

## Appendix U - Secretary's Environmental Assessment Requirements

The Secretary's Environmental Assessment Requirements (SEARs) for the proposed development were issued by the NSW Department of Planning, Industry and Environment on 24 April 2020 by Mr Chris Ritchie, Director, Industry Assessments as a delegate of the Secretary (SEARs No. SSD-10447). The SEAR report is contained in Appendix A.

The planning and assessment requirements identified by the Secretary for consideration in the EIS are given in Table U.1. Note that all these requirements have been addressed in the EIS, and the relevant Sections are highlighted for ease of cross-referencing.

**Table U.1. Summary of the SEARs and the relevant Chapter within the EIS.**

Secretary's Environmental Assessment Requirements	Where in this EIS the requirement is addressed
<b>Requirements of Clause 6 of Schedule 2 of the <i>Environmental Planning and Assessment Regulation 2000</i> – Form of environmental impact statement</b>	
a) the name, address, and professional qualifications of the person by whom the statement is prepared	Declaration (page 2)
b) the name and address of the responsible person	Section 1.7
c) the address of the land: (i) in respect of which the development application is to be made, or (ii) on which the activity or infrastructure to which the statement relates is to be carried out	Section 1.3
d) a description of the development, activity or infrastructure to which the statement relates	Section 2
e) an assessment by the person by whom the statement is prepared of the environmental impact of the development, activity or infrastructure to which the statement relates, dealing with the matters referred to in this Schedule.	Entire EIS report
f) a declaration by the person by whom the statement is prepared to the effect that: (i) the statement has been prepared in accordance with this Schedule, and (ii) the statement contains all available information that is relevant to the environmental assessment of the development, activity or infrastructure to which the statement relates, and (iii) that the information contained in the statement is neither false nor misleading.	Declaration (page 2)
<b>Requirements of Clause 7 of Schedule 2 of the <i>Environmental Planning and Assessment Regulation 2000</i> – Form of Environmental Impact Statement</b>	
(a) summary of the environmental impact statement	Executive Summary
(b) a statement of the objectives of the development, activity or infrastructure	Section 1
(c) an analysis of any feasible alternatives to the carrying out of the development, activity or infrastructure, having regard to its objectives, including the consequences of not carrying out the development, activity or infrastructure	Section 1.9

Secretary's Environmental Assessment Requirements	Where in this EIS the requirement is addressed
(d) an analysis of the development, activity or infrastructure, including: <ul style="list-style-type: none"> <li>(i) a full description of the development, activity or infrastructure</li> <li>(ii) a general description of the environment likely to be affected by the development, activity or infrastructure, together with a detailed description of those aspects of the environment that are likely to be significantly affected, and</li> <li>(iii) the likely impact on the environment of the development, activity or infrastructure, and</li> <li>(iv) a full description of the measures proposed to mitigate any adverse effects of the development, activity or infrastructure on the environment, and</li> <li>(v) 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.</li> </ul>	Section 2 and Section 3
(e) a compilation (in a single Section of the environmental impact statement) of the measures referred to in item (d) above	Section 20
(f) the reasons justifying the carrying out of the development, activity or infrastructure in the manner proposed, having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development set out in subclause (4). Note: A cost benefit analysis may be submitted or referred to in the reasons justifying the carrying out of the development, activity or infrastructure	Section 1
General Requirements	
A detailed description of the development, including: <ul style="list-style-type: none"> <li>- need for the proposed development;</li> <li>- justification for the proposed development;</li> <li>- likely staging of the development;</li> <li>- likely interactions between the development and existing, approved and proposed operations in the vicinity of the site; and</li> <li>- plans of any proposed building works</li> </ul>	Section 1.12 Section 1.12 Section 1.13 Section 1.13 Appendix B
Consideration of all relevant environmental planning instruments, including identification and justification of any inconsistencies with these instruments	Section 3
Consideration of issues discussed in Attachment 2 (public authority responses to key issues)	Entire EIS report
A risk assessment of the potential environmental impacts of the development, identifying the key issues for further assessment	Entire EIS report
A detailed assessment of the key issues specified below, and any other significant issues identified in this risk assessment, which includes:	Entire EIS report

Secretary's Environmental Assessment Requirements	Where in this EIS the requirement is addressed
<ul style="list-style-type: none"> <li>- a description of the existing environment, using sufficient baseline data;</li> <li>- an assessment of the potential impacts of all stages of the development, including any cumulative impacts, taking into consideration relevant guidelines, policies, plans and statutes; and</li> <li>- a description of the measures that would be implemented to avoid, minimise, mitigate and if necessary, offset the potential impacts of the development, including proposals for adaptive management and/or contingency plans to manage significant risks to the environment.</li> </ul>	
Consolidated summary of all the proposed environmental management and monitoring measures, highlighting commitments included in the EIS.	Section 20
<p>The EIS must also be accompanied by a report from a qualified quantity surveyor providing</p> <ul style="list-style-type: none"> <li>- detailed calculation of the capital investment value (CIV) (as defined in clause 3 of the Regulation) of the proposal, including details of all assumptions and components from which the CIV calculation is derived. The report shall be prepared on company letterhead and indicate applicable GST component of the CIV; and</li> <li>- an estimate of jobs that will be created during the construction and operational phases of the proposed development certification that the information provided is accurate at the date of preparation.</li> </ul>	Section 4 and Appendix C
Key issues	
The EIS must address the following specific matters:	
<p>Suitability of the site – including:</p> <ul style="list-style-type: none"> <li>- details of all development consents and approved plans for the existing facility, including for all structures, plant and equipment;</li> <li>- a detailed justification that the site can accommodate the proposed resource processing facility and its environmental impacts and relevant mitigation measures; and</li> <li>- consistency of the proposal with the approved operation of the Tomago Aluminium Smelter and its associated conditions, including development in close proximity to the smelter and within its buffers.</li> </ul>	Section 1.9
<p>Community and Stakeholder Engagement – including:</p> <ul style="list-style-type: none"> <li>- a detailed community and stakeholder participation strategy which identifies who in the community has been consulted and a justification for their selection, other stakeholders consulted and the form(s) of the consultation, including a justification for this approach;</li> <li>- a report on the results of the implementation of the strategy including issues raised by the community and surrounding landowners and occupiers that may be impacted by the proposal;</li> <li>- details of how issues raised during community and stakeholder consultation have been addressed and whether they have resulted in changes to the proposal; and</li> <li>- details of the proposed approach to future community and stakeholder engagement based on the results of the consultation.</li> </ul>	Section 5 and Appendix D

Secretary's Environmental Assessment Requirements	Where in this EIS the requirement is addressed
<p>Waste Management – including:</p> <ul style="list-style-type: none"> <li>- a description of the waste streams that would be accepted at the site including maximum daily, weekly and annual throughputs and the maximum size for stockpiles and any liquid waste storage;</li> <li>- a detailed description of waste processing operations (including flow diagrams for each waste stream) including a description of the technology to be installed, resource outputs, and the quality control measures that would be implemented;</li> <li>- details of how waste would be stored (including the maximum daily waste storage capacity of the site) and handled on site, and transported to and from the site, including details of how the receipt of non-conforming waste would be dealt with;</li> <li>- details of the waste tracking system for incoming and outgoing waste;</li> <li>- details of the waste management strategy for construction and ongoing operational waste generated; and</li> <li>- the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the <i>NSW Waste Avoidance and Resource Recovery Strategy 2014-2021</i>.</li> </ul>	Section 6 and Appendix E
<p>Air Quality and Odour – including:</p> <ul style="list-style-type: none"> <li>- a quantitative assessment of the potential air quality, dust and odour impacts of the development in accordance with relevant Environment Protection Authority guidelines. This is to include the identification of existing and potential future sensitive receivers and consideration of approved and/or proposed developments in the vicinity;</li> <li>- the details of buildings and air handling systems and strong justification (including quantitative evidence) for any material handling, processing or stockpiling external to a building;</li> <li>- a greenhouse gas assessment;</li> <li>- consideration of the Tomago Aluminium Buffer Area and whether the proposed development would result in the release of sulfur; and</li> <li>- details of proposed mitigation, management and monitoring measures.</li> </ul>	Section 7 and Appendix F

