

# Project Approval

## Section 75J of the *Environmental Planning & Assessment Act 1979*

As delegate of the Minister for Planning under delegation executed on 14 September 2011, I approve the project application referred to in schedule A, subject to the conditions in schedule B.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.

Name

Member of the Commission

Sydney

2013

### SCHEDULE A

**Application No.:**

MP10\_0235

**Proponent:**

Orange City Council

**Approval Authority:**

Minister for Planning

**Land:**

Between Suma Park Dam, Orange and the Macquarie River

**Project:**

Macquarie River to Orange Pipeline Project, including the construction and operation of:

- approximately 39 kilometre pipeline to transfer water from the Macquarie River to Orange's water supply system at Suma Park Dam;
- offtake and discharge structures;
- three pumping stations;
- a new and upgraded transmission line; and
- associated infrastructure.

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## DEFINITIONS

80 <sup>th</sup> Percentile	Refers to the flow in the Macquarie River where for 80 percent of the time the flow would be equal to or greater than this threshold.
Act, the	<i>Environmental Planning and Assessment Act, 1979.</i>
Ancillary Facility	Temporary facility for construction, including for example an office and amenities compound, construction compound, batch plant (concrete or bitumen), materials storage compound, maintenance workshop, testing laboratory or material stockpile area.
Proponent	Orange City Council
Conditions of Approval	The Minister's conditions of approval for the Project.
Construction	Includes all work in respect of the Project other than: <ul style="list-style-type: none"> <li>a) survey, acquisitions, building/ road dilapidation surveys;</li> <li>b) investigative drilling, excavation, or salvage;</li> <li>c) minor clearing or translocation of native vegetation;</li> <li>d) establishing ancillary facilities/ construction work sites (in locations meeting the criteria identified in the Conditions of Approval);</li> <li>e) installation of environmental impact mitigation measures, fencing, enabling works;</li> <li>f) other activities determined by the Environmental Representative to have minimal environmental impact (e.g. minor access roads, minor adjustments to services/ utilities, etc).</li> </ul> <p>Note - work where heritage, threatened species, populations or endangered ecological communities would be affected by that work is classified as construction, unless otherwise approved by the Director General in consultation with the Office of Environment and Heritage.</p>
Department, the	Department of Planning and Infrastructure.
Director General, the	Director General of the Department of Planning and Infrastructure.
Director General's approval, agreement or satisfaction	A written approval from the Director General (or nominee). Where the Director General's approval, agreement or satisfaction is required under a condition of this approval, the Director General will endeavour to provide a response within one month of receiving an approval, agreement or satisfaction request. The Director General may ask for additional information if the approval, agreement or satisfaction request is considered incomplete. When further information is requested, the time taken for the Proponent to respond in writing will be added to the one month period.
DPI	Department of Primary Industries, includes the divisions of NSW Office of Water (NOW), Fisheries NSW, Agriculture NSW and Crown Lands.
EA	Environmental Assessment
EEC	Endangered ecological communities
Enabling Works	Works which allow isolation of the site so that access for construction can be provided.
EPA	Environment Protection Authority
EPL	Environment Protection Licence under the <i>Protection of the Environment Operations Act 1997</i>
Feasible and Reasonable	Consideration of best practice taking into account the benefit of proposed measures and their technological and associated operational application in the NSW and Australian context. Feasible relates to engineering considerations and what is practical to build. Reasonable relates to the application of judgement in arriving at a decision, taking into account mitigation benefits and cost of mitigation versus benefits provided, community views and nature and extent of potential improvements.  Where requested by the Director General, the Proponent shall provide evidence as to how feasible and reasonable measures were considered and taken into account.
Heritage	Encompasses both Aboriginal and historic heritage including sites that predate European settlement, and a shared history since European settlement such as shared associations in pastoral landscapes as well as associations linked with the mission period.
Heritage Item	An item as defined under the <i>Heritage Act 1977</i> , and assessed as being of local, State and/ or National heritage significance, and/or an Aboriginal Object or Aboriginal Place as defined under the <i>National Parks and Wildlife Act 1974</i>
Minister, the	Minister for Planning and Infrastructure.
OEH	Office of Environment and Heritage
Operation	Means the operation of the Project, but does not include commissioning trials of equipment or temporary use of parts of the Project during construction.
POEO Act	<i>Protection of Environmental Operations Act 1997</i>
Project	Means the Project approved under this approval and as generally described in Schedule A.
Publicly available	Available for inspection by a member of the general public (for example available on an internet website).
Relevant council(s)	Orange City Council and Cabonne Council
Sensitive receiver	Residence, education institution (e.g. school, university, TAFE college), health care facility (e.g. nursing home, hospital), religious facility (e.g. church) and children's day care facility.
SEWPaC	Australian Government Department of Sustainability, Environment, Water, Population and Communities

## **SCHEDULE B CONDITIONS OF APPROVAL**

### **PART A ADMINISTRATIVE CONDITIONS**

#### **Obligation to Minimise Harm to the Environment**

- A1. In addition to meeting the specific performance criteria established under this approval, the Proponent shall implement all feasible and reasonable measures to prevent and/or minimise any harm to the environment that may result from the construction or operation of the Project.

