DOC18/663871-03 + 9 October 2018
SSD 9036

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

Dear Ms Gizzi

SSD 9036 – CONCORD HOSPITAL REDEVELOPMENT (CONCEPT PLAN AND 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 29 January 2018 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 Concept Plan involves development in two stages with Stage 1 to include amongst other things -

(a) construction of a new clinical services building, including provision for future radio-therapy bunkers, and

(b) construction of stage 1 of a new multi-storey car park north of Hospital Road.

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 4.2 *Regulatory Framework* omits consideration of relevant environment protection legislation, including:

- Protection of the Environment Operations Act 1997,
- Protection of the Environment Operations (Waste) Regulation 2014,

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- 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 Sydney Local Health District are each a 'public authority' within the meaning of the Protection of the Environment Administration Act 1991. The EPA 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 (in the absence of absent strong justification for alternative hours in the particular case).

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 such as nearby residences to the southwest, Rivendell School and surrounding recreation areas;

(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 Sydney 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 new back-up generator proposed adjacent to existing service road (south eastern side of ;

(k) the need to undertake a detailed assessment of measures required to prevent pollution of waters, especially the Parramatta River

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

(m) 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 –

CONCORD HOSPITAL REDEVELOPMENT (CONCEPT PLAN AND 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)

The EPA anticipates that given the age of some of the structures on the development site, asbestos containing materials, lead-based paints and potential PCBs (electrical equipment) are likely to be encountered during demolition.

Section 4.1.1 to EIS Appendix AA *Remedial Action Plan* advises that "[f]ragments of bonded ACM were identified within the Phase 1 redevelopment area whilst section 4.4.2 advises that friable asbestos "... was identified in three soil samples ...". Similarly, section 7.1 to EIS Appendix AA confirms data gaps including "*Uncertainties associated with historic asbestos management practices*."

The EPA further anticipates that given uncertainties about historic clinical waste management practices, incinerator/boiler ash and clinical waste may also be present within the Stage 1 development site.

The *Remedial Action Plan* refers to Phase 1 and Phase 3 redevelopment areas, wherein –

(a) the Phase 1 area coincides with the clinical services building footprint and curtilage, and

(b) the Phase 3 area coincides with the existing at grade car park on the north side of Hospital Road on part of which both the stage 1 and stage 2 multi-storey car park is to be located.

The Phase 1 Detailed Site Investigation report is very limited in scope being restricted to small area of the clinical services building and environs part of the development site in the vicinity of an existing loading dock.

The Phase 3 Detailed Site Investigation report indicates some areas of Benzo(a) pyrene and semi-volatile Total Recoverable Hydrocarbons (TRH) impact in shallow soils beneath existing asphalt and notes the possibility of asbestos containing materials and acid sulfate soils underlying the site.

The EPA notes that the Remediation Action Plan only addresses asbestos contamination despite other potential contamination issues which have not been properly investigated due in part to inaccessibility (i.e. existing structures) and which may need remediation.

Since late 2015, clause 79 of the Waste Regulation has required transporters of loads of asbestos waste to provide certain details of the loads to the EPA using the "WasteLocate" system. These details include details of the source site, date of proposed transport, details of the proposed destination site and the approximate weight of asbestos waste in the load. The information must be provided to the EPA before transportation of the load commences.

WasteLocate is an online tool that allows the EPA to track the transport of asbestos waste. Transporters are required to use WasteLocate to report the movement of more than 100 kilograms of asbestos waste or more than 10 square metres of asbestos sheeting within NSW. The details can be reported on WasteLocate by using an app on a mobile phone or tablet or by using a computer.

EIS Appendix AT under the heading 'Combustible liquids" states "[d]iesel is present in underground tanks and is used as back-up generator fuel. The existing underground tanks will need to be decommissioned ..."

The EPA notes that although a Phase 2 Detailed Site Investigation report is included with the EIS, Stage 2 is proposed to be the subject of a separate application. Accordingly, the EPA has not considered the Phase 2 report.

The proponent should note that the EPA requires all contamination assessment and validation reports submitted to the EPA to comply with the requirements of the *Contaminated Land Management Act 1997* and to be prepared, or reviewed and approved, by a certified consultant.

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) lead-based paint,

(iii) incinerator and boiler ash,

(iv) clinical waste, and

(v) hydrocarbon contamination associated with any underground petroleum storage system.

(b) details 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 Stage 1 development site having due regard to identified data gaps including uncertainties about historic 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 (3rd 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, should additional site investigations reveal further contamination of soil or groundwater, to engage a site auditor (accredited under the Contaminated Land Management Act) 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

The proponent be required to ensure all Underground Petroleum Storage System (UPSS) infrastructure to be removed from the Stage 1 development site 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

2.1.2 Acid sulfate soils

The EIS confirms the presence of acid sulfate soils on the development site underlying the existing at grade car park on the northern side of Hospital Road (i.e. Stage 1 and 2 multi-storey car park site). potential acid sulfate soils.