Secretary's Environmental Assessment Requirements	Where in this EIS the requirement is addressed
<p>Soil and Water – including:</p> <ul style="list-style-type: none"> <li>- an assessment of potential impacts to soil and water resources, topography, hydrology, groundwater, drainage lines, watercourses and riparian lands on or nearby to the site, including mapping and description of existing background conditions and cumulative impacts;</li> <li>- a detailed site water balance including identification of water requirements for the life of the project, measures that would be implemented to ensure an adequate and secure water supply is available for the proposal and a detailed description of the measures to minimise the water use at the site;</li> <li>- characterisation of water quality at the point of discharge to surface and/or groundwater against the relevant water quality criteria (including details of the contaminants of concern that may leach from the waste into the wastewater and proposed mitigation measures to manage any impacts to receiving waters);</li> <li>- details of stormwater/wastewater/leachate management systems including the capacity of onsite detention system/s, onsite sewage management and measures to treat, reuse or dispose of water;</li> <li>- detailed flooding assessment;</li> <li>- a description of erosion and sediment controls;</li> <li>- consideration of salinity and acid sulphate soil impacts; and</li> <li>- characterisation of the nature and extent of contamination on the site and a description of proposed management measures.</li> </ul>	<p>Section 11 and Appendix J</p> <p>Section 14 and Appendix M</p>
<p>Traffic and Transport – including:</p> <ul style="list-style-type: none"> <li>- details of all traffic types and volumes likely to be generated during construction and operation, including a description of haul routes. Traffic flows are to be shown diagrammatically to a level of detail sufficient for easy interpretation;</li> <li>- an assessment of the predicted impacts of this traffic on road safety and the capacity of the road network, including consideration of cumulative traffic impacts at key intersections using SIDRA or similar traffic model. This is to include the identification and consideration of approved and/or proposed developments in the vicinity;</li> <li>- detailed plans of the proposed layout of the internal road and pedestrian network and parking on site in accordance with the relevant Australian Standards and Council's DCP;</li> <li>- plans of any proposed road upgrades, infrastructure works, or new roads required for the development;</li> <li>- plans demonstrating how all vehicles associated with construction and operation awaiting loading, unloading or servicing can be accommodated on the site to avoid queuing in the street network; and</li> <li>- swept path diagrams depicting vehicles entering, exiting and manoeuvring throughout the site for both heavy and light vehicles.</li> </ul>	<p>Section 9 and Appendix H</p>

Secretary's Environmental Assessment Requirements	Where in this EIS the requirement is addressed
<p>Noise and Vibration – including:</p> <ul style="list-style-type: none"> <li>- a quantitative assessment of potential construction, operational and transport noise and vibration impacts in accordance with relevant Environment Protection Authority guidelines. This is to include the identification of existing and potential future sensitive receivers and consideration of approved and/or proposed developments in the vicinity, including current and future rail traffic;</li> <li>- details and justification of the proposed noise mitigation and monitoring measures; and</li> <li>- specified times of operation for all phases of the development and for all noise producing activities.</li> </ul>	Section 8 and Appendix G
<p>Fire and Incident Management – including:</p> <ul style="list-style-type: none"> <li>- a bushfire threat assessment;</li> <li>- identification of the aggregate quantities of combustible waste products to be stockpiled at any one time;</li> <li>- technical information on the environmental protection equipment to be installed on the premises such as air, water and noise controls, spill clean-up equipment and fire (including management of fire water, location of fire hydrants and water flow rates at the hydrant) management and containment measures;</li> <li>- details of how the development would comply with Volume 1 of the National Construction Code, including clauses E.10 and E2.3; and</li> <li>- details of how the development would be designed in accordance with applicable FRNSW guidelines.</li> </ul>	<p>Section 15 and Appendix N</p> <p>Section 18 and Appendix P</p>
<p>Hazards – including:</p> <ul style="list-style-type: none"> <li>- a preliminary risk screening completed in accordance with State Environmental Planning Policy No. 33 – Hazardous and Offensive Development and Applying SEPP 33 (DoP, 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the development. In particular, the preliminary risk screening must include maximum storage quantities of any waste materials that are classified as dangerous goods and chemicals/reagents used as part of waste handling/treatment processes which are classified as dangerous goods. Should preliminary screening indicate that the project is "potentially hazardous" a Preliminary Hazard Analysis (PHA) must be prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011).</li> </ul>	Section 17 and Appendix O
<p>Biodiversity – including:</p> <ul style="list-style-type: none"> <li>- an assessment of biodiversity impacts in accordance with the Biodiversity Assessment Method and documented in a Biodiversity Development Assessment Report (BDAR).</li> </ul>	Section 10 and Appendix I
<p>Aboriginal Cultural Heritage – including:</p> <ul style="list-style-type: none"> <li>- a detailed assessment of Aboriginal cultural heritage if ground disturbing works are required for the proposed development.</li> </ul>	Section 12 and Appendix K

Secretary's Environmental Assessment Requirements	Where in this EIS the requirement is addressed
<p>Visual – including:</p> <ul style="list-style-type: none"> <li>- an assessment of the potential impacts of the development on the amenity of the surrounding area.</li> </ul>	Section 19 and Appendix Q
Consultation	
<p>During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular you must consult with:</p> <ul style="list-style-type: none"> <li>- Department of Planning, Industry and Environment, specifically the: <ul style="list-style-type: none"> <li>o Environment, Energy and Science Group (including the Climate Change and Sustainability Division)</li> <li>o Water Group</li> </ul> </li> <li>- Environment Protection Authority</li> <li>- Fire and Rescue NSW</li> <li>- Rural Fire Service</li> <li>- Transport for NSW (including the former Roads and Maritime Services)</li> <li>- Hunter Water</li> <li>- SafeWork NSW</li> <li>- Port Stephens Council.</li> </ul> <p>The EIS must describe the consultation process and the issues raised and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.</p>	Section 5 and Appendix D
Plans and Documents	



Secretary's Environmental Assessment Requirements	Where in this EIS the requirement is addressed
<p>The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Environmental Planning and Assessment Regulation 2000. Provide these as part of the EIS rather than as separate documents.</p> <p>In addition, the EIS must include the following:</p> <ol style="list-style-type: none"> <li>1. An existing site survey plan drawn at an appropriate scale illustrating: <ul style="list-style-type: none"> <li>- the location of the land, boundary measurements, area (sqm) and north point;</li> <li>- the existing levels of the land in relation to buildings and roads;</li> <li>- location and height of existing structures on the site;</li> <li>- location and height of adjacent buildings and private open space; and</li> <li>- all levels to be to Australian Height Datum (AHD).</li> </ul> </li> <li>2. Locality/context plan drawn at an appropriate scale should be submitted indicating: <ul style="list-style-type: none"> <li>- significant local features such as heritage items;</li> <li>- the location and uses of existing buildings, shopping and employment areas; and</li> <li>- traffic and road patterns, pedestrian routes and public transport nodes.</li> </ul> </li> <li>3. Drawings at an appropriate scale illustrating: <ul style="list-style-type: none"> <li>- detailed plans, section and elevations of all proposed buildings; and</li> <li>- detailed plans of proposed access driveways, internal roadways, carparking and services infrastructure.</li> </ul> </li> </ol>	<p>Appendix B and Appendix J</p>

# 1. Port Stephens Council

Port Stephens Council issued comments for the SEARs on 14 April 2020 by Dylan Mitchell, Senior Development Planner – Development Assessment and Compliance (Attachment 2 of Appendix A). The key project issues identified by Port Stephens Council for consideration in the EIS are given in Table U.2. Note that all these requirements have been addressed in the EIS, and the relevant Chapters are highlighted for ease of cross-referencing.

**Table U.2. Summary of Port Stephens Council requirements and the relevant Chapter within the EIS.**

Port Stephens Council Requirements	EIS Chapter where this requirement is addressed
<b>Planning Matters</b>	
<b>Building Design and Layout</b> <p>It is noted that the majority of the facility is to be located within the existing buildings. As such it is required that architectural plans be further developed to highlight any proposed additions, alterations or internal works.</p> <p>The architectural plans for the truck depot should be further developed to include any additional hardstand areas, driveway access, landscaping and fencing. Truck parking external to buildings must be sighted to avoid adverse visual impact when viewed from the street.</p> <p>Although it is noted that 21G School Drive will not be included in the current proposal, any application should consider impacts to future development on this site, including provision of appropriate setbacks and site landscaping where appropriate. If 21G School Drive is intended to be purchased by the proponent, consideration should be given to future preservation of connectivity between the sites.</p>	Appendix B
<b>Bushfire Hazard</b> <p>The site is located within Bushfire Prone land, and as such a Bushfire Threat Assessment is required to be submitted as part of the proposal.</p>	Section 15 and Appendix N
<b>Acid Sulfate Soils</b> <p>The site is located within class 4 Acid Sulfate Soils. As such, consideration of clause 7.1 of the Port Stephens Local Environmental Plan 2013 will be required. Any works more than 2 meters below ground level will require an Acid Sulfate Soils Management Plan (ASSMP). The need for this plan may be mitigated if a preliminary geotechnical investigation is provided identifying that it is unlikely that Acid Sulfate Soils will be disturbed.</p>	Section 11 and Appendix J
<b>Environmental Health Matters</b>	
<b>SEPP 33 – Hazardous and Offensive Development</b> <p>The Preliminary Environmental Assessment Report notes that the proposal will include the storage of hazardous wastes. As such, a Preliminary Risk Screening is required to identify the class, quantity and location of all dangerous goods and hazardous materials associated with the development. The risk screening must be undertaken in accordance with SEPP 33 and ‘Applying SEPP 33 - Hazardous and Offensive Development Application Guidelines’ (DOP 2011).</p>	Section 17 and Appendix O