#### **Terms of Approval**

- A2. The Proponent shall carry out the Project generally in accordance with the:
- (a) Major Project Application MP10\_0235;
  - (b) Macquarie River to Orange Pipeline Project Environmental Assessment (GHD, August 2012);
  - (c) Macquarie River to Orange Pipeline Project Preferred Project Report (GHD, February 2013);
  - (d) Macquarie River to Orange Pipeline Project – Clarification of Calculations of Permanent and Temporary Vegetation Impacts (letter dated 12 March 2013 from Orange City Council); and
  - (e) conditions of this approval.
- A3. If there is any inconsistency between the plans and documentation referred to in condition A2, the most recent document shall prevail to the extent of the inconsistency. However, conditions of this approval prevail to the extent of any inconsistency with any plan or documents referred to in condition A2.
- A4. The Proponent shall comply with any reasonable requirement(s) of the Director-General arising from the Department's assessment of:
- (a) any reports, plans or correspondence that are submitted in accordance with this approval; and
  - (b) the implementation of any actions or measures contained within these documents.

#### **Limits of Approval**

- A5. This approval shall lapse five (5) years after the date on which it is granted unless the works the subject of this Project approval are physically commenced on or before that date.

#### **Staging**

- A6. The Proponent may elect to construct and/ or operate the Project in stages. Where staging is proposed, the Proponent shall submit a Staging Report to the Director General prior to the commencement of the first proposed stage. The Staging Report shall provide details of:
- (a) how the Project would be staged, including general details of work activities associated with each stage and the general timing of when each stage would commence; and
  - (b) details of the relevant conditions of approval, which would apply to each stage and how these shall be complied with across and between the stages of the Project.
- Where staging of the Project is proposed, these conditions of approval are only required to be complied with at the relevant time and to the extent that they are relevant to the specific stage(s).
- The Proponent shall ensure that an updated Staging Report (or advice that no changes to staging are proposed) is submitted to the Director General prior to the commencement of each stage, identifying any changes to the proposed staging or applicable conditions.

- A7. The Proponent shall ensure that all plans, sub-plans and other management documents required by the conditions of this approval and relevant to each stage (as identified in the Staging Report) are submitted to the Director General no later than one month prior to the commencement of the relevant stages, unless otherwise agreed by the Director General.

**Staged Submission of Plans or Programs**

- A8. With the approval of the Director-General, the Proponent may:
- (a) submit any strategy, plan or program required by this approval on a progressive basis; and/or
  - (b) combine any strategy, plan or program required by this approval.
- A9. Until they are replaced by an equivalent strategy, plan or program approved under this approval, the Proponent shall continue to implement existing strategies, plans or programs for operations on site that have been approved by previous approvals.

**Compliance**

- A10. In the event of a dispute between the Proponent and a public authority, in relation to an applicable requirement in this approval or relevant matter relating to the activity, either party may refer the matter to the Director-General for resolution. The Director-General's determination of any such dispute shall be final and binding on the parties.
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## **PART B ENVIRONMENTAL PERFORMANCE**

### **Aquatic Environment Monitoring**

- B1. An **Aquatic Environment Monitoring Program** shall be developed and implemented to confirm the predictions made in documents identified in conditions A2(a) to A2(c) and to identify changes in hydrology and aquatic ecology through monitoring. The Program shall be developed:
- (a) in consultation with DPI (NSW Office of Water and Fisheries NSW) and OEH;
  - (b) include a monitoring design to:
    - (i) confirm predictions and identify changes in hydrology and aquatic ecology (including fish and aquatic and riparian vegetation); and
    - (ii) determine the efficiency of the offtake design and screens to limit impingement, entrainment and minimise impacts to eggs, larvae or changes to recruitment of threatened aquatic species.
  - (c) include an appropriate number and location of monitoring points to determine impacts and changes to hydrology and aquatic ecology at:
    - (i) Cobbs Hut Hole including the offtake and riffle or rockbar sections from operation of the pipeline;
    - (ii) in Summer Hill Creek resulting from increased flow volumes and spills from Suma Park Dam; and
    - (iii) other locations as necessary.
- The Program shall be submitted to the Director-General for approval no later than one month prior to the commencement of construction unless otherwise agreed to by the Director-General. Any changes to the program shall be in consultation with DPI (NSW Office of Water and Fisheries NSW) and OEH and require the Director-General's approval.
- B2. Results from the implementation of the Aquatic Environment Monitoring Program in B1 are to be provided on a regular basis to DPI (NSW Office of Water and Fisheries NSW) and OEH and the Department, as agreed by those agencies, and inform the Adaptive Management Strategy developed as part of the OEMP (condition D2).

### **Operational Water Supply System**

#### **Decision Support Tool**

- B3. The **Orange Water Supply System Decision Support Tool** included in the document referenced in condition A2(c) shall be finalised in consultation with the DPI (NOW) and implemented prior to the commencement of operation of the Project. The Decision Support Tool shall also include:
- (a) likely operating scenarios including raw water triggers under a range of climatic conditions, growth scenarios and assumptions for the operation of the Project;
  - (b) proposed interaction and optimisation of the water supply components of the Orange Water Supply System; and
  - (c) the operating rules as defined or modified by conditions B4, B5 and B6.

## Operating Rules

B4. The Project is to be operated consistent with:

- (a) the Orange Water Supply System Decision Support Tool in condition B3;
- (b) the operating rules where:
  - (i) pumping is only to occur when the instantaneous river flow upstream of the pumps exceeds the 80<sup>th</sup> percentile flow; and
  - (ii) no more than 12 ML is to be extracted from the Macquarie River at Cobbs Hut Hole over any 24 hour period; and
  - (iii) the instantaneous rate of extraction is not to exceed 15.2 ML/day; and
  - (iv) the water level in Suma Park Dam is less than 90 percent full; and
  - (v) an interim pumping trigger corresponding to a flow in the Macquarie River of 108 ML/day or greater at Gauging Station 421192 (upstream of the pumps) until the river flow model is revised in accordance with condition B5; and
- (c) the river flow margin of error for Gauging Station 421192 determined in condition B6.

