA notes that although DPE conditions typically exempt Police directed delivery of construction ‘materials’ from standard construction hours, the EPA is unaware of any such deliveries ever having been so directed. Instead, the EPA understands that Roads and Maritime Services requires certain movements of oversize plant, equipment and structural elements across the metropolitan road network to be restricted to low traffic flow periods that are inevitably outside standard construction hours.

Finally, the EPA also acknowledges that certain ‘out of hours’ activities involved in road construction and making connections to utility networks are justified for reasons of safety and maintaining network integrity but the EPA does not anticipate the proposed development would involve any such activities.

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.

2.3 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:

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

- (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) 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 acknowledges that background noise monitoring was undertaken at on and off campus monitoring points and appears to have been undertaken in a manner that is generally consistent the guidance material provided in the EPA's Noise Policy for Industry. However, the EIS Appendix Q graphical representation of unattended background noise monitoring results indicates that unattended

monitoring at on campus monitoring point 'ML6' appears to have been affected by extraneous noise such as an air conditioner or plant noise.

Mechanical plant and equipment

EIS section 6.13.2 states that "... the selection of plant for the proposal has not been finalise and accordingly detailed acoustic design assessment cannot be undertaken."

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 residences, Campbelltown Private Hospital, and the IRT aged care facility;
- (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.

Helicopter operations

EIS Appendix DD (and architectural drawings) indicate that a helipad is proposed to be constructed on the roof of the clinical services building. The EPA understands that use of the helipad is restricted to only critical care flights which are directed to Campbelltown 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 is instead a matter the subject of Commonwealth Government legislation. 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 the clinical services building emergency operations would be assured by reliance on an existing or new back-up emergency generator system and whether that system is or 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. 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 understands that Campbelltown hospital –

- (i) provides diagnostic imaging, nuclear medicine and radio-therapy services; and
- (ii) provides radio-therapy by means of two linear accelerators located in the Cancer Therapy Centre.

The EPA understands that the hospital is likely to install at least one additional radio-therapy bunker and an additional bunker for brachy therapy or superficial treatment as well as an Iodine 131 therapy room. But, is unclear whether development of those facilities is included as part of Stage 2.

Whilst, EIS Architectural drawing number 'SSD-03-000' appears to show diagnostic imaging and nuclear medicine facilities co-located in existing 'Building A' (immediately north of the proposed clinical services building), the EPA is unclear whether –

- (i) the 'nuclear medicine' facilities are existing or part of the Stage 2 redevelopment,
- (ii) diagnostic imaging facilities serving the existing emergency department (Building A) would remain in building A or be transferred to the new emergency department in the clinical services building, or
- (iii) additional diagnostic imaging facilities are to be provided in the clinical services building to supplement those in Building A.

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 university 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 South Western Sydney 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.

Recommendations

1. The proponent be required to clarify whether –
 - (a) the planned radio-therapy and brachy therapy are included as part of Stage 2;
 - (b) nuclear medicine facilities shown on drawing 'SSD-03-000' are existing of part of Stage 2 refurbishment of building A;
 - (c) diagnostic imaging facilities are to be located in the clinical services building; and
 - (d) diagnostic imaging facilities are to continue to be provided in Building A.
2. 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*".
3. The proponent be required to apply for and obtain any necessary amendment to the 'radiation management licence' currently held under the name of the South Western Sydney 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 as mentioned above.

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. That plan should be prepared with due regard to the relevant provisions of clause 113 of the Protection of the Environment Operations (Waste) Regulation 2014.

Recommendation

1. The proponent be required to properly classify and manage clinical and related waste in accordance with the EPA's Waste Classification Guidelines.
2. 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 Appendix Y indicates that implementation of ESD principles is to be achieved through design team reference to "...industry best practice requirements" considered against NSW Health internal guidance (i.e. Engineering Services Guidelines).

The EPA acknowledges that EIS section 6.12.2 indicates that the proponent has reviewed water sensitive urban design measures and has committed to implementing a range of those measures, including rainwater harvesting and re-use, and water efficient fixtures. However, the EIS is unclear about what specific measures are proposed to be implemented maximise energy efficiency and minimise energy consumption.