Port Stephens Council Requirements	EIS Chapter where this requirement is addressed
<p><b>SEPP 55 – Remediation of Land</b></p> <p>The Phase 2 Contamination Report (GHD, dated 2011) included with the appended documentation references a series of documents that have all been revised and updated since it was written.</p> <p>It is appropriate that the proposed development is considered under existing contamination legislation and guidelines and reports updated. It is possible that criteria used in the sampling, analysis and assessment have changed from previous versions.</p> <p>Given the history of previous potentially contaminating uses of the site, a Preliminary Site Investigation will be required to be submitted with the application. The preliminary investigation will detail whether a phase 2 assessment is needed and if so, will be required to be submitted with the application prior to determination.</p>	Section 14 and Appendix M
<p><b>Tomago Aluminium Buffer Area</b></p> <p>The proposal is located within the Tomago Aluminium buffer area. The buffer area was established as part of the 1981 approval and 1991 expansion (as modified) of the Tomago Aluminium Smelter. The buffer area was identified land likely to be affected by Sulphur (SO<sub>2</sub>) and Fluoride emissions from the Smelter. As such, the application should identify whether the development would result in the release of any sulphur. It is expected this will be addressed as part of an Air Quality Impact Assessment.</p>	Section 7 and Appendix F
<p><b>Air Quality</b></p> <p>An Air Quality Impact Assessment is required where the development has potential to adversely impact surrounding areas in terms of air quality under section B3 of the Port Stephens Development Control Plan 2014 (PS DCP). This will also need to identify if there is any sulphur produced given the sites location within the Tomago Aluminium Buffer, as noted above.</p>	Section 7 and Appendix F
<p><b>Waste Management</b></p> <p>Detail of the proposed waste management system will need to be provided.</p> <p>The site does not have access to reticulated sewer, and it is understood that there is an existing on-site sewer management system for 21D School Drive. Details of servicing, including any proposed changes to current utilities will need to be included as part of the application. Any proposed OSMS for 21F School Drive will also need to be addressed within the application. A Waste Management Report, prepared by a suitably qualified person will need to be provided, demonstrating that the proposed sewage and trade waste are appropriate for the proposed development.</p>	Section 6 and Appendix E
<b>Traffic</b>	Section 9 and Appendix H

Port Stephens Council Requirements	EIS Chapter where this requirement is addressed
<p>In accordance with section B9 Road Networking and Parking of the PSDCP, a Traffic Impact Assessment is required to be submitted with the application, detailing the traffic impacts associated with the resource recovery facility and the truck parking depot.</p> <p>Further to this, information will need to be provided showing that the proposed parking will be sufficient for the proposed uses.</p>	
<p><b>Flooding</b></p> <p>The site is listed as flood prone; it is recommended that further information be sought from Council to obtain the relevant flood levels for the site. This information will need to be considered within the proposal, and any relevant requirements within Chapter B5 of the PSDCP.</p> <p>A flood study is required to be submitted as part of the EIS and include a survey of the floor levels of the existing buildings.</p>	Section 11 and Appendix J
<p><b>Stormwater Drainage and Water Quality</b></p> <p>In accordance with Section B4 Drainage and Water Quality of the PSDCP, a Stormwater Drainage Plan may be required if there is an increase in impervious surfaces or drains to the public drainage system.</p> <p>The proposal will also need to demonstrate that compliance with the Water Quality targets can be met. Any existing water quality measures currently in place on the site will also need to be addressed.</p>	Section 11 and Appendix J

## 2. NSW EPA

The NSW EPA issued comments for the SEARs on 9 April 2020 by Steven James Unit Head Metro North (Attachment 2 of Appendix A). The key project issues identified by the NSW EPA for consideration in the EIS are given in Table U.3. Note that all these requirements have been addressed in the EIS, and the relevant Chapters are highlighted for ease of cross-referencing.

**Table U.3. Summary of the NSW EPA requirements and the relevant Chapter within the EIS.**

NSW EPA Requirements	EIS Chapter where this requirement is addressed
Executive summary	
The executive summary should include a brief discussion of the extent to which the proposal achieves identified environmental outcomes.	Executive Summary
The proposal – objectives of the proposal	
<p>The objectives of the proposal should be clearly stated and refer to:</p> <ul style="list-style-type: none"> <li>a) the size and type of the operation, the nature of the processes and the products, by-products and wastes produced</li> <li>b) a life cycle approach to the production, use or disposal of products</li> <li>c) the anticipated level of performance in meeting required environmental standards and cleaner production principles</li> <li>d) the staging and timing of the proposal and any plans for future expansion</li> <li>e) the proposal's relationship to any other industry or facility.</li> </ul>	Section 1 and Section 2
The proposal – description of the proposal	

NSW EPA Requirements	EIS Chapter where this requirement is addressed
<p><b>General:</b></p> <p>Outline the production process including:</p> <ul style="list-style-type: none"> <li>a) the environmental “mass balance” for the process – quantify in-flow and out-flow of materials, any points of discharge to the environment and their respective destinations (sewer, stormwater, atmosphere, recycling, landfill etc)</li> <li>b) any life-cycle strategies for the products.</li> </ul> <p>Outline cleaner production actions, including:</p> <ul style="list-style-type: none"> <li>a) measures to minimise waste (typically through addressing source reduction)</li> <li>b) proposals for use or recycling of by-products</li> <li>c) proposed disposal methods for solid and liquid waste</li> <li>d) air management systems including all potential sources of air emissions, proposals to re-use or treat emissions, emission levels relative to relevant standards in regulations, discharge points</li> <li>e) water management system including all potential sources of water pollution, proposals for re-use, treatment etc, emission levels of any wastewater discharged, discharge points, summary of options explored to avoid a discharge, reduce its frequency or reduce its impacts, and rationale for selection of option to discharge.</li> <li>f) soil contamination treatment and prevention systems.</li> </ul> <p>Outline construction works including:</p> <ul style="list-style-type: none"> <li>a) actions to address any existing soil contamination</li> <li>b) any earthworks or site clearing; re-use and disposal of cleared material (including use of spoil on-site)</li> <li>c) construction timetable and staging; hours of construction; proposed construction methods</li> <li>d) environment protection measures, including noise mitigation measures, dust control measures and erosion and sediment control measures.</li> </ul> <p>Include a site diagram showing the site layout and location of environmental controls.</p>	<p>Section 1, 3 and 6</p>
<p><b>Air:</b></p> <p>Identify all sources or potential sources of air emissions from the development. Note: emissions can be classed as either:</p> <ul style="list-style-type: none"> <li>- point (e.g. emissions from stack or vent) or</li> <li>- fugitive (from wind erosion, leakages or spillages, associated with loading or unloading, conveyors, storage facilities, plant and yard operation, vehicle movements (dust from road, exhausts, loss from load), land clearing and construction works).</li> </ul>	<p>Section 7 and Appendix F</p>



NSW EPA Requirements	EIS Chapter where this requirement is addressed
<p>Provide details of the project that are essential for predicting and assessing air impacts including:</p> <ul style="list-style-type: none"> <li>a) the quantities and physio-chemical parameters (e.g. concentration, moisture content, bulk density, particle sizes etc) of materials to be used, transported, produced or stored</li> <li>b) an outline of procedures for handling, transport, production and storage</li> <li>c) the management of solid, liquid and gaseous waste streams with potential to generate emissions to air.</li> </ul>	
<p>Noise and vibration:</p> <p>Identify all noise sources or potential sources from the development (including both construction and operation phases). Detail all potentially noisy activities including ancillary activities such as transport of goods and raw materials.</p> <p>Specify the times of operation for all phases of the development and for all noise producing activities.</p> <p>For projects with a significant potential traffic noise impact provide details of road alignment (include gradients, road surface, topography, bridges, culverts etc), and land use along the proposed road and measurement locations – diagrams should be to a scale sufficient to delineate individual residential blocks.</p>	<p>Section 8 and Appendix G</p>
<p>Water:</p> <p>Provide details of the project that are essential for predicting and assessing impacts to waters including:</p> <ul style="list-style-type: none"> <li>a) the quantity and physio-chemical properties of all potential water pollutants and the risks they pose to the environment and human health, including the risks they pose to Water Quality Objectives in the ambient waters (as defined on <a href="http://www.environment.nsw.gov.au/ieo/index.htm">http://www.environment.nsw.gov.au/ieo/index.htm</a>, using technical criteria derived from the Australian and New Zealand Guidelines for Fresh and Marine Water Quality, ANZECC 2000)</li> <li>b) the management of discharges with potential for water impacts</li> <li>c) drainage works and associated infrastructure; land-forming and excavations; working capacity of structures; and water resource requirements of the proposal.</li> </ul> <p>Outline site layout, demonstrating efforts to avoid proximity to water resources (especially for activities with significant potential impacts e.g. effluent ponds) and showing potential areas of modification of contours, drainage etc.</p> <p>Outline how total water cycle considerations are to be addressed showing total water balances for the development (with the objective of minimising demands and impacts on water resources). Include water requirements (quantity, quality and source(s)) and proposed storm and wastewater disposal, including type, volumes, proposed treatment and management methods and re-use options.</p>	<p>Section 11 and Appendix J</p>