B5. Prior to the commencement of operation of the Project, the Proponent shall revise the existing river flow model, or utilise another river flow model, to determine the 80<sup>th</sup> percentile flows in the Macquarie River at Gauging Station 421192 under current catchment conditions. As part of this work the Proponent shall:

- (a) Calibrate and validate the model in accordance with current best practice;
- (b) Operate the model to simulate daily river flows assuming the historical climate from the early 1890s until the present time was to repeat itself in the future;
- (c) Examine the rigour of the model to accurately predict the streamflows over this period including wet and dry periods and the severe droughts which occurred in the later part of the 19<sup>th</sup> century and the early part of the 21<sup>st</sup> century;
- (d) Document the model's establishment, calibration, validation and operation;
- (e) Calculate the 80<sup>th</sup> percentile river flow at Cobbs Hut Hole;
- (f) Use the modelled river flows to inform the Decision Support Tool referred to in condition B3;
- (g) Submit the model and its documentation for peer review by NOW (or a suitably qualified person agreed to by NOW and the Director General). A key objective of this review will be to determine whether the model is 'fit for purpose' in calculating the 80<sup>th</sup> percentile river flow and in calculating river flow sequences for use in the Decision Support Tool;
- (h) Submit the model and its documentation to the Director General, including any peer review comments and any changes to the model, its documentation and the 80<sup>th</sup> percentile pumping trigger, resulting from that review.

No water transfers from the Macquarie River shall be permitted at the revised 80<sup>th</sup> percentile pumping trigger (except where this may be higher than the interim trigger identified in condition B4(b)(v)) without the approval of the Director General. Any future revision of the model or the pumping trigger shall also require the approval of the Director General in accordance with this condition.

B6. River flow gaugings shall be completed for Gauging Station 421192 in order to:

- (a) improve and verify the streamflow rating for the Macquarie River at Gauging Station 421192, in consultation with DPI (NOW).

The operating rules shall adopt a flow trigger that includes the margin of error of the flow rating until such time as DPI (NOW) is satisfied that the flow rating correlates with flows in the Macquarie River at Gauging Station 421192.

## Biodiversity Offsets

- B7. The Proponent shall prepare a Biodiversity Offset Package that formalises the final suite of offset measures selected to compensate for the loss of existing vegetation, threatened species and Endangered Ecological Communities. The Biodiversity Offset Package shall be developed in consultation with the OEH and SEWPaC and shall (unless otherwise agreed by the Director-General) include, but not necessarily be limited to:
- (a) the extent and types of habitat that would be lost or degraded as a result of the final design of the Project (including all areas considered to be permanently or temporarily impacted);
  - (b) Impacts to vegetation shall be offset, in consultation with OEH, as follows:
    - (i) areas where native vegetation (native woodland and native grassland) is permanently removed shall be offset in accordance with condition B8;
    - (ii) native grassland areas within the pipeline construction zone that are disturbed by trenching or for storage of soil but will not have any trees removed are to be assessed following construction to determine the level of offset required. The Offset Package is to detail the monitoring program to determine the level of impact following construction;
    - (iii) native grassland areas within the construction zone that will only be subject to vehicular traffic do not require offsetting; and
  - (c) the objectives and biodiversity outcomes to be achieved;
  - (d) the final suite of biodiversity offset measures selected, how the offset meets B7(c) and will be secured to offset construction and operation impacts of the Project in perpetuity;
  - (e) a biodiversity offset management plan to manage the offset in perpetuity including monitoring requirements to ensure the outcomes of the package are achieved, including:
    - (i) identification of performance criteria and/or benchmarks;
    - (ii) monitoring of the condition of species and ecological communities at offset locations;
    - (iii) the methodology for monitoring, including the number and location of offset monitoring sites, and the sampling frequency at these sites against the performance criteria in B7(e)(i);
    - (iv) provisions for the annual reporting of the monitoring results for a set period of time in terms of duration and against the performance criteria in B7(e) as determined in consultation with the OEH and SEWPaC;
    - (v) proposed management measures to be implemented where the performance criteria in B7(e)(i) are not being met; and
  - (f) timing and responsibilities for the implementation of the provisions of the Package.
- B8. Land offsets shall be consistent with the *Principles for the use of Biodiversity Offsets in NSW* and/or the NSW Biodiversity Banking and Offsets Scheme (BioBanking). Any land offset shall be enduring and be secured by a conservation mechanism which protects and manages the land in perpetuity. Where land offsets cannot solely achieve compensation for the loss of habitat, additional measures shall be provided to collectively deliver an improved or maintained biodiversity outcome for the region.
- B9. Where monitoring referred to in condition B7 indicates that biodiversity outcomes are not being achieved, remedial actions as approved by the Director General, in consultation with OEH, shall be undertaken to ensure that the objectives of the Biodiversity Offset Package are achieved.
- B10. The Biodiversity Offset Package must be approved by the Director-General prior to any construction work that would result in the disturbance of any existing endangered ecological communities identified in documents referenced under condition A2.



- B11. Following the completion of construction, the Proponent shall confirm the extent of the impact on vegetation. If clearing of vegetation is greater than what is specified in Table B 1 the Proponent shall consult with OEH and SEWPaC and demonstrate how the offset package will be modified to offset the value of actual biodiversity loss, if required by OEH and/or SEWPaC.

