Development Consent

Section 4.38 of the Environmental Planning and Assessment Act 1979

The Independent Planning Commission of NSW (the Commission), as the declared consent authority under clause 8A of the *State Environmental Planning Policy (State and Regional Development) 2011* and section 4.5(a) of the *Environmental Planning and Assessment Act 1979,* approves the development application referred to in Schedule 1, subject to the conditions in Schedule 2.

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 on the development; and
- provide for the ongoing environmental management of the development.

Member of the Commission **Member of the Commission** **Member of the Commission**

Sydney 2019

SCHEDULE 1

Application Number:	SSD 6456
Applicant:	Santos NSW (Eastern) Pty Ltd
Consent Authority:	Independent Planning Commission of NSW
Site:	The land in Appendix 1
Development:	Narrabri Gas Project

TABLE OF CONTENTS

DEFINITIONS

AAO	Australian Astronomical Observatory
Aboriginal object	Has the same meaning as the definition of the term in section 5 of the NP&W Act
Aboriginal place	Has the same meaning as the definition of the term in section 5 of the NP&W Act
Advisory Groups	The Water Technical Advisory Group and Aboriginal Cultural Heritage Advisory Group required under this consent
AEP	Annual Exceedance Probability
Amended treated water	Produced water that has undergone treatment and amendment, as generally described in the EIS, to enable it to be used for beneficial reuse purposes including irrigation, stock watering, drilling, construction and dust suppression
Applicant	Santos NSW (Eastern) Pty Limited, or any person carrying out any development under this consent
Approved disturbance area	The disturbance areas shown in the EIS as modified by any approved Field Development Plan
ARI	Average Recurrence Interval
BCA	Building Code of Australia
BC Act	*Biodiversity Conservation Act 2016*
BCD	Biodiversity Conservation Division within the Department
BCT	NSW Biodiversity Conservation Trust
Bibblewindi facility	The in-field gas processing facility as described in the EIS, and shown in Appendix 2
Calendar year	A period of 12 months from 1 January to 31 December
CCC	Community Consultative Committee
CEEC	Critically endangered ecological community, as defined under the BC Act and/or EPBC Act
Chip holes	Vertical wells drilled to determine geology and assess gas potential by collecting rock chip samples
Conditions of this consent	Conditions contained in Schedule 2
Construction	All physical works to enable petroleum mining operations to be carried out, including demolition and removal of buildings or works, and erection/installation of project related infrastructure and buildings permitted by this consent
Core holes	Vertical wells drilled to determine geology and assess gas potential by collecting rock core samples
Council	Narrabri Shire Council
DAWE	Commonwealth Department of Agriculture, Water and the Environment
Day	The period from 7 am to 6 pm on Monday to Saturday, and 8 am to 6 pm on Sundays and Public Holidays
Decommissioning	The deconstruction or demolition and removal of infrastructure, works and buildings installed as part of the development
Demolition	The deconstruction and removal of buildings and other structures in the project area
Department	NSW Department of Planning, Industry and Environment
Development	The development described in the EIS
Disturbance	A physical displacement of existing features that impacts those features
DPIE Water	The Water Group, within the Department
DSN	Dams Safety NSW
Ecological Rehabilitation	Rehabilitation used to satisfy biodiversity credit requirements
EEC	Endangered ecological community, as defined under the BC Act and/or EPBC Act