The EPA anticipates the likelihood that during the course of demolition, bulk earthworks and construction the project is likely to disturb acid sulfate soils. The EPA emphases that potential acidification of the soil profile once the soils are disturbed during the redevelopment may increase the mobility of any heavy metal contaminants in the site soils.

The EPA confirms that acid sulfate soils may only be disposed of at a waste facility legally able to receive such waste. And, any waste containing acid sulfate soils must be classified in accordance the EPA's waste classification guidelines Part 4. The EPA's waste classification guidelines are available at its web site via the following link –

http://www.epa.nsw.gov.au/your-environment/waste/classifying-waste/waste-classification-guidelines

Recommendation

The proponent be required to assess and manage any acid sulfate soil (ASS) and potential acid sulfate soil (PASS) in accordance with the 1998 *Acid Sulfate Soils Manual* published by the NSW Acid Sulfate Soil Management Advisory Committee (ASSMAC).

Recommendation

The proponent be required to ensure all acid sulfate soil waste generated during the project is kept separate from all other waste and is assessed, classified and managed in accordance with the "*Waste Classification Guidelines Part 4: Acid Sulfate Soils*".

2.1.3 Odour management

The EPA notes that sulfurous odours may arise during disturbance, stockpiling and transport of any acid sulfate soil (ASS) and potential acid sulfate soil (PASS)
The EPA anticipates that odour prevention and management measures would include amongst other things –

(a) covering and protection of all stockpiles and truckloads of acid sulfate soil (ASS) and potential acid sulfate soil (PASS) to prevent exposure to precipitation and runoff,

(b) odour suppressants being applied during site preparation and bulk excavation works, and

(c) limiting the surface area of exposed odorous material.

Recommendation

The proponent be required to ensure that all such measures as may be necessary to minimise and manage any odours arising from excavation, stockpiling and removal of contaminated and acid sulfate soil are implemented, including but not limited to :

(a) staged excavation to limit the surface area of exposed odorous material,

(b) application of odour suppressants,

(c) effective covering of stockpiles and truckloads of excavation spoil, and

(d) expedited removal of odorous material from the development site to a facility legally able to accept those wastes.

Recommendation

the proponent be required to ensure that any Air Quality and Odour Management Plan prepared for the project includes amongst other things:

- Proactive and reactive management strategies;
- Key Performance indicator(s);
- Monitoring method(s);
- Location, frequency and duration of monitoring;
- Record keeping;

- Response mechanisms;
- Contingency measures; and
- Compliance report.

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 residences adjoining the hospital campus.

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, 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.

2.6 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 residences adjoining the hospital campus.

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

The EPA considers that background noise monitoring was not undertaken in accordance withe guidance material provided in NPI Fact Sheets A and B in respect of unattended monitoring locations and rain affected data.

Recommendation

The proponent be required to undertake and report background noise monitoring in accordance with the relevant guidance material provided in Noise Policy for Industry Fact Sheets A and B.

construction vibration

The EPA notes with concern that section 6.1.5.2 to EIS Appendix AB 'Acoustic Report for SSD 9036' inexplicable refers (2nd dot point, p.31) to residences in "... Somerset Street and Nepean Private Hospital ..." instead of locations adjoining the Concord hospital campus.

Recommendation

The proponent be required to clarify the reference in section 6.1.5.2 (i.e. 2nd dot point, p.31) to EIS Appendix AB '*Acoustic Report for SSD 9036*'

mechanical plant and equipment

EIS Appendix AB proposes that mechanical plant and equipment should be subject to detailed acoustic review "... once plant is selected ... " and proposed acoustic treatments adopted.

Recommendation

The proponent be required to:

(a) provide a comprehensive quantitative assessment of operational noise impacts on surrounding noise sensitive receivers, especially adjoining residences;

(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 western boundary of the development site, and

  (ii) exhibits tonal or other annoying characteristics.

Recommendation

The proponent be required to reorient mechanical plant away from the facades facing noise sensitive receiver locations, especially nearby residences.

3.2 Emergency back-up generators and Underground Petroleum Storage System

The EPA notes that architectural drawing number NEWB-AR-DRG-15B2 revision 21' indicates proposed location of a new back-up emergency generator system and anticipates that 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 understands that Concord hospital provides diagnostic imaging, nuclear medicine and radio-therapy services.

The EPA notes architectural drawing number NEWB-AR-DRG-15B2 revision 21' indicates proposed future 'radiation oncology' and 'radiation therapy bunkers'.

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 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.

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 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. 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 Appendix AH 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).

EIS section 6.19 indicates that the proponent would adopt a range measures to be maximise energy efficiency and minimise energy consumption, including -

- energy efficient chillers, boilers and heat exchangers,
- variable speed drives for all major fans and pumps, and
- building management control system.