NSW EPA Requirements	EIS Chapter where this requirement is addressed
<p><b>Waste and chemicals:</b></p> <p>Provide details of the quantity and type of both liquid waste and non-liquid waste generated, handled, processed or disposed of at the premises. Waste must be classified according to the EPA's Waste Classification Guidelines 2014 (as amended from time to time)</p> <p>Provide details of liquid waste and non-liquid waste management at the facility, including:</p> <ul style="list-style-type: none"> <li>a) the transportation, assessment and handling of waste arriving at or generated at the site</li> <li>b) any stockpiling of wastes or recovered materials at the site</li> <li>c) any waste processing related to the facility, including reuse, recycling, reprocessing (including composting) or treatment both on- and off-site</li> <li>d) the method for disposing of all wastes or recovered materials at the facility</li> <li>e) the emissions arising from the handling, storage, processing and reprocessing of waste at the facility</li> <li>f) the proposed controls for managing the environmental impacts of these activities.</li> </ul> <p>Provide details of spoil disposal with particular attention to:</p> <ul style="list-style-type: none"> <li>a) the quantity of spoil material likely to be generated</li> <li>b) proposed strategies for the handling, stockpiling, reuse/recycling and disposal of spoil</li> <li>c) the need to maximise reuse of spoil material in the construction industry</li> <li>d) identification of the history of spoil material and whether there is any likelihood of contaminated material, and if so, measures for the management of any contaminated material</li> <li>e) designation of transportation routes for transport of spoil.</li> </ul> <p>Provide details of procedures for the assessment, handling, storage, transport and disposal of all hazardous and dangerous materials used, stored, processed or disposed of at the site, in addition to the requirements for liquid and non-liquid wastes.</p> <p>Provide details of the type and quantity of any chemical substances to be used or stored and describe arrangements for their safe use and storage.</p> <p>Reference should be made to the guidelines: EPA's Waste Classification Guidelines 2014 (as amended from time to time) .</p>	Section 6 and 16
<p><b>ESD:</b></p> <p>Demonstrate that the planning process and any subsequent development incorporates objectives and mechanisms for achieving ESD, including:</p> <ul style="list-style-type: none"> <li>a) an assessment of a range of options available for use of the resource, including the benefits of each option to future generations proper valuation and pricing of environmental resources</li> <li>b) identification of who will bear the environmental costs of the proposal.</li> </ul>	The Entire EIS

NSW EPA Requirements	EIS Chapter where this requirement is addressed
The proposal – Rehabilitation	
Outline considerations of site maintenance, and proposed plans for the final condition of the site (ensuring its suitability for future uses).	Section 20
The proposal – Consideration of alternatives and justification for the proposal	
<p>Consider the environmental consequences of adopting alternatives, including alternative:</p> <ul style="list-style-type: none"> <li>a) sites and site layouts</li> <li>b) access modes and routes</li> <li>c) materials handling and production processes</li> <li>d) waste and water management</li> <li>e) impact mitigation measures</li> <li>f) energy sources</li> </ul> <p>Selection of the preferred option should be justified in terms of:</p> <ul style="list-style-type: none"> <li>a) ability to satisfy the objectives of the proposal</li> <li>b) relative environmental and other costs of each alternative</li> <li>c) acceptability of environmental impacts and contribution to identified environmental objectives</li> <li>d) acceptability of any environmental risks or uncertainties</li> <li>e) reliability of proposed environmental impact mitigation measures</li> <li>f) efficient use (including maximising re-use) of land, raw materials, energy and other resources</li> </ul>	Entire EIS report
The location	
<p>General:</p> <p>Provide an overview of the affected environment to place the proposal in its local and regional environmental context including:</p> <ul style="list-style-type: none"> <li>a) meteorological data (e.g. rainfall, temperature and evaporation, wind speed and direction)</li> <li>b) topography (landform element, slope type, gradient and length)</li> <li>c) surrounding land uses (potential synergies and conflicts)</li> <li>d) geomorphology (rates of landform change and current erosion and deposition processes)</li> </ul>	Entire EIS report

NSW EPA Requirements	EIS Chapter where this requirement is addressed
<ul style="list-style-type: none"> <li>e) soil types and properties (including erodibility; engineering and structural properties; dispersibility; permeability; presence of acid sulfate soils and potential acid sulfate soils)</li> <li>f) ecological information (water system habitat, vegetation, fauna)</li> <li>g) availability of services and the accessibility of the site for passenger and freight transport.</li> </ul>	
<p><b>Air:</b></p> <p>Describe the topography and surrounding land uses. Provide details of the exact locations of dwellings, schools and hospitals. Where appropriate provide a perspective view of the study area such as the terrain file used in dispersion models.</p> <p>Describe surrounding buildings that may affect plume dispersion.</p> <p>Provide and analyse site representative data on following meteorological parameters:</p> <ul style="list-style-type: none"> <li>a) temperature and humidity</li> <li>b) rainfall, evaporation and cloud cover</li> <li>c) wind speed and direction</li> </ul>	Section 7 and Appendix F
<p><b>Noise and vibration</b></p> <p>Identify any noise sensitive locations likely to be affected by activities at the site, such as residential properties, schools, churches, and hospitals. Typically the location of any noise sensitive locations in relation to the site should be included on a map of the locality.</p> <p>Identify the land use zoning of the site and the immediate vicinity and the potentially affected areas.</p>	Section 8 and Appendix G
<p><b>Water:</b></p> <p>Describe the catchment including proximity of the development to any waterways and provide an assessment of their sensitivity/significance from a public health, ecological and/or economic perspective.</p> <p>The Water Quality and River Flow Objectives on the website: <a href="http://www.environment.nsw.gov.au/ieo/index.htm">http://www.environment.nsw.gov.au/ieo/index.htm</a> should be used to identify the agreed environmental values and human uses for any affected waterways. This will help with the description of the local and regional area.</p>	Section 11 and Appendix J
<p><b>Soil Contamination Issues:</b></p> <p>Provide details of site history – if earthworks are proposed, this needs to be considered with regard to possible soil contamination, for example if the site was previously a landfill site or if irrigation of effluent has occurred.</p>	Section 14 and Appendix M

NSW EPA Requirements	EIS Chapter where this requirement is addressed
Identification and prioritisation of issues / scoping of impact assessment	
<p>Provide an overview of the methodology used to identify and prioritise issues. The methodology should take into account:</p> <ul style="list-style-type: none"> <li>a) relevant NSW government guidelines</li> <li>b) industry guidelines</li> <li>c) EISs for similar projects</li> <li>d) relevant research and reference material</li> <li>e) relevant preliminary studies or reports for the proposal</li> <li>f) consultation with stakeholders.</li> </ul> <p>Provide a summary of the outcomes of the process including:</p> <ul style="list-style-type: none"> <li>g) all issues identified including local, regional and global impacts (e.g. increased/ decreased greenhouse emissions)</li> <li>h) key issues which will require a full analysis (including comprehensive baseline assessment)</li> <li>i) issues not needing full analysis though they may be addressed in the mitigation strategy</li> <li>j) justification for the level of analysis proposed (the capacity of the proposal to give rise to high concentrations of pollution compared with the ambient environment or environmental outcomes is an important factor in setting the level of assessment).</li> </ul>	Entire EIS report
The environmental issues	
General	
<p>The potential impacts identified in the scoping study need to be assessed to determine their significance, particularly in terms of achieving environmental outcomes, and minimising environmental pollution.</p> <p>Identify gaps in information and data relevant to significant impacts of the proposal and any actions proposed to fill those information gaps so as to enable development of appropriate management and mitigation measures. This is in accordance with ESD requirements.</p> <p>Note: The level of detail should match the level of importance of the issue in decision making which is dependent on the environmental risk.</p> <p>Describe baseline conditions:</p> <p>Provide a description of existing environmental conditions for any potential impacts.</p>	Entire EIS report