**Table B 1. Impacts to Vegetation (hectares)**

	<b>Total Vegetation Impacts (includes non-native)</b>	<b>Total Native Vegetation Impacts (includes EEC)</b>	<b>Box Gum Woodland (listed under the TSC Act)</b>	<b>Box-Gum Grass Woodland (listed under the EPBC Act)</b>
Impacts identified as Permanent	18.79	12.32	4.42	2.79
Impacts identified as Temporary	16.7	7.79	1.65	1.64
<b>Total Impacts</b>	<b>35.49</b>	<b>20.11</b>	<b>6.07</b>	<b>4.43</b>

### **Ancillary Facilities**

- B12. Unless otherwise approved by the Director General, the location of Ancillary Facilities shall:

- (a) be located more than 50 metres from a waterway;
- (b) be located within or adjacent to land where the Project is being carried out;
- (c) have ready access to the road network;
- (d) be located to minimise the need for heavy vehicles to travel through residential areas;
- (e) be sited on relatively level land;
- (f) be separated from nearest residences by at least 200 metres (or at least 300 metres for a temporary batching plant);
- (g) not require vegetation clearing beyond that already required by the Project;
- (h) not impact on heritage items (including areas of archaeological sensitivity) beyond those already impacted by the Project;
- (i) not unreasonably affect the land use of adjacent properties;
- (j) be above the 20 ARI flood level unless a contingency plan to manage flooding is prepared and implemented; and
- (k) provide sufficient area for the storage of raw materials to minimise, to the greatest extent practical, the number of deliveries required outside standard construction hours.

The location of the ancillary facilities shall be identified in the CEMP.

- B13. The Director General's approval is not required for minor ancillary facilities (e.g. lunch sheds, office sheds, and portable toilet facilities, etc.) that do not comply with the criteria set out in condition B12 of this approval and which:

- (a) are located within an active construction zone within the approved Project footprint; and
- (b) have been assessed by the Environmental Representative to have:
  - (i) minimal amenity impacts to surrounding residences, with consideration to matters such as noise and vibration impacts, traffic and access impacts, dust and odour impacts, and visual (including light spill) impacts, and
  - (ii) minimal environmental impact in respect to waste management, and no impacts on flora and fauna, soil and water, and heritage beyond those approved for the Project; and

- (c) have environmental and amenity impacts that can be managed through the implementation of environmental measures detailed in a Construction Environment Management Plan for the Project.

All Ancillary Facilities shall be rehabilitated to at least their pre-construction condition, unless otherwise agreed by the landowner where relevant.

### **Construction Impacts**

- B14. All clearing of native vegetation and native grassland during construction of the pipeline shall be limited to the minimum feasible extent. The pipeline easement width shall be reduced to the minimum feasible width in areas along the easement that are known to contain Endangered Ecological Communities such that clearing is not greater than that stated in Table B 1.
- B15. Prior to the commencement of construction of the Project, the Proponent shall clearly define work areas (including access trails) using a combination of posts, fencing or markers, and suitably marked up maps, as appropriate to ensure all on-site construction movements by vehicles or personnel are restricted to these areas.

### **Soil, Water Quality and Hydrology**

#### **Watercourse crossings**

- B16. All watercourse crossings (vehicle access and pipeline crossings) shall be designed in by a suitably qualified person consultation with DPI (NOW and Fisheries NSW), and where feasible and reasonable, be consistent with the *Guidelines for Controlled Activities Watercourse Crossings* (Department of Water and Energy, February 2008), *Policy and Guidelines for Fish Friendly Waterway Crossings* (NSW Fisheries, February 2004) and *Policy and Guidelines for Design and Construction of Bridges, Roads, Causeways, Culverts and Similar Structures* (NSW Fisheries 1999).

#### **Construction Soil and Water Management**

- B17. Soil and water management measures consistent with *Managing Urban Stormwater - Soils and Construction Vols 1* (Landcom, 2004) and *Managing Urban Stormwater – Soils and Construction, Vol 2A: Installation of Services* (Department of Environment and Climate Change, 2008) shall be employed during construction to minimise soil erosion and the discharge of sediment and other pollutants to land and/or waters.

#### **Dust Management**

- B18. The Proponent shall implement all reasonable and feasible measures to minimise dust generated by the Project.
- B19. During construction, the Proponent shall ensure that:
  - (a) all loaded vehicles entering or leaving the site have their loads covered; and
  - (b) all loaded vehicles leaving the site are cleaned of dirt, sand and other materials before they leave the site, to avoid tracking these materials on public roads.

#### **Hazards and Risks**

- B20. Naturally occurring asbestos shall be managed in accordance with WorkCover Authority of NSW's policy and factsheets for managing naturally occurring asbestos.
- B21. Dangerous goods, as defined by the *Australian Dangerous Goods Code*, or any other hazardous substances, shall be stored and handled strictly in accordance with:
  - (a) all relevant Australian Standards;
  - (b) for liquids, a minimum bund volume requirement of 110percent of the volume of the largest single stored volume within the bund;
  - (c) the *Storing and Handling Liquids: Environmental Protection, Participants* (Department of Environment and Climate Change, 2007); and

- (d) the *Environment Protection Manual for Authorised Officers: Bunding and Spill Management, technical bulletin* (Environment Protection Authority, 1997).

In the event of an inconsistency between the requirements listed from B21(a) to B21(d) above, the most stringent requirement shall prevail to the extent of the inconsistency.