EIS	The Environmental Impact Statement titled *Narrabri Gas Project Environmental Impact Statement*, prepared by GHD (Australia) Pty Limited, dated 31 January 2017, submitted with the development application, including the Applicant's response to submissions and supplementary response to submissions, and the additional information provided by the Applicant to the Department in support of the application and included in Appendix E of the Department's assessment report on the Narrabri Gas Project
Environment	Includes all aspects of the surroundings of humans, whether affecting any human as an individual or in his or her social groupings
EPA	NSW Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPBC Act	Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
EPL	Environment Protection Licence under the POEO Act
Evening	The period from 6 pm to 10 pm
FCNSW	Forestry Corporation of NSW
Feasible	Means what is possible and practical in the circumstances
GAB	Great Artesian Basin
GABSI	Great Artesian Basin Sustainability Initiative
Gas field	The area delineated by petroleum tenure for gas appraisal or production
Gas field infrastructure	All project-related infrastructure, excluding the Leewood facility, Bibblewindi facility, Westport workers accommodation facility and the road upgrades required under this consent
Gas well	Pilot wells and production wells
Gathering lines	Pipelines used to transfer gas and produced water from wells
Heritage Division	Heritage Division within the Department of Premier & Cabinet
Heritage item	An Aboriginal object, an Aboriginal place, or a place, building, work, relic, moveable object, tree or precinct of heritage significance, that is listed under any of the following: • the State Heritage Register under the *Heritage Act 1977*; • a state agency heritage and conservation register under section 170 of the *Heritage Act 1977;* • a Local Environmental Plan under the EP&A Act; • the World Heritage List; • the National Heritage List or Commonwealth Heritage List under the EPBC Act; or • anything identified as a heritage item under the conditions of this consent
Hydraulic fracturing	The process by which gas wells are stimulated when water and chemicals are forced at pressure into hydrocarbon-bearing formations to create a conductive flow path into the target formation resulting in enhanced flow of hydrocarbons to the wellhead
IESC	Commonwealth Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development
Incident	An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance
LALC	Local Aboriginal Land Council
Land	Has the same meaning as the definition of the term in section 1.4 the EP&A Act, except for where the term is used in the noise and air quality conditions in PART B of this consent where it is defined to mean the whole of a lot, or contiguous lots owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this consent
Large ponds and dams	Ponds and dams greater than 1 megalitre capacity
Leewood facility	The central gas processing facility as described in the EIS, and shown in Appendix 2
Linear infrastructure	Project related infrastructure of a linear nature including gas and water gathering lines, gas and water pipelines, access tracks, power lines, communication lines and other service lines
Major facilities	Leewood facility and Bibblewindi facility

Material harm	Is harm that: • involves actual or potential harm to the health or safety of human beings or to the environment that is not negligible, or • results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment) This definition excludes "harm" that is authorised under either this consent or any other statutory approval'
MEG	Regional NSW – Mining, Exploration and Geoscience
Mine closure	Decommissioning and final rehabilitation of the project area following the cessation of petroleum mining operations
Minimise	Implement all reasonable and feasible mitigation measures to reduce the impacts of the development
Minor	Not very large, important or serious
Mitigation	Activities associated with reducing the impacts of the development
Narrabri Gas Project	The coal seam gas mining development approved under this consent
Negligible	Small and unimportant, such as to be not worth considering
Night	The period from 10 pm to 7 am on Monday to Saturday, and 10 pm to 8 am on Sundays and Public Holidays
Non-compliance	An occurrence, set of circumstances or development that is a breach of this consent
Non-linear infrastructure	Project related infrastructure of a non-linear nature including (but not limited to) pilot wells and production wells, major facilities (including Leewood and Bibblewindi facilities), field compressor stations, dams, ponds and other water storages, telecommunications towers, water tanks/balance tanks, flaring infrastructure, camps, construction/maintenance yards, irrigation areas and associated infrastructure
Non-routine safety flaring	Safety flaring at or near the maximum flow rate at the Leewood facility and Bibblewindi facility during infrequent commissioning, maintenance activities and non-routine situations including emergencies
NP&W Act	*National Parks and Wildlife Act 1974*
NRAR	NSW Natural Resources Access Regulator
NSW	New South Wales
Off-site	Land outside the fenced boundaries of major facilities and well pads
Open Woodland	50% woodland within mixed woodland/pasture areas
PA	Planning agreement within the meaning of the term in section 7.4 of the EP&A Act
Petroleum mining operations	The carrying out of petroleum mining, including the extraction, processing, storage, treatment and transportation of coal seam gas in the project area, and all associated activities in the project area
Phase 1	The phase of the development comprising ongoing exploration and appraisal activities in the project area, including: • seismic surveys; • core and chip holes; • construction and operation of pilot wells (up to 25 wells on up to 25 well pads across the project area); and • pilot well ancillary infrastructure, including access tracks, gas and water gathering lines, water balance tanks, flaring infrastructure, utilities and services, and environmental monitoring equipment including groundwater monitoring bores When/if operations move to a PPL, activities allowed under the beneficial use of gas provisions are no longer permissible