NSW EPA Requirements	EIS Chapter where this requirement is addressed
<p><b>Assess impacts:</b></p> <p>For any potential impacts relevant for the assessment of the proposal provide a detailed analysis of the impacts of the proposal on the environment including the cumulative impact of the proposal on the receiving environment especially where there are sensitive receivers.</p> <p>Describe the methodology used and assumptions made in undertaking this analysis (including any modelling or monitoring undertaken) and indicate the level of confidence in the predicted outcomes and the resilience of the environment to cope with the predicted impacts.</p> <p>The analysis should also make linkages between different areas of assessment where necessary to enable a full assessment of environmental impacts e.g. assessment of impacts on air quality will often need to draw on the analysis of traffic, health, social, soil and/or ecological systems impacts; etc.</p> <p>The assessment needs to consider impacts at all phases of the project cycle including exploration, (if relevant or significant), construction, routine operation, start-up operations, upset operations and decommissioning if relevant.</p> <p>The level of assessment should be commensurate with the risk to the environment.</p>	
<p><b>Describe management and mitigation measures</b></p> <p>Describe any mitigation measures and management options proposed to prevent, control, abate or mitigate identified environmental impacts associated with the proposal and to reduce risks to human health and prevent the degradation of the environment. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.</p> <p>Proponents are expected to implement a ‘reasonable level of performance’ to minimise environmental impacts. The proponent must indicate how the proposal meets reasonable levels of performance. For example, reference technology-based criteria if available, or identify good practice for this type of activity or development. A ‘reasonable level of performance’ involves adopting and implementing technology and management practices to achieve certain pollutant emissions levels in economically viable operations. Technology-based criteria evolve gradually over time as technologies and practices change.</p> <p>Use environmental impacts as key criteria in selecting between alternative sites, designs and technologies, and to avoid options having the highest environmental impacts.</p> <p>Outline any proposed approach (such as an Environmental Management Plan) that will demonstrate how commitments made in the EIS will be implemented. Areas that should be described include:</p> <ul style="list-style-type: none"> <li>a) operational procedures to manage environmental impacts</li> <li>b) monitoring procedures</li> <li>c) training programs</li> </ul>	

NSW EPA Requirements	EIS Chapter where this requirement is addressed
<ul style="list-style-type: none"><li>d) community consultation</li><li>e) complaint mechanisms including site contacts</li><li>f) strategies to use monitoring information to improve performance</li><li>g) strategies to achieve acceptable environmental impacts and to respond in event of exceedances</li></ul>	
Air	
<p>Describe baseline conditions</p> <p>Provide a description of existing air quality and meteorology, using existing information and site representative ambient monitoring data.</p>	Section 7 and Appendix F
<p>Assess impacts</p> <p>The EIS must include an Air Quality Impact Assessment (AQIA) to identify all pollutants of concern and estimate emissions by quantity (and size for particles), source and discharge point.</p> <p>The AQIA must identify and describe in detail all possible sources of air pollution and activities or processes with the potential to cause air pollutants including odours and fugitive dust emissions beyond the boundary of any pipeline route. This should cover both the construction and operational phases of the development. The AQIA should include cumulative impacts associated with existing developments and any developments having been granted development consent but which have not commenced.</p> <p>The EIS must describe in detail the measures proposed to mitigate the impacts and quantify the extent to which the mitigation measures are likely to be effective in achieving the relevant environmental outcomes.</p> <p>Estimate the resulting ground level concentrations of all pollutants. This should include fumes and particulates from diesel plant and equipment at the facility. Where necessary (e.g. potentially significant impacts and complex terrain effects), use an appropriate dispersion model to estimate ambient pollutant concentrations. Discuss choice of model and parameters with the EPA.</p> <p>Describe the effects and significance of pollutant concentration on the environment, human health, amenity and regional ambient air quality standards or goals.</p> <p>Describe the contribution that the development will make to regional and global pollution, particularly in sensitive locations.</p> <p>For potentially odorous emissions provide the emission rates in terms of odour units (determined by techniques compatible with EPA procedures). Use sampling and analysis techniques for individual or complex odours and for point or diffuse sources, as appropriate. Note: With dust and odour, it may be possible to use data from existing similar activities to generate emission rates.</p>	

NSW EPA Requirements	EIS Chapter where this requirement is addressed
<p>Consider and assess odour impacts from the various waste types such as putrescible wastes (food, garden organics), liquid wastes, hazardous wastes and chemicals.</p> <p>Describe management and mitigation measures:</p> <p>The applicant should design management and mitigation measures to ensure:</p> <ul style="list-style-type: none"> <li>- emissions do not cause adverse impacts upon human health and the environment;</li> <li>- there are no offensive odours from the facility beyond the boundary of the premises;</li> </ul> <p>Outline specifications of pollution control equipment (including manufacturer's performance guarantees where available) and management protocols for odour and both point and fugitive emissions. Where possible, this should include cleaner production processes.</p> <p>The EIS must describe in detail the measures proposed to mitigate the impacts and quantify the extent to which the mitigation measures are likely to be effective in achieving the relevant environmental outcomes.</p>	
Noise and Vibration	
<p>Describe baseline conditions:</p> <p>Determine the existing background (LA90) and ambient (LAeq) noise levels, as relevant, in accordance with the NSW Noise Policy for Industry.</p> <p>Determine the existing road traffic noise levels in accordance with the NSW Road Noise Policy, where road traffic noise impacts may occur.</p> <p>The noise impact assessment report should provide details of all monitoring of existing ambient noise levels including:</p> <ol style="list-style-type: none"> <li>details of equipment used for the measurements</li> <li>a brief description of where the equipment was positioned</li> <li>a statement justifying the choice of monitoring site(s), including the procedure used to choose the site(s), having regards to Fact Sheets A and B of the NSW Noise Policy for Industry.</li> <li>details of the exact location of the monitoring site and a description of land uses in surrounding areas</li> <li>a description of the dominant and background noise sources at the site</li> <li>day, evening and night assessment background levels for each day of the monitoring period</li> <li>the final Rating Background Level (RBL) value</li> <li>graphs of the measured noise levels for each day should be provided</li> <li>a record of periods of affected data (due to adverse weather and extraneous noise), methods used to exclude invalid data and a statement indicating the need for any re-monitoring.</li> </ol>	<p>Section 8 and Appendix G</p>



NSW EPA Requirements	EIS Chapter where this requirement is addressed
<p><b>Assess impacts:</b></p> <p>The environmental outcome of the project should be to minimise adverse impacts due to noise from the project. The EIS must clearly outline the noise mitigation, monitoring and management measures the proponent intends to apply to the project to minimise noise pollution.</p> <p>A noise assessment should be undertaken in accordance with the New South Wales Noise Policy for Industry (EPA 2017).</p> <ul style="list-style-type: none"> <li>- Determine the project noise trigger levels for the site.</li> <li>- Determine expected noise level and noise character likely to be generated from noise sources during:               <ul style="list-style-type: none"> <li>a) site establishment</li> <li>b) construction</li> <li>c) operational phases</li> <li>d) transport including traffic noise generated by the proposal</li> <li>e) other services.</li> </ul> </li> </ul> <p>The noise impact assessment report should include:</p> <ul style="list-style-type: none"> <li>a) a plan showing the assumed location of each noise source for each prediction scenario</li> <li>b) a list of the number and type of noise sources used in each prediction scenario to simulate all potential significant operating conditions on the site</li> <li>c) any assumptions made in the predictions in terms of source heights, directivity effects, shielding from topography, buildings or barriers, etc</li> <li>d) methods used to predict noise impacts including identification of any noise models used.</li> <li>e) the weather conditions considered for the noise predictions</li> <li>f) the predicted noise impacts from each noise source as well as the combined noise level for each prediction scenario</li> <li>g) for developments where a significant level of noise impact is likely to occur, noise contours for the key prediction scenarios should be derived</li> <li>h) an assessment of the need to include modification factors as detailed in Fact Sheet C of the NSW Noise Policy for Industry.</li> </ul> <p>Discuss the findings from the predictive modelling and, where relevant noise criteria have not been met, recommend additional feasible and reasonable mitigation measures.</p> <p>The noise impact assessment report should include details of any mitigation proposed including the attenuation that will be achieved and the revised noise impact predictions following mitigation.</p>	

NSW EPA Requirements	EIS Chapter where this requirement is addressed
<p>a) Where relevant noise/vibration levels cannot be met after application of all feasible and reasonable mitigation measures the residual level of noise impact needs to be quantified</p> <p>For the assessment of existing and future traffic noise, details of data for the road should be included such as assumed traffic volume; percentage heavy vehicles by time of day; and details of the calculation process. These details should be consistent with any traffic study carried out in the EIS.</p> <p>Describe management and mitigation measures:</p> <p>Determine the most appropriate noise mitigation measures and expected noise reduction including both noise controls and management of impacts for both construction and operational noise. This will include selecting quiet equipment and construction methods, noise barriers or acoustic screens, location of stockpiles, temporary offices, compounds and vehicle routes, scheduling of activities, etc.</p> <p>For traffic noise impacts, provide a description of the ameliorative measures considered (if required), reasons for inclusion or exclusion, and procedures for calculation of noise levels including ameliorative measures. Also include, where necessary, a discussion of any potential problems associated with the proposed ameliorative measures, such as overshadowing effects from barriers. Appropriate ameliorative measures may include:</p> <ul style="list-style-type: none"> <li>a) use of alternative transportation modes, alternative routes, or other methods of avoiding the new road usage</li> <li>b) control of traffic (eg: limiting times of access or speed limitations)</li> <li>c) resurfacing of the road using a quiet surface</li> <li>d) use of (additional) noise barriers or bunds</li> <li>e) treatment of the façade to reduce internal noise levels buildings where the night-time criteria is a major concern</li> <li>f) more stringent limits for noise emission from vehicles (i.e. using specially designed ‘quiet’ trucks and/or trucks to use air bag suspension</li> <li>g) driver education</li> <li>h) appropriate truck routes</li> <li>i) limit usage of exhaust brakes</li> <li>j) use of premium muffles on trucks</li> <li>k) reducing speed limits for trucks</li> <li>l) ongoing community liaison and monitoring of complaints</li> <li>m) phasing in the increased road use.</li> </ul>	
<b>Water</b>	
The environmental outcome for the project should ensure:	