## **Noise and Vibration**

### **Construction Hours**

- B22. Construction activities associated with the Project shall be undertaken during the following standard construction hours (except for high impact activities):
- (a) 7:00am to 6:00pm Mondays to Fridays, inclusive; and
  - (b) 8:00am to 1:00pm Saturdays; and
  - (c) at no time on Sundays or public holidays.
- B23. Construction works outside of the standard construction hours identified in condition B22 may be undertaken in the following circumstances:
- (a) construction works that generate noise that is:
    - (i) no more than 5 dB(A) above rating background level at any residence in accordance with the *Interim Construction Noise Guideline* (Department of Environment and Climate Change, 2009); and
    - (ii) no more than the noise management levels specified in Table 3 of the *Interim Construction Noise Guideline* (Department of Environment and Climate Change, 2009) at other sensitive receivers; or
  - (b) the delivery of materials required outside these hours by the NSW Police Force or other authorities determined as requiring special arrangements to transport along public roads for safety reasons; or
  - (c) emergency works to avoid the loss of lives, damage to property and/or to prevent environmental harm;
  - (d) public infrastructure works that shorten the duration of construction and are supported by the affected community, or
  - (e) works where the proponent assesses the impact and demonstrates and justifies a need to operate outside the recommended construction hours and as approved through the out-of-hours work protocol outlined in the CEMP in condition C2(d)(i).
- B24. High noise generating activities resulting in impulsive or tonal noise emission (such as rock breaking, rock hammering, pile driving) shall only be undertaken:
- (a) between the hours of 8:00 am to 5:00 pm Monday to Friday;
  - (b) between the hours of 8:00 am to 1:00 pm Saturday; and
  - (c) in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block.
- For the purposes of this condition 'continuous' includes any period during which there is less than a one hour respite between ceasing and recommencing any of the work the subject of this condition.
- B25. The Project shall be constructed with the aim of achieving the construction noise management levels detailed in the *Interim Construction Noise Guideline* (Department of Environment and Climate Change, 2009). All feasible and reasonable noise mitigation measures shall be implemented and any activities that could exceed the construction noise management levels shall be identified and managed in accordance with the CEMP.

*Note: The Interim Construction Noise Guideline identifies 'particularly annoying' activities that require the addition of 5dB(A) to the predicted level before comparing to the construction NML.*

- B26. The Project shall be constructed with the aim of achieving the following construction vibration goals:
- (a) for structural damage to heritage structures, the vibration limits set out in the *German Standard DIN 4150-3: Structural Vibration - effects of vibration on structures*;
  - (b) for damage to other buildings and/or structures, the vibration limits set out in the *British Standard BS 7385-1:1990 – Evaluation and measurement for vibration in buildings. Guide for measurement of vibration and evaluation of their effects on buildings*; and
  - (c) for human exposure, the acceptable vibration values set out in the *Environmental Noise Management Assessing Vibration: A Technical Guideline* (Department of Environment and Conservation, 2006).

### Blasting

- B27. Airblast overpressure generated by blasting associated with the Project shall not exceed the criteria specified in Table 1 when measured at the most affected residence or other sensitive receiver.

**Table 1 - Airblast overpressure criteria**

Airblast overpressure (dB(Lin Peak))	Allowable exceedance
115	5% of total number of blasts over a 12 month period
120	at no time

- B28. Ground vibration generated by blasting associated with the Project shall not exceed the criteria specified in Table 2 when measured at the most affected residence or other sensitive receiver.

**Table 2 – Peak particle velocity criteria**

Receiver	Peak particle velocity (mm/s)	Allowable exceedance
Residence on privately owned land	5	5% of total number of blasts over a 12 month period
	10	at no time

- B29. Wherever practical, piling activities shall be undertaken using quieter alternative methods than impact or percussion piling, such as bored piles or vibrated piles.
- B30. Where feasible and reasonable, operation noise mitigation measures shall be implemented at the start of construction (or at other times during construction) to minimise construction noise impacts.
- B31. During construction, affected educational institutions shall be consulted and reasonable steps taken to ensure that noise generating construction works in the vicinity of affected buildings are not timetabled during examination periods where practicable, unless other reasonable arrangements to the affected institutions are made at no cost to the affected institution.

### Waste Management

- B32. All waste materials removed from the site shall only be directed to a waste management facility or premises lawfully permitted to accept the materials.
- B33. No waste is to be received by the Project except those wastes that meet all the requirements of a resource recovery exemption under Clause 51A of the POEO Act.
- B34. All wastes generated on the site by construction or operation of the project shall be assessed and classified in accordance with *Waste Classification Guidelines* (Department of Environment, Climate Change and Water, 2009), or any superseding document.
- B35. Waste shall be managed in accordance with the *Waste Avoidance and Resource Recovery Act 2001*.

## **Utilities and Services**

- B36. Utilities, services and other infrastructure potentially affected by construction and operation shall be identified prior to construction to determine requirements for access to, diversion, protection, and/or support. Consultation with the relevant owner and/or provider of services that are likely to be affected by the Project shall be undertaken to make suitable arrangements for access to, diversion, protection, and/or support of the affected infrastructure as required. The cost of any such arrangements shall be borne by the Proponent.

## **Transport and access**

- B37. The Project shall be designed with the objective of minimising adverse changes to existing access arrangements and transport services, including school bus services. Any need to alter public transport services or their routes shall be discussed with the provider and suitable alternative arrangements agreed.
- B38. Access to private property shall be maintained during construction unless otherwise agreed with the property owner in advance. A landowner's access that is physically affected by the Project shall be reinstated to at least an equivalent standard, in consultation with the property owner.

## **Road Dilapidation**

- B39. Upon determining the haulage route(s) for construction vehicles associated with the Project, and prior to construction, an independent and qualified person or team shall undertake a Road Dilapidation Report of the relevant roads. The report shall assess the current condition of the road. The Report shall be submitted to the relevant road authority for review and comment prior to the commencement of haulage.

Following completion of construction, a subsequent report shall be prepared to identify any damage that may have resulted from the construction of the Project and describe measures to restore any damage caused by construction of the Project. The Report shall be submitted to the relevant road authority for review and comment.

Measures proposed to restore or reinstate roads affected by the Project shall be implemented in a timely manner, in accordance with the reasonable requirements of the relevant road authority, and at the full expense of the Proponent.