Phase 2	The phase of the development comprising construction of gas production wells and related infrastructure, including construction of: • production wells (up to 850 wells on up to 425 well pads across the project area, including pilot wells developed as part of Phase 1, but excluding any wells developed prior to this consent); • production well ancillary infrastructure, including access tracks, gas and water gathering lines, water balance tanks, flaring infrastructure, utilities and services; • Leewood facility infrastructure; • Bibblewindi facility infrastructure; • Leewood to Bibblewindi infrastructure corridor; • Leewood to Wilga Park Power Station infrastructure corridor; • Westport workers accommodation facility and ancillary infrastructure; • Bohena Creek managed release pipeline and ancillary infrastructure; • irrigation infrastructure and water storages; • telecommunications towers (up to 10 towers of up to 60 metres height, or up to 20 towers of up to 30 metres height, or a combination of these as may be approved in a Field Development Plan); and • other ancillary utilities and services
Phase 3	The phase of the development comprising ongoing operation of gas production wells and related infrastructure
Phase 4	The phase of the development comprising the decommissioning of pilot wells, production wells and other project related infrastructure, and rehabilitation of the project area and mine closure
Pilot well	A well for gas and water extraction, for the purpose of exploration, appraisal and assessment of the gas field potential
Planning Secretary	Planning Secretary under the EP&A Act, or nominee
POEO Act	*Protection of the Environment Operations Act 1997*
PPL	Petroleum Production Lease under the *Petroleum (Onshore) Act 1991*
Privately-owned land	Land that is not owned by a public agency or a mining, petroleum or extractive industry company (or its subsidiary)
Produced water	Any form of groundwater that is actively extracted from a borehole, well or excavation, excluding incidental groundwater mixed with drilling fluids
Production well	A well for gas and water extraction, for the purpose of commercial gas production and/or use
Project area	The area of approximately 95,000 hectares that encompasses the development, as shown in Appendix 2
Project-related infrastructure	All infrastructure and other structures associated with the development. This includes linear infrastructure and non-linear infrastructure, surface infrastructure and sub-surface infrastructure, major facilities, wells and well pads and other gas field infrastructure
Public infrastructure	Linear and related infrastructure that provides services to the general public, such as roads, railways, water supply, drainage, sewerage, gas supply, electricity, telephone, telecommunications, etc.
Reasonable	Means applying judgement in arriving at a decision, considering mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Registered Aboriginal Parties	As described in the *National Parks and Wildlife Regulation 2009*
Rehabilitation	The restoration of land disturbed by the development to ensure it is safe, stable and non-polluting over the short, medium and long term
Residence	Existing or approved dwelling
Resources Regulator	NSW Resources Regulator
RFS	NSW Rural Fire Service
RREO	Resource Recovery Exemption under clauses 91 and 92, and/or Resource Recovery Order under clause 93, of the *Protection of the Environment Operations (Waste) Regulation 2014*

Standard construction hours	7 am to 6 pm Monday to Friday, and 8 am to 1 pm on Saturdays
Strahler stream order	The stream order classification system based on Strahler, A.N. (1952) Dynamic basis of geomorphology. *Geological Society of America Bulletin*, 63, 923-938
Sub-surface infrastructure	Project related infrastructure located below ground level
Surface infrastructure	Project related infrastructure located on or above ground level
TfNSW	Transport for NSW, including the Roads and Maritime Service
Treated water	Produced water that has undergone treatment, as generally described in the EIS, to enable it to be used for beneficial reuse purposes including irrigation, stock watering, drilling, construction and dust suppression, and/or for managed release to Bohena Creek
Watercourse	A river, creek or other stream, including a stream in the form of an anabranch or tributary, in which water flows permanently or intermittently, regardless of the frequency of flow events: In a natural channel, whether artificially modified or not, or in an artificial channel that has changed the course of the stream. It also includes weirs, lakes and dams
Well	Pilot wells and production wells
Well pad	An area of up to 1 hectare in size upon which the gas wells are to be located, with the area decreasing to no more than 0.25 hectares following rehabilitation, or other area as may be approved in a Field Development Plan

SCHEDULE 2

PART A ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

A1. In meeting the conditions of this consent, the Applicant must implement all reasonable and feasible measures to prevent and, if prevention is not reasonable and feasible, minimise any material harm to the environment that may result from the construction, operation or rehabilitation of the development.