NSW EPA Requirements	EIS Chapter where this requirement is addressed
<ul style="list-style-type: none"> <li>- polluted water (including process waters, wash down waters, polluted stormwater or sewage) is captured on the site and directed to reticulated sewer where available or else collected, treated and beneficially reused, where this is safe and practicable to do so.</li> <li>- Promote integrated water cycle management that optimises opportunities for sustainable water supply, wastewater and stormwater management and reuse initiatives where it is safe and practicable to do so.</li> <li>- Appropriate stormwater management during construction and operation</li> <li>- bunding is designed in accordance with the EPA's Bunding and Spill Management guidelines.</li> </ul> <p>The EIS should document how the above outcomes will be achieved. The EIS should also demonstrate how the stormwater management system will satisfy relevant contemporary guidelines such as Managing Urban Stormwater - Soils and Construction - Volume 2E Mines and Quarries (DECC June 2008).</p>	
<p>Describe baseline conditions:</p> <p>Describe existing surface and groundwater quality – an assessment needs to be undertaken for any water resource likely to be affected by the proposal and for all conditions (e.g. a wet weather sampling program is needed if runoff events may cause impacts).</p> <p>Note: Methods of sampling and analysis need to conform with an accepted standard (e.g. Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DEC 2004) or be approved and analyses undertaken by accredited laboratories).</p> <p>Provide site drainage details and surface runoff yield.</p> <p>Describe the state of the receiving waters and relate this to the relevant Water Quality and River Flow Objectives (i.e. are Water Quality and River Flow Objectives being achieved?).</p>	Section 11 and Appendix J
<p>Assess impacts:</p> <p>No proposal should breach section 120 of the Protection of the Environment Operations Act 1997 (i.e. pollution of waters is prohibited unless undertaken in accordance with relevant regulations).</p> <p>Identify and estimate the quantity of all pollutants that may be introduced into the water cycle by source and discharge point including residual discharges after mitigation measures are implemented.</p> <p>Identify any potential impacts on quality or quantity of groundwater describing their source.</p> <p>Identify potential impacts associated with geomorphological activities with potential to increase surface water and sediment runoff or to reduce surface runoff and sediment transport. Also consider possible impacts such as bed lowering, bank lowering, instream siltation, floodplain erosion and floodplain siltation.</p>	

NSW EPA Requirements	EIS Chapter where this requirement is addressed
<p>Identify impacts associated with the disturbance of acid sulfate soils and potential acid sulfate soils.</p> <p>Containment of spills and leaks shall be in accordance with EPA's guidelines section 'Bunding and Spill Management' at <a href="http://www.epa.nsw.gov.au/mao/bundingspill.htm">http://www.epa.nsw.gov.au/mao/bundingspill.htm</a> and the most recent versions of the Australian Standards referred to in the Guidelines. Containment should be designed for no-discharge.</p> <p>Where a licensed discharge is proposed, provide the rationale as to why it represents the best environmental outcome and what measures can be taken to reduce its environmental impact.</p> <p>Assess impacts for the construction and operational phases of the proposal.</p> <p>Describe management and mitigation measures:</p> <p>Outline stormwater management to control pollutants at the source and contain them within the site. Also describe measures for maintaining and monitoring any stormwater controls.</p> <p>Outline erosion and sediment control measures directed at minimising disturbance of land, minimising water flow through the site and filtering, trapping or detaining sediment. Also include measures to maintain and monitor controls as well as rehabilitation strategies.</p> <p>Describe waste water treatment measures that are appropriate to the type and volume of waste water and are based on a hierarchy of avoiding generation of waste water.</p> <p>Outline pollution control measures relating to storage of materials, possibility of accidental spills (e.g. preparation of contingency plans), appropriate disposal methods, and generation of leachate.</p> <p>Any proposed monitoring should be undertaken in accordance with the Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DEC 2004).</p>	
Soils and contamination	
<p>Describe baseline conditions:</p> <p>Provide any details (in addition to those provided in the location description - Section C) that are needed to describe the existing situation in terms of soil types and properties and soil contamination.</p>	Section 14 and Appendix M
<p>Assess impacts:</p> <p>Identify any likely impacts resulting from the construction or operation of the proposal, including the likelihood of:</p>	

NSW EPA Requirements	EIS Chapter where this requirement is addressed
<ul style="list-style-type: none"> <li>a) disturbing any existing contaminated soil</li> <li>b) contamination of soil by operation of the activity</li> <li>c) subsidence or instability</li> <li>d) soil erosion</li> <li>e) disturbing acid sulfate or potential acid sulfate soils.</li> </ul> <p>Reference should be made relevant guidelines e.g. Contaminated Sites – Guidelines for Consultants Reporting on Contaminated Sites (OEH, 2011); Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (EPA, 2015).</p> <p>Describe management and mitigation measures:</p> <p>Describe and assess the effectiveness or adequacy of any soil management and mitigation measures during construction and operation of the proposal including:</p> <ul style="list-style-type: none"> <li>a) erosion and sediment control measures</li> <li>b) proposals for site remediation – see Managing Land Contamination, Planning Guidelines SEPP 55 – Remediation of Land (Department of Urban Affairs and Planning and Environment Protection Authority, 1998)</li> <li>c) proposals for the management of these soils – see Acid Sulfate Soil Manual (Acid Sulfate Soil Advisory Committee 1998) and Acid Sulfate Soils Assessment Guidelines (Acid Sulfate Soil Advisory Committee 1998).</li> </ul>	
Waste and chemicals	
<p>Describe baseline conditions:</p> <p>Describe any existing waste or chemicals operations related to the proposal, particularly given the historical industrial uses of the site.</p>	
<p>Assess impacts:</p> <p>Describe the sources, types and quantities of all waste types proposed to be received and handled at the premises.</p> <p>Describe the waste processing capacity of the facility. Give consideration that all wastes must be received, processed and stored indoors.</p> <p>Provide the maximum annual throughput of waste and the maximum amount of waste anticipated to be stored at the premises at any one time. Consider Fire + Rescue NSW's Fire Safety in Waste Facilities guideline 2019.</p> <p>Assess the adequacy of proposed measures to minimise natural resource consumption and minimise impacts from the handling, transporting, storage, processing and reprocessing of waste and/or chemicals.</p>	<p>Section 6 and Appendix E</p>

NSW EPA Requirements	EIS Chapter where this requirement is addressed
<p>Assess the requirements for handling and storing different types of hazardous wastes and contaminated soils, including potential impact on employees and visitors at the facility.</p> <p>Assess the impacts of leachate generating wastes which are proposed to be received.</p> <p>Detail procedures for dealing with wastes not permitted to be accepted at the premises.</p> <p>Detail how the proponent will meet the EPA's record keeping and reporting requirements for waste facilities, see the EPA's Waste Levy Guideline 2018.</p> <p>Reference should be made to the EPA's Waste Classification Guidelines 2014.</p> <p>Describe management and mitigation measures:</p> <p>Consider specific impacts from the various waste types that are proposed to be received at the facility and that all wastes are to be received and handled indoors.</p> <p>Detail leachate and odour minimising measures to be implemented specific to the impacts identified for leachate and odour generating wastes .</p> <p>Describe sources of waste types proposed and impacts of wastes leaving the facility being transported to other uses, processing or disposal options, and the lawful status of those facilities to receive wastes.</p> <p>Outline measures to minimise the consumption of natural resources.</p> <p>Outline measures to avoid the generation of waste and promote the re-use and recycling and reprocessing of any waste.</p> <p>Outline measures to support any approved regional or industry waste plans.</p>	
Cumulative impacts	
<p>Identify the extent that the receiving environment is already stressed by existing development and background levels of emissions to which this proposal will contribute.</p> <p>Assess the impact of the proposal against the long-term air, noise and water quality objectives for the area or region.</p> <p>Identify infrastructure requirements flowing from the proposal (e.g. water and sewerage services, transport infrastructure upgrades).</p> <p>Assess likely impacts from such additional infrastructure and measures reasonably available to the proponent to contain such requirements or mitigate their impacts (e.g. travel demand management strategies).</p>	Section 21

NSW EPA Requirements		EIS Chapter where this requirement is addressed
List of approvals and licences		
Identify all approvals and licences required under environment protection legislation including details of all scheduled activities, types of ancillary activities and types of discharges (to air, land, water).		Section 3.8
Compilation of mitigation measures		
<p>Outline how the proposal and its environmental protection measures would be implemented and managed in an integrated manner so as to demonstrate that the proposal is capable of complying with statutory obligations under EPA licences or approvals (e.g. outline of an environmental management plan).</p> <p>The mitigation strategy should include the environmental management and cleaner production principles which would be followed when planning, designing, establishing and operating the proposal. It should include two sections, one setting out the program for managing the proposal and the other outlining the monitoring program with a feedback loop to the management program.</p>		Section 20
Justification for the Proposal		
Reasons should be included which justify undertaking the proposal in the manner proposed, having regard to the potential environmental impacts.		Section 1.13

### 3. DPIE – Biodiversity and Conservation Division

The Biodiversity and Conservation Division of the Department of Planning, Industry and Environment issued comments for the SEARs on 9 April 2020 by Steven Cox, Senior Team Leader Planning – Hunter Central Coast Branch (attachment 2 of Appendix A). The key project issues identified by the Biodiversity and Conservation Division for consideration in the EIS are given in Table U.4. Note that all these requirements have been addressed in the EIS, and the relevant Chapters are highlighted for ease of cross-referencing.