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## PART C ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

### Construction Environmental Management Plan

C1. The Proponent shall prepare and implement a Construction Environmental Management Plan for the Project in accordance with the *Guideline for the Preparation of Environmental Management Plans* (Department of Infrastructure, Planning and Natural Resources 2004). No construction associated with the Project shall commence until written approval of this plan has been received from the Director-General or his nominee. The Plan must:

- (a) be submitted to the Director-General for approval no later than one (1) month prior to the commencement of construction or demolition or within such period otherwise agreed by the Director-General;
- (b) include the following Sub-plans:
  - (i) Soil and Water Management Plan;
  - (ii) Flora and Fauna Management Plan;
  - (iii) Heritage Management Plan;
  - (iv) Noise and Vibration Management Plan; and
  - (v) Traffic and Access Management Plan.

*Note: A utility owner who is to undertake works as part of this approved project may use an existing Construction Environmental Management Plan where this plan meets the requirements of this condition.*

C2. The Proponent shall ensure that the following specific requirements are considered in developing the sub-plans or procedures identified in condition C1, but not limited to:

(a) **Soil and Water Management Plan**

- (i) prepared by a suitably qualified person in consultation with the EPA and DPI (NOW and NSW Fisheries);
- (ii) management measures to be implemented in accordance with the *Managing Urban Stormwater - Soils and Construction Vols 1* (Landcom, 2004) and *Managing Urban Stormwater – Soils and Construction Volume 2A: Installation of Services* (Department of Environment and Climate Change, 2008); spoil and fill material management; dewatering procedures and measures to be implemented in the case of flood events;
- (iii) parameters and standards against which any changes to water quality will be assessed, having regard to the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000* (Australian and New Zealand Environment Conservation Council, 2000);
- (iv) measures specific to each waterway and/or crossing type to ensure rehabilitation to the specified level which shall be no less than pre-construction level and better where it is within the scope of the Project to do so; and
- (v) contingency and ameliorative measures in the event that adverse impacts to water quality are identified.

(b) a **Flora and Fauna Management Plan**

- (i) prepared in consultation with the OEH and DPI (NSW Fisheries);
- (ii) results of pre-clearing surveys and individual Property Management Plans where these will influence construction management measures and techniques including the management of tree hollows; and
- (iii) procedures to accurately determine the area, type and condition of vegetation community to be cleared.

(c) a **Heritage Management Plan**

- (i) developed in consultation with the registered Aboriginal stakeholders (for Aboriginal heritage) and OEH;

- (ii) a procedure for consultation with OEH and the registered Aboriginal stakeholders for the management of identified sites, potential archaeological deposits and potential archaeological sensitive areas; and
- (iii) a procedure to manage the discovery of any unidentified heritage objects.
- (d) a **Noise and Vibration Management Plan**
  - (i) developed and implemented in accordance with the *Interim Construction Noise Guidelines* (DECC, 2009); and
  - (ii) an out-of-hours work (OOHW) protocol for the assessment, management and approval of works outside of standard construction hours as defined in condition B22, including a risk assessment process under which the Environmental Representative may approve out-of-hour construction activities deemed to be of low environmental risk and refer high risk works for the Director General's approval. The OOHW protocol shall detail standard assessment, mitigation and notification requirements for high and low risk out-of-hour works, and detail a standard protocol for referring applications to the Director General.
- (e) a **Traffic and Access Management Plan**
  - (i) prepared in consultation with the relevant roads authority; and
  - (ii) include consideration of any speed restrictions or works required to facilitate or maintain safe construction traffic access;

### **Rehabilitation and Landscape Plan**

- C3. A Rehabilitation and Landscape Plan shall be prepared and implemented for the Project to manage rehabilitation/revegetation of disturbed areas and landscaping or screening of built features. The Plan shall be prepared by appropriately qualified person(s) in consultation with the relevant landowner, Council or agency. The Plan shall include, but not necessarily be limited to:
- (a) identification of principles, standards and objectives based on the individual property management plans and those outlined in the documents in A2(a) to A2(c). Individual property management plans shall be prepared in consultation with each land owner or agency as relevant and include details of the existing condition of the land, the construction corridor, management of the easement and maintenance of the Project for each property;
  - (b) the location of vegetation to be cleared, high risk areas experiencing erosion and waterway crossings that have been identified as sensitive and prone to erode if disturbed;
  - (c) proposed rehabilitation or landscaping (including use of indigenous and endemic species where possible) including details of the strategies to progressively rehabilitate, regenerate and/ or revegetate, methods and species to be replanted/ revegetated including their appropriateness to the area and ability to ensure high risk areas are rehabilitated and stabilised to an equal or better status;
  - (d) monitoring and maintenance procedures for the rehabilitated or revegetated areas and landscaping (including biosecurity measures and weed control) including performance indicators, responsibilities, timing and duration and contingencies where rehabilitation of vegetation and landscaping measures fail; and
  - (e) evidence of consultation with the relevant landowners or agency on the proposed rehabilitation and landscape measures prior to its finalisation.
- The Plan shall be submitted for the approval of the Director General prior to disturbance of areas requiring rehabilitation or landscaping, unless otherwise agreed by the Director General.
- C4. The Proponent shall ensure that all rehabilitation measures are implemented progressively where possible and in all cases within one month of the cessation of construction activities at the relevant area. Unless otherwise agreed to by the Director General, the Proponent shall monitor and maintain the health of all revegetated areas until such time that the plantings have been verified as meeting the principles, standards and objectives set in the Rehabilitation and

Landscape Plan in condition C3(a) to the satisfaction of Environmental Representative or as otherwise agreed with the relevant landowner or agency.