TERMS OF CONSENT

A2. The Applicant must carry out the development:

(a) in compliance with the conditions of this consent;

(b) in accordance with all written directions of the Planning Secretary; and

(c) generally, in accordance with the EIS.

Note: The general layout of the development is shown in Appendix 2.

A3. The Applicant must comply with any written directions of the Planning Secretary on:

(a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this consent, including those that are required to be, and have been, approved by the Planning Secretary; and

(b) the implementation of any actions or measures contained in any such document.

A4. The conditions of this consent and directions of the Planning Secretary prevail to the extent of any inconsistency with the documents listed in condition A2(c). In the event of an inconsistency between the document/s listed in condition A2(c), the most recent document prevails.

STAGED DEVELOPMENT

A5. The Applicant may only undertake the development in the following stages:

(a) Phase 1, comprising ongoing exploration and appraisal activities;

(b) Phase 2, comprising construction activities for production wells and related infrastructure;

(c) Phase 3, comprising gas production operations; and

(d) Phase 4, comprising gas well and infrastructure decommissioning, rehabilitation and mine closure.

A6. Condition A5 does not prevent the Applicant from carrying out the development of phases concurrently.

NOTIFICATION OF COMMENCEMENT, COMPLETION OR SUSPENSION OF PHASES

A7. At least two weeks prior to commencement or completion of each Phase of the development, the Applicant must notify the Department of the relevant date via the Major Project Portal.

A8. If petroleum mining operations are suspended during Phase 1 to Phase 3, the Applicant must notify the Department immediately via the Major Projects Portal of the suspension, and then again prior to the recommencement of operations.

DEFERRED COMMENCEMENT

A9. The Applicant shall not commence:

(a) Phase 2 until a planning approval is granted for a transmission pipeline to deliver gas from the development to the domestic gas network; and

(b) Phase 3 until a transmission pipeline to deliver gas from the development to the domestic gas network commissioned,

to the satisfaction of the Planning Secretary.

A10. Condition A9 does not prevent gas from the development being sent to the Wilga Park Power Station or any local industry.

LIMITS OF CONSENT

Petroleum mining operations

A11. Petroleum mining operations may be carried out in the project area until 31 December 2045.

Note: *Under this consent, the Applicant is required to decommission and rehabilitate the project area and carry out other requirements in relation to petroleum mining operations. Consequently, this consent will continue to apply in all respects other than to permit the carrying out of petroleum mining operations until the rehabilitation of the project area and other requirements have been carried out to the required standard.*

Gas Production

A12. During Phase 2, the Applicant may develop a maximum of 850 gas production wells in the project area, on a maximum of 425 well pads, including pilot wells developed as part of Phase 1 (but excluding any wells developed prior to this consent).

A13. The Applicant may produce a maximum of 200 terajoules of gas per day from the development, including any gas produced from wells developed as part of Phase 1.

A14. During Phase 3, the Applicant may extract up to:

(a) 10 megalitres of produced water from the project area per day; and

(b) a cumulative maximum of:

(i) 7.5 gigalitres of produced water from the project area by the end of Year 3;

(ii) 13.5 gigalitres of produced water from the project area by the end of Year 6;

(iii) 19 gigalitres of produced water from the project area by the end of Year 10;

(iv) 26 gigalitres of produced water from the project area by the end of Year 15;

(v) 32 gigalitres of produced water from the project area by the end of Year 20; and

(vi) 37.5 gigalitres of produced water from the project area by the end of Year 25.