**Table U.4. Summary of the Biodiversity and Conservation Division requirements and the relevant Chapter within the EIS.**

Biodiversity and Conservation Division Requirements	EIS Chapter where this requirement is addressed
Biodiversity	
<p>Biodiversity impacts related to the proposed development (SSD 10447) are to be assessed in accordance with the Biodiversity Assessment Method and documented in a Biodiversity Development Assessment Report (BDAR). The BDAR must include information in the form detailed in the Biodiversity Conservation Act 2016 (s6.12), Biodiversity Conservation Regulation 2017 (s6.8) and Biodiversity Assessment Method.</p> <p>The BDAR must document the application of the avoid, minimise and offset framework including assessing all direct, indirect and prescribed impacts in accordance with the Biodiversity Assessment Method.</p> <p>The BDAR must include details of the measures proposed to address the offset obligation as follows:</p> <ul style="list-style-type: none"> <li>- The total number and classes of biodiversity credits required to be retired for the development/project;</li> <li>- The number and classes of like-for-like biodiversity credits proposed to be retired;</li> <li>- The number and classes of biodiversity credits proposed to be retired in accordance with the variation rules;</li> <li>- Any proposal to fund a biodiversity conservation action;</li> <li>- Any proposal to conduct ecological rehabilitation (if a mining project);</li> <li>- Any proposal to make a payment to the Biodiversity Conservation Fund.</li> </ul> <p>If seeking approval to use the variation rules, the BDAR must contain details of the reasonable steps that have been taken to obtain requisite like-for-like biodiversity credits.</p> <p>The BDAR must be prepared by a person accredited in accordance with the Accreditation Scheme for the Application of the Biodiversity Assessment Method Order 2017 under s6.10 of the Biodiversity Conservation Act 2016.</p>	Section 10 and Appendix I
Aboriginal cultural heritage	
<p>The Environmental Impact Assessment (EIS) must identify and describe the Aboriginal cultural heritage values that exist across the whole area that will be affected by the development and document these in the Aboriginal Cultural Heritage Assessment Report (ACHAR). This may include the need for surface survey and test excavation. The identification of cultural heritage values should be guided by the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011) and consultation with BCD regional branch officers.</p>	Section 12 and Appendix K
<p>Consultation with Aboriginal people must be undertaken and documented in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the ACHAR.</p>	

Biodiversity and Conservation Division Requirements	EIS Chapter where this requirement is addressed
Impacts on Aboriginal cultural heritage values are to be assessed and documented in the ACHAR. The ACHAR must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the ACHAR must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to BCD.	
Historic heritage	
<p>The EIS must provide a heritage assessment including but not limited to an assessment of impacts to State and local heritage including conservation areas, natural heritage areas, places of Aboriginal heritage value, buildings, works, relics, gardens, landscapes, views, trees should be assessed. Where impacts to State or locally significant heritage items are identified, the assessment shall:</p> <ul style="list-style-type: none"> <li>a) outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the mitigation measures) generally consistent with the NSW Heritage Manual (1996),</li> <li>b) be undertaken by a suitably qualified heritage consultant(s) (note: where archaeological excavations are proposed the relevant consultant must meet the NSW Heritage Council's Excavation Director criteria),</li> <li>c) include a statement of heritage impact for all heritage items (including significance assessment),</li> <li>d) consider impacts including, but not limited to, vibration, demolition, archaeological disturbance, altered historical arrangements and access, landscape and vistas, and architectural noise treatment (as relevant), and</li> <li>e) where potential archaeological impacts have been identified develop an appropriate archaeological assessment methodology, including research design, to guide physical archaeological test excavations (terrestrial and maritime as relevant) and include the results of these test excavations.</li> </ul>	Section 12 and Appendix K
Water and Soils	
<p>The EIS must map the following features relevant to water and soils including:</p> <ul style="list-style-type: none"> <li>a) Acid sulfate soils (Class 1, 2, 3 or 4 on the Acid Sulfate Soil Planning Map).</li> <li>b) Rivers, streams, wetlands, estuaries (as described in s4.2 of the Biodiversity Assessment Method).</li> <li>c) Wetlands as described in s4.2 of the Biodiversity Assessment Method.</li> <li>d) Groundwater.</li> <li>e) Groundwater dependent ecosystems.</li> <li>f) Proposed intake and discharge locations.</li> </ul>	Section 11 and Appendix J
The EIS must describe background conditions for any water resource likely to be affected by the development, including:	

Biodiversity and Conservation Division Requirements	EIS Chapter where this requirement is addressed
<ul style="list-style-type: none"> <li>a) Existing surface and groundwater.</li> <li>b) Hydrology, including volume, frequency and quality of discharges at proposed intake and discharge locations.</li> <li>c) Water Quality Objectives (as endorsed by the NSW Government <a href="http://www.environment.nsw.gov.au/ieo/index.htm">http://www.environment.nsw.gov.au/ieo/index.htm</a>) including groundwater as appropriate that represent the community's uses and values for the receiving waters.</li> <li>d) Indicators and trigger values/criteria for the environmental values identified at (c) in accordance with the ANZECC (2000) Guidelines for Fresh and Marine Water Quality and/or local objectives, criteria or targets endorsed by the NSW Government.</li> </ul>	
<p>The EIS must assess the impacts of the development on water quality, including:</p> <ul style="list-style-type: none"> <li>a) The nature and degree of impact on receiving waters for both surface and groundwater, demonstrating how the development protects the Water Quality Objectives where they are currently being achieved, and contributes towards achievement of the Water Quality Objectives over time where they are currently not being achieved. This should include an assessment of the mitigating effects of proposed stormwater and wastewater management during and after construction.</li> <li>b) Identification of proposed monitoring of water quality.</li> </ul>	
<p>The EIS must assess the impact of the development on hydrology, including:</p> <ul style="list-style-type: none"> <li>a) Water balance including quantity, quality and source.</li> <li>b) Effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas.</li> <li>c) Effects to downstream water-dependent fauna and flora including groundwater dependent ecosystems.</li> <li>d) Impacts to natural processes and functions within rivers, wetlands, estuaries and floodplains that affect river system and landscape health such as nutrient flow, aquatic connectivity and access to habitat for spawning and refuge (e.g. river benches).</li> <li>e) Changes to environmental water availability, both regulated/licensed and unregulated/rules-based sources of such water.</li> <li>f) Mitigating effects of proposed stormwater and wastewater management during and after</li> <li>g) construction on hydrological attributes such as volumes, flow rates, management methods and reuse options.</li> <li>h) Identification of proposed monitoring of hydrological attributes</li> </ul>	
Flooding and coastal erosion	
<p>The EIS must map the following features relevant to flooding as described in the Floodplain Development Manual 2005 (NSW Government 2005) including:</p> <ul style="list-style-type: none"> <li>a) Flood prone land.</li> <li>b) Flood planning area, the area below the flood planning level.</li> </ul>	Section 11 and Appendix J