### **Annual Review**

- C5. To compare the actual performance of the Project against that predicted in documents in condition A2, annually from date of this approval (or other timing as may be agreed by the Director-General), the Proponent shall prepare a summary of the environmental performance of the Project during construction and operation to the satisfaction of the Director-General. This summary must:
- (a) describe the activities that were carried out in the previous year, and the activities that are proposed to be carried out over the next year including:
    - (i) monitoring of the extraction process, quantity of water extracted, flow in river during extraction, duration of extraction and flow in Summer Hill Creek;
    - (ii) raw water quality in the Macquarie River and Suma Park Dam during extraction; and
    - (iii) quantities and quality of scour water to be released during maintenance or emergency activities.
  - (b) include a summary of the monitoring results and complaints records of the development over the previous year, including a comparison of these results against the
    - (i) the conditions, relevant statutory requirements, limits or performance measures/criteria;
    - (ii) requirements of any plan or program required under this approval;
    - (iii) the monitoring results of previous years; and
    - (iv) the relevant predictions in the documents identified in conditions A2(a) and A2(c);
  - (c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;
  - (d) identify any trends in the monitoring data over the life of the development;
  - (e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
  - (f) identify measures that could be implemented to improve the environmental performance of the development and justification for any decision to not implement those measures.

*Note: it is not intended for this annual review to result in any additional review of plans, programs and strategies, where those plans, programs and strategies also have a review component that addresses this condition.*

### **Revision of Strategies, Plans and Programs**

- C6. Within 3 months of the submission of an:
- (a) annual review under condition C5 above;
  - (b) incident report under condition C8 below;
  - (c) audit report under condition C10 below; or
  - (d) any modification to the conditions of this approval,
- the Proponent shall review, and if necessary revise, strategies, plans and programs required by this approval to the satisfaction of the Director-General.

*Note: This is to ensure the plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the Project.*



## REPORTING

### Compliance Reports

- C7. The Proponent shall prepare a **Pre-Construction Compliance Report**, and a **Pre-Operation Compliance Report** to report compliance with the requirements of this approval prior to the commencement of construction and operation as relevant. The Reports shall be submitted to the Director General for approval at least one month prior to the commencement of construction, or each stage, or operation as relevant.

### Incident Reporting

- C8. The Proponent shall notify, at the earliest opportunity, the Environmental Representative, Director-General and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. Within 7 days of the date of the incident, the Proponent shall provide the Director-General and any relevant agencies with a detailed report on the incident which identifies measures which have or will be implemented to rectify the incident and a timeframe for implementation, and such further reports as may be requested.
- C9. The Proponent shall meet the requirements of the Director-General to address the cause or impact of any incident, as it relates to this approval, reported in accordance with condition C8 of this approval, within such period as the Director-General may require.

## AUDITING

### Independent Environmental Audit

- C10. Within two (2) years of the date of this approval, and every three (3) years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the Project against the requirements of this approval. This audit must:
- (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General;
  - (b) include consultation with the relevant agencies;
  - (c) assess the environmental performance of the Project to assess whether it is complying with the requirements in this approval (including any assessment, strategy, plan or program required under this approval);
  - (d) review the adequacy of any approved strategy, plan or program required under the abovementioned approval against monitoring results obtained under this approval; and
  - (e) recommend measures or actions to improve the environmental performance of the development, and/or any strategy, plan or program required under these approvals or licences.
- Note: This audit team must be led by a suitably qualified auditor, and include experts in hydrology, ecology, restoration/rehabilitation of agricultural land and native vegetation and any other fields specified by the Director-General.*
- C11. Within three (3) months of commissioning this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.

## **ACCESS TO INFORMATION**

- C12. Within one (1) month of the date of this approval, and as documents are progressively made available, or as otherwise agreed by the Director-General, the Proponent shall:
- (a) make copies of the following publicly available on its website:
    - (i) the documents referred to in Condition A2;
    - (ii) all current statutory approvals and licences for the development;
    - (iii) all approved plans and programs required under the conditions of this approval;
    - (iv) a comprehensive summary of the monitoring results relating to condition B1, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
    - (v) a summary of the complaints register, updated on a monthly basis;
    - (vi) the annual reviews of the Project;
    - (vii) any independent environmental audit of the Project, and the Proponent's response to the recommendations in any audit;
    - (viii) any other matter required by the Director-General; and
  - (b) keep this information up to date, to the satisfaction of the Director-General.

## **ENVIRONMENTAL REPRESENTATIVE**

- C13. Prior to the commencement of construction of the Project, or as otherwise agreed by the Director-General, the Proponent shall nominate for the approval of the Director-General a suitably qualified and experienced Environment Representative(s) that is independent of the design and construction personnel. The Proponent shall employ the Environment Representative(s) for the duration of construction and for at least 12 months after commencement of operation, or as otherwise agreed by the Director-General. The Environment Representative(s) shall:
- (a) be the principal point of advice in relation to the environmental management of the Project;
  - (b) monitor the Proponent's implementation of environmental management plans, monitoring programs and strategy required under this approval and advise the Proponent upon the achievement of these plans/ programs/strategies;
  - (c) have responsibility for considering and advising the Proponent on matters specified in the conditions of this approval, and other licences and approvals related to the environmental performance and impacts of the Project;
  - (d) ensure that environmental auditing is undertaken in accordance with the approval or the Proponent's Environmental Management System(s) where one exists and has been accredited by the Director General for use on the Project;
  - (e) be given the authority to approve/ reject minor amendments to the Construction and Operation Environment Management Plans. What constitutes a "minor" amendment shall be clearly explained in the CEMP and OEMP required under conditions C1 and D2;
  - (f) be given the authority and independence to require reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts, and failing the effectiveness of such steps, to direct that relevant actions be ceased immediately should an adverse impact on the environment be likely to occur; and
  - (g) be consulted in responding to the community concerning the environmental management and performance of the Project where the resolution of points of conflict between the Proponent and the community is required.