Gas Well Integrity

A15. The Applicant must design, construct, operate, maintain and decommission all:

(a) gas wells in accordance with the *Code of Practice for Coal Seam Gas Well Integrity* (2012, as may be updated or amended); and

(b) gas and water gathering lines in accordance with relevant standards including the *Code of Practice for Upstream Polyethylene Gathering Networks – CSG Industry* (2019) and *AS/NZS 4130:2018 Polyethylene (PE) Pipes for Pressure Application*,

unless otherwise agreed for individual gas wells or gathering lines by the Planning Secretary, in consultation with the EPA, Resources Regulator and MEG.

Any application to vary the requirements of the code for individual gas wells or gathering lines must be accompanied by a detailed justification of the proposed variation, demonstrating that the variation to the code would not compromise the Applicant's ability to comply with the conditions of this consent and any relevant EPL or PPL.

***Note**: The Code of Practice for Coal Seam Gas Well Integrity and the Petroleum Onshore Act 1991 provide a number of reporting and notification requirements for gas wells and related petroleum mining operations, including location surveys, annual reporting, operational reporting (for seismic programs, pilot wells and production wells), drilling notifications, well completion reporting, decommissioning (plug and abandonment) reporting, cementing reporting, and incident reporting.*

Hydraulic Fracturing

A16. The Applicant must not undertake any hydraulic fracturing of coal seams in the project area at any time.

Hours of Operation

A17. The Applicant may undertake approved petroleum mining operations 24 hours a day, 7 days a week.

***Note**: Construction and operational activities are limited by the noise criteria in Part B.*

SURRENDER OF EXISTING DEVELOPMENT CONSENTS

A18. Within 6 months of commencement of Phase 1, unless the Planning Secretary agrees otherwise, the Applicant must surrender the development consents for the Bibblewindi Gas Exploration Pilot Expansion (SSD-5934) and Dewhurst Gas Exploration Pilot Expansion (SSD-6038) in accordance with the EP&A Regulation.

***Note:** This requirement does not include the surrender of construction and occupation certificates for existing and proposed building works under the former Part 4A of the EP&A Act or Part 6 of the EP&A Act as applies from 1 September 2018. The surrender should not be understood as implying that works legally constructed under a valid consent or approval can no longer be legally maintained or used.*

A19. Upon the commencement of development under this consent, and before the surrender of the development consents required under condition A18, the conditions of this consent prevail to the extent of any inconsistency with the conditions of those consents.

PLANNING AGREEMENT

A20. Within 6 months of commencement of development under this consent, unless the Planning Secretary agrees otherwise, the Applicant must enter into a PA with the Council in accordance with:

(a) Division 7.1 of Part 7 of the EP&A Act; and

(b) the terms of the offer in Appendix 8.

COMMUNITY CONSULTATIVE COMMITTEE

A21. The Applicant must establish and operate a CCC for the development in accordance with the Department's *Community Consultative Committee Guidelines: State Significant Projects* (2016) or its latest version, and to the satisfaction of the Planning Secretary. The CCC must be operational prior to commencement of Phase 1.

Notes:

- *The CCC is an advisory committee only. The Department, EPA, and other relevant agencies are responsible for ensuring that the Applicant complies with this consent.*
- *In accordance with the Guidelines, the Committee should comprise an independent chair and appropriate representation from the Applicant, Council and the local community.*

STAGING, COMBINING AND UPDATING STRATEGIES, PLANS OR PROGRAMS

A22. With the approval of the Planning Secretary, the Applicant may:

(a) prepare and submit any strategy, plan or program required by this consent on a staged basis (if a clear description is provided as to the specific stage and scope of the development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program);

(b) combine any strategy, plan or program required by this consent (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined);

(c) update any strategy, plan or program required by this consent (to ensure the strategies, plans and programs required under this consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development); and

(d) combine any strategy, plan or program required by this consent with any similar strategy, plan or program required by a consent or approval for an adjoining mine subject to common, shared or related ownership or management.

A23. If the Planning Secretary agrees, a strategy, plan or program may be staged or updated without consultation being undertaken with all parties required to be consulted in the relevant condition in this consent.

PUBLIC INFRASTRUCTURE

Protection of Public Infrastructure

A24. Unless the Applicant and the applicable authority agree otherwise, the Applicant must:

(a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by carrying out the development; and

(b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development,

to the satisfaction of the applicable authority.

Note: *This condition does not apply to any damage to roads caused by the development.*

DEMOLITION

A25. All demolition of applicable structures must be carried out in accordance with *Australian Standard AS 2601-2001 The Demolition of Structures* (Standards Australia, 2001).

STRUCTURAL ADEQUACY

A26. All new buildings and structures, and any alterations or additions to existing buildings and structures, that are part of the development, must be constructed in accordance with the relevant requirements of the BCA.

Notes*:*

- *Under Part 6 of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works.*
- *Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.*

OPERATION OF PLANT AND EQUIPMENT

A27. All plant and equipment used in the project area, or to monitor the performance of the development, must be:

(a) maintained in a proper and efficient condition; and

(b) operated in a proper and efficient manner.

PART B SPECIFIC ENVIRONMENTAL CONDITIONS

GAS FIELD DEVELOPMENT

Locational Criteria

B1. The Applicant must ensure that petroleum mining operations in the project area comply with the locational criteria in Table 1.

Table 1: *Gas field development locational criteria*

Feature	*Locational Criteria*
Sensitive receivers and amenity	• No project related infrastructure within 200 metres of any residence (occupied or otherwise), unless otherwise agreed with the landowner, and a copy of this agreement has been forwarded to the Planning Secretary • No well pads within 100 metres of any privately-owned land or other land not owned by the Applicant, unless otherwise agreed with the landowner, and a copy of this agreement has been forwarded to the Planning Secretary • Production well pads to be spaced at least 750 metres apart • Pilot well pads to be spaced at least 250 metres apart • No telecommunications towers within 500 metres of any residence (occupied or otherwise), unless otherwise agreed with the landowner, and a copy of this agreement has been forwarded to the Planning Secretary
Conservation areas	• No surface infrastructure within 200 metres of Yarrie Lake property boundary • No surface infrastructure within 50 metres of Brigalow State Conservation Area • No sub-surface infrastructure below Brigalow State Conservation Area, from the ground surface to a depth of at least 110 metres • No surface infrastructure within 50 metres of Brigalow Nature Reserve
Water resources	• No non-linear infrastructure within any watercourse or watercourse buffer zone as determined by Strahler stream order (and shown in Appendix 5), including: o 1st order stream – 20 metre corridor plus channel width o 2nd order stream – 40 metre corridor plus channel width o 3rd order stream – 60 metre corridor plus channel width o 4th order and greater stream – 80 metre corridor plus channel width • No large ponds and dams, or any ponds and dams used for storage of produced water or brine, within the 1% AEP flood extent, as identified in Appendix 5 (apart from approved ponds and dams in major facilities constructed above the 1% AEP flood extent)
Biodiversity	• No disturbance of more than 988.8 hectares of native vegetation (including derived native grassland) • No disturbance beyond the limits by vegetation type as identified in Table 7. • No disturbance beyond the limits by threatened flora species type as identified in Table 8 • No disturbance beyond the limits by threatened fauna species type as identified in Table 9

Heritage	• No disturbance of identified Aboriginal cultural heritage items, as identified in Appendix 7 • No disturbance of identified historic heritage items, as identified in Appendix 7 • No disturbance of other Aboriginal cultural heritage items identified during the development, if assessed in a Field Development Plan to be of high significance • No disturbance of other Aboriginal cultural heritage items and historic heritage items identified during the development, unless otherwise approved in a Field Development Plan

Field Development Protocol

B2. Prior to the commencement of Phase 1, the Applicant must prepare a Field Development Protocol for the development to the satisfaction of the Planning Secretary. This plan must:

(a) be prepared by a suitably qualified and experienced person/s;

(b) be prepared in consultation with the EPA, BCD, DPIE Water, Resources Regulator and Council;

(c) provide a framework for siting gas field infrastructure in the project area to ensure:

(i) compliance with the locational criteria in Table 1;

(ii) compliance with the noise and noise quality criteria;

(iii) compliance with applicable legislative requirements;

(iv) consistency with the conditions of this consent, including the plans, strategies and programs; and

(v) reasonable and feasible measures are being employed to avoid, minimise and manage the environmental impacts of the development;

(d) describe the process for siting gas field infrastructure, based on:

(i) detailed constraints and avoidance analysis;

(ii) incremental and cumulative disturbance review;

(iii) in-field micro-siting, including:

- ground-truthing survey against all locational criteria;
- ecological survey, in accordance with the Biodiversity Management Plan;
- cultural heritage survey, in accordance with the Aboriginal Cultural Heritage Management Plan;

(iv) detailed infrastructure design; and

(e) describe the process for implementing the plan, in accordance with the Field Development Plan.

B3. The Applicant must implement the approved Field Development Protocol.

Field Development Plan

B4. Prior to the construction of any gas field infrastructure, the Applicant must prepare a Field Development Plan for the relevant gas field infrastructure to the satisfaction of the Planning Secretary. This plan must:

(a) be prepared by a suitably qualified and experienced person/s;

(b) be prepared in consultation with the:

(i) EPA, DPIE Water, BCD, Resources Regulator and Council;

(ii) owners of land not owned by the Applicant, upon which gas field infrastructure is proposed to be located;

(iii) Community Consultative Committee;

(iv) Water Technical Advisory Group;

(v) Cultural Heritage Advisory Group;

(c) include detailed plans of existing gas field infrastructure in the project area, and proposed gas field infrastructure to be developed under the Field Development Plan;

(d) include incremental and cumulative analysis of compliance with the locational criteria;

(e) provide detailed consideration of the proposed gas field infrastructure against the provisions of the Field Development Protocol;

(f) provide the results of all surveys undertaken as part of in-field micro-siting;

(g) describe the performance criteria to be implemented to ensure compliance with the water performance measures in Table 6, and to meet the rehabilitation objectives in Table 10, including a:

(i) trigger action response plan to identify risks and actions to avoid exceedances of the performance criteria, including tiered triggers to provide for early detection of impacts; and

(ii) contingency plan that expressly provides for adaptive management where monitoring indicates that there has been an exceedance of the performance criteria, or where an exceedance appears likely; and

(h) include a:

(i) Public Safety Management Plan, prepared in consultation with RFS, FCNSW and NSW Health, to ensure public safety and manage access in the project area, including verification of minimum safe separation distances between all potentially hazardous facilities; and

(ii) Property Management Plans, prepared in consultation with landowners upon which gas field infrastructure is proposed to be located, to manage impacts and access arrangements on the properties.

B5. The Applicant must not commence Phase 1 or any subsequent phase of the development until:

(a) a Field Development Plan for the relevant gas field infrastructure; and

(b) any associated management plan, program or strategy updates,

are approved by the Planning Secretary.

Note: *For the avoidance of doubt, no gas field infrastructure may be constructed or operated until the relevant infrastructure has been approved in a Field Development Plan.*

B6. The Applicant must implement the approved Field Development Plan.

NOISE

Noise Criteria – Operational Phase and Construction Phase Outside Standard Hours

B7. The Applicant must ensure that the noise generated by the development – including cumulative noise generated by the Wilga Park Power Station and ancillary activities in the project area, but excluding Phase 1 and 2 construction activities during standard construction hours, and non-routine safety flaring operations – does not exceed the criteria in Table 2.

Table 2: *Operational noise criteria dB(A)*

Noise Assessment Location	***Day***	***Evening***	***Night***	***Night***
	$L_{Aeq\ (15\ min)}$	$L_{Aeq\ (15\ min)}$	$L_{Aeq\ (15\ min)}$	$L_{A1\ (1\ min)}$
All privately owned residences	35	35	35	45
Yarrie Lake, Brigalow State Conservation Area, Brigalow Nature Reserve	50 $L_{Aeq\ (period)}$			-

Notes:

- *Receiver locations are shown on the applicable figure in Appendix 3.*
- *Condition B11 provides exemptions to complying with these criteria.*
- *Noise criteria for Phase 1 and 2 construction activities during standard construction hours are outlined in condition B8. For the avoidance of doubt, the criteria in Table 2 apply to Phase 1 and 2 construction activities outside standard construction hours.*
- *Noise criteria for non-routine safety flaring operations are outlined in condition B9.*

Noise Criteria – Construction Phase During Standard Hours

B8. The Applicant must implement all reasonable and feasible measures to ensure that the noise generated by Phase 1 and 2 construction activities during standard construction hours – including cumulative noise generated by the development and noise from the Wilga Park Power Station and ancillary activities in the project area – does not exceed the criteria in Table 3.

Table 3: *Construction noise criteria dB(A) – standard construction hours*

Noise Assessment Location	***During Standard Construction Hours***
All privately owned residences	40 $L_{Aeq\ (15\ min)}$
Yarrie Lake, Brigalow State Conservation Area, Brigalow Nature Reserve	50 $L_{Aeq\ (period)}$

Notes:

- *Receiver locations are shown on the applicable figure in Appendix 3.*
- *Operational noise criteria, including Phase 1 and 2 activities outside standard construction hours are outlined in condition B7. For the avoidance of doubt, the criteria in Table 3 do not apply to Phase 1 and 2 activities outside standard construction hours.*

Noise Criteria – Non-Routine Safety Flaring Operations

B9. The Applicant must implement all reasonable and feasible measures to ensure that the noise generated by non-routine safety flaring operations – including cumulative noise generated by the development and noise from the Wilga Park Power Station and ancillary activities in the project area – does not exceed the criteria in Table 2 at any residence on privately-owned land.

B10. Noise generated by the development must be measured in accordance with the relevant requirements and exemptions (including certain meteorological conditions) of the *NSW Noise Policy for Industry* (EPA, 2017). Appendix 4 sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

B11. The noise criteria in Tables 2 and 3 do not apply if the Applicant has an agreement with the owner/s of the relevant residence or land to exceed the noise criteria, and the Applicant has advised the Planning Secretary in writing of the terms of this agreement.

Noise Operating Conditions

B12. The Applicant must:

(a) implement all reasonable and feasible measures to:

(i) minimise the construction, operational, low frequency and road noise of the development;

(ii) attenuate all new plant and equipment that will operate in noise sensitive areas;

(iii) schedule non-routine safety flaring and other non-routine maintenance activities at the Leewood facility and Bibblewindi facility that have the potential to exceed the noise criteria in Table 2, during the day period, where practicable;

(iv) monitor and record major equipment noise levels and make this data readily available at the request of the Department or the EPA;

(v) minimise the noise impacts of the development during noise-enhancing meteorological conditions when the noise criteria in this consent do not apply (see Appendix 4);

(b) operate a suitable system to enable the public to get up-to-date information on any construction or non-routine safety flaring operations that have the potential to exceed the noise criteria in this consent; and

(c) regularly assess meteorological and noise monitoring data and modify operations in the project area in response to this data to ensure compliance with the relevant conditions of this consent.

Note: *Noise sensitive areas are areas with the potential to generate increased noise at privately-owned residences, such as areas near the boundary of the major facilities or well pads near residences.*

Noise Management Plan

B13. Prior to the commencement of Phase 2, the Applicant must prepare a Noise Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:

(a) be prepared by a suitably qualified and experienced person/s;

(b) be prepared in consultation with the EPA and the CCC;

(c) describe the measures to be implemented to ensure:

(i) compliance with the noise criteria and operating conditions in this consent;

(ii) reasonable and feasible noise mitigation measures are being employed; and

(iii) noise impacts of the development are minimised during noise-enhancing meteorological conditions under which the noise criteria in this consent do not apply (see Appendix 4);

(d) describe the noise management system in detail; and

(e) include a monitoring program that:

(i) evaluates and reports on:

- the effectiveness of the noise management system;
- compliance against the noise criteria in this consent; and
- compliance against the noise operating conditions;

(ii) includes a program to calibrate and validate the unattended monitoring results with the attended monitoring results over time (so the unattended noise monitoring program can be used as a trigger for further attended monitoring where there is a risk of non-compliance with the noise criteria in this consent); and

(iii) defines what constitutes a noise exceedance, incident or non-compliance, and includes a