Biodiversity and Conservation Division Requirements	EIS Chapter where this requirement is addressed
c) Hydraulic categorisation (floodways and flood storage areas).	
The EIS must describe flood assessment and modelling undertaken in determining the design flood levels for events, including a minimum of the 1 in 10 year, 1 in 100-year flood levels and the probable maximum flood, or an equivalent extreme event.	
<p>The EIS must model the effect of the proposed development (including fill) on the flood behaviour under the following scenarios:</p> <p>a) Current flood behaviour for a range of design events as identified in 11 above. This includes the 1 in 200 and 1 in 500-year flood events as proxies for assessing sensitivity to an increase in rainfall intensity of flood producing rainfall events due to climate change.</p>	
<p>Modelling in the EIS must consider and document:</p> <p>a) The impact on existing flood behaviour for a full range of flood events including up to the probable maximum flood.</p> <p>b) Impacts of the development on flood behaviour resulting in detrimental changes in potential flood affection of other developments or land. This may include redirection of flow, flow velocities, flood levels, hazards and hydraulic categories.</p> <p>c) Relevant provisions of the NSW Floodplain Development Manual 2005.</p>	
<p>The EIS must assess the impacts on the proposed development on flood behaviour, including:</p> <p>a) Whether there will be detrimental increases in the potential flood affectation of other properties, assets and infrastructure.</p> <p>b) Consistency with Council floodplain risk management plans.</p> <p>c) Compatibility with the flood hazard of the land.</p> <p>d) Compatibility with the hydraulic functions of flow conveyance in floodways and storage in flood storage areas of the land.</p> <p>e) Whether there will be adverse effect to beneficial inundation of the floodplain environment, on, adjacent to or downstream of the site.</p> <p>f) Whether there will be direct or indirect increase in erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.</p> <p>g) Any impacts the development may have upon existing community emergency management arrangements for flooding. These matters are to be discussed with the SES and Council.</p> <p>h) Whether the proposal incorporates specific measures to manage risk to life from flood. These matters are to be discussed with the SES and Council.</p> <p>i) Emergency management, evacuation and access, and contingency measures for the development considering the full range or flood risk (based upon the probable maximum flood or an equivalent extreme flood event). These matters are to be discussed with and have the support of Council and the SES.</p> <p>j) Any impacts the development may have on the social and economic costs to the community as consequence of flooding.</p>	

Biodiversity and Conservation Division Requirements	EIS Chapter where this requirement is addressed
<p>The [EIS/EA] must describe the potential effects of coastal processes and hazards (within the meaning of the Coastal Management Act 2016), including sea level rise and climate change:</p> <ul style="list-style-type: none"> <li>a) On the proposed development</li> <li>b) Arising from the proposed development.</li> </ul>	
<p>The [EIS/EA] must consider have regard to any certified Coastal Management Program (or Coastal Zone Management Plan) and be consistent with the management objectives described in the Coastal Management Act 2016 and development controls for coastal management areas mapped under the State Environmental Planning Policy (Coastal Management) 2018.</p>	

## 4. DPIE – Water and Natural Resources Access Regulator

The Water and the Natural Resources Access Regulator of the Department of Planning, Industry and Environment issued comments for the SEARs on 6 April 2020 by Alistair Drew Project Officer – Assessments (attachment 2 of Appendix A). The key project issues identified by the Water and the Natural Resources Access Regulator for consideration in the EIS are given in Table U.5. Note that all these requirements have been addressed in the EIS, and the relevant Chapters are highlighted for ease of cross-referencing.

**Table U.5. Summary of the Water and Natural Resources Access Regulator requirements and the relevant Chapter within the EIS.**

Water and the Natural Resources Access Regulator Requirements	EIS Chapter where this requirement is addressed
The identification of an adequate and secure water supply for the life of the project. This includes confirmation that water can be sourced from an appropriately authorised and reliable supply. This is also to include an assessment of the current market depth where water entitlement is required to be purchased.	Section 11 and Appendix J
A detailed and consolidated site water balance.	
Assessment of impacts on surface and ground water sources (both quality and quantity), related infrastructure, adjacent licensed water users, basic landholder rights, watercourses, riparian land, and groundwater dependent ecosystems, and measures proposed to reduce and mitigate these impacts.	
Proposed surface and groundwater monitoring activities and methodologies.	
Consideration of relevant legislation, policies and guidelines, including the NSW Aquifer Interference Policy (2012), the Guidelines for Controlled Activities on Waterfront Land (2018) and the relevant Water Sharing Plans (available at <a href="https://www.industry.nsw.gov.au/water">https://www.industry.nsw.gov.au/water</a> ).	

## 5. Transport for NSW

Transport for NSW issued comments for the SEARs on 9 April 2020 by Peter Marler, Manager Land Use Assessment – Hunter Region (attachment 2 of Appendix A). The key project issues identified by Transport for NSW for consideration in the EIS are given in Table U.6. Note that all these requirements have been addressed in the EIS, and the relevant Chapters are highlighted for ease of cross-referencing.

**Table U.6. Summary of Transport for NSW requirements and the relevant Chapter within the EIS.**

Transport for NSW Requirements	EIS Chapter where this requirement is addressed
<p>TfNSW recommends that the Environmental Impact Statement (EIS) should refer to the following guidelines with regard to the traffic and transport impacts of the proposed development:</p> <ul style="list-style-type: none"> <li>- Road and Related Facilities within the Department of Planning EIS Guidelines, and,</li> <li>- Section 2 Traffic Impact Studies of Roads and Maritime's NSW's Guide to Traffic Generating Developments 2002.</li> </ul>	<p>Section 9 and Appendix H</p>

Furthermore, a traffic and transport study shall be prepared in accordance with the Roads and Maritime Services NSW's Guide to Traffic Generating Developments 2002 and is to include (but not be limited to) the following:

- Details of the design vehicle and swept paths from Tomago Road into and out of the site, as well as within the site.
- Details of the driver facilities provided on site.
- Details of the vehicle movements into and out the site (construction and operations) throughout the day, with detailed breakdown of movements during peak site operational hours and peak hours on the broader road network.
- Demonstration that the site is able to cater for all necessary queuing and parking on site, without the need to stage heavy vehicles on the public road network (for construction and operation).
- Details of the origin/destination of heavy vehicles leaving the site and identification of broader road network upgrades.
- Details of the origin/destination of dangerous goods movements to/from the site.
- Assessment of all relevant vehicular traffic routes and intersections for access to / from the subject properties.
- Current traffic counts for all of the traffic routes and intersections.
- The anticipated additional vehicular traffic generated from both the construction and operational stages of the project.
- The distribution on the road network of the trips generated by the proposed development. It is requested that the predicted traffic flows are shown diagrammatically to a level of detail sufficient for easy interpretation.
- Consideration of the traffic impacts on existing and proposed intersections, in particular, the intersection of Tomago Road and the Pacific Highway and the capacity of the local and classified road network to safely and efficiently cater for the additional vehicular traffic generated by the proposed development during both the construction and operational stages. The traffic impact shall also include the cumulative traffic impact of other proposed developments in the area.
- Identify the necessary road network infrastructure upgrades that are required to maintain existing levels of service on both the local and classified road network for the development. In this regard, preliminary concept drawings shall be submitted with the EIS for any identified road infrastructure upgrades. However, it should be noted that any identified road infrastructure upgrades will need to be to the satisfaction of Transport for NSW and Council.
- Traffic analysis of any major / relevant intersections impacted, using SIDRA or similar traffic model, including:
  - Current traffic counts and 10-year traffic growth projections
  - With and without development scenarios
  - 95<sup>th</sup> percentile back of queue lengths
  - Delays and level of service on all legs for the relevant intersections
  - Electronic data for Transport for NSW review.
- Any other impacts on the regional and state road network including consideration of pedestrian, cyclist and public transport facilities and provision for service vehicles.





## 6. Fire & Rescue NSW

Fire & Rescue NSW issued comments for the SEARs on 7 April 2020 by A/Inspector Brendan Hurley, Team Leader Infrastructure Liaison (attachment 2 of Appendix A). The key project issues identified by Fire & Rescue NSW for consideration in the EIS are given in Table U.7. Note that all these requirements have been addressed in the EIS, and the relevant Chapters are highlighted for ease of cross-referencing.

**Table U.7. Summary of Fire & Rescue NSW requirements and the relevant Chapter within the EIS.**

Fire and Rescue NSW Requirements	EIS Chapter where this requirement is addressed
Advice and considerations contained within FRNSW's Fire Safety Guideline – Emergency Vehicle Access be addressed. This is required such that FRNSW are able to safely access all parts of the site where an incident may occur.	Section 18 and Appendix P
Advice and considerations contained within FRNSW's Fire Safety Guideline – Fire safety in waste facilities be addressed. Advice and recommendations contained within the guideline have been developed to enable FRNSW to adequately manage an incident at such facilities.	
Provisions be made for the containment of contaminated fire water run-off based on the worst credible fire scenario for the site. Any system(s) provided is to be automatic in nature and should not rely upon on-site staff or emergency services personnel to access or activate provided systems or valves in the event of fire.	
Incorporate a fire engineered solution (FES), whether a building design having a performance solution in accordance with the National Construction Code (NCC) or other infrastructure where building codes are not applicable, FRNSW should be engaged in the fire engineering brief (FEB) consultation process at the preliminary design phase, post approval of the development application. FRNSW also recommend that clauses E1.10 and E2.3 be addressed where a FES is required.	
An emergency plan for the waste facility in accordance with AS 3745–2010 Planning for emergencies in facilities be prepared for the development. An external consultant should be engaged to provide specialist advice and services in relation fire safety planning and developing an emergency plan.	