## Community Information, Consultation and Involvement

C14. A **Community Communication Strategy** shall be prepared and implemented to facilitate communication between the Proponent (and its contractor(s)), the Environmental Representative (see condition C13), the relevant council and community stakeholders (particularly adjoining landowners) on the construction environmental management and operation of the Project. The Strategy shall include, but not be limited to:

- (a) identification of stakeholders to be consulted as part of the Strategy, including affected and adjoining landowners;
- (b) procedures and mechanisms for the regular distribution of information to stakeholders on construction progress and matters associated with environmental management and key environmental management issues for the Project. The Strategy shall provide detail on the structure, scope, objectives and frequency of the distribution of information;
- (c) procedures and mechanisms through which the stakeholders can discuss or provide feedback to the Proponent and/or Environmental Representative in relation to the environmental management and delivery of the Project;
- (d) procedures and mechanisms through which the Proponent can respond to enquiries or feedback from the stakeholders in relation to the environmental management and delivery of the Project; and
- (e) procedures and mechanisms that would be implemented to resolve issues/ disputes that may arise between parties on the matters relating to environmental management and the delivery of the Project. This may include the use of an appropriately qualified and experienced independent mediator.

The Proponent shall maintain and implement the Strategy throughout construction and operation of the Project.

## Complaints and Enquiries Procedure

C15. Prior to the commencement of construction, or as otherwise agreed by the Director General, the Proponent shall ensure that the following are available for community enquiries and complaints for the duration of construction:

- (a) a 24 hour telephone number(s) on which complaints and enquiries about the Project may be registered;
- (b) a postal address to which written complaints and enquires may be sent;
- (c) an email address to which electronic complaints and enquiries may be transmitted; and
- (d) a mediation system for complaints unable to be resolved.

The telephone number, the postal address and the email address shall be published in newspaper(s) circulating in the local area prior to the commencement of construction and prior to the commencement of operation. This information shall also be provided on the website (or dedicated pages) required by this approval.

C16. Prior to the commencement of construction, or as otherwise agreed by the Director General, the Proponent shall prepare and implement a **Construction Complaints Management System** consistent with AS 4269: *Complaints Handling* and maintain the System for the duration of construction and up to 12 months following completion of the Project.

Information on all complaints received, including the means by which they were addressed and whether resolution was reached, with or without mediation, shall be maintained in a complaints register and included in the construction compliance reports required by condition C5 of this approval. The information contained within the System shall be made available to the Director General on request.

## PART D OPERATION ENVIRONMENTAL MANAGEMENT

### Operational Noise and Vibration Review

- D1. The Proponent shall, within six (6) months of commencing operations, unless otherwise agreed by the Director-General, prepare and submit an **Operational Noise and Vibration Review**. The Review shall:
- (a) identify the Project specific noise and vibration criteria applicable;
  - (b) measure the operational noise and vibration levels at affected receivers;
  - (c) where the noise and vibration criteria was not achieved, the review shall present an analysis of all feasible and reasonable noise and vibration mitigation measures, and the 'best practice' achievable noise and vibration outcome for each activity.
  - (d) identify the proposed mitigation measures to be implemented in order to meet the applicable noise and vibration criteria if operational noise and vibration levels exceed the specific criteria in D1(a); and
  - (e) include a consultation strategy with directly affected receivers on mitigation measures identified through the Community Communication Strategy in condition C14.

### OPERATIONAL ENVIRONMENTAL MANAGEMENT

- D2. Prior to the commencement of operation, or as otherwise agreed by the Director General, the Proponent shall prepare and implement (following approval) an **Operation Environmental Management Plan\*** for the Project. The Plan shall outline the environmental management practices and procedures that are to be followed during operation, and shall be prepared in consultation with OEH and DPI and in accordance with the *Guideline for the Preparation of Environmental Management Plans* (Department of Infrastructure, Planning and Natural Resources 2004). In addition, the Plan shall include reference to the **Orange Water Supply System Decision Support Tool** in condition B3 and an **Adaptive Management Strategy (AMS)** to manage impacts from the operation of the Project identified through the **Aquatic Monitoring Program** in condition B1.

*\* Note: or an ISO accredited Environmental Management System, where the Proponent can demonstrate, to the satisfaction of the Director General, that the requirements of this condition could be achieved by that ISO accredited Environmental Management System;*

- D3. The **Adaptive Management Strategy** referred to in condition D2 is to set out the procedures to manage the operation of the Project in response to monitoring results obtained in condition B1 and the operating rules defined in condition B4. The AMS is to:
- (a) incorporate a decision making framework that sets out specific actions that may be required to be implemented in order to reduce impacts identified as a result of the monitoring required in condition B1;
  - (b) identify matters to be addressed in annual reports required under condition C5 in relation to the outcomes of monitoring, the application of the decision making framework, the mitigation measures identified, progress with the implementation of such measures, and their success.
  - (c) Review mechanisms to assess the effectiveness of the Adaptive Management Strategy and propose changes to manage impacts to the environment.

The Report referred to under condition C5 shall be submitted to the DPI, OEH and the Department identified in condition B1. The Director General may, at the request of the Proponent, vary the reporting requirement or period by notice in writing to the Proponent. The Proponent may request the Director General to consider a variation to the reporting requirements at anytime.

The Proponent is required to implement reasonable and feasible mitigation measures as identified under D3(a) where the need for further action is identified through the respective Monitoring Program, or as otherwise agreed with the Director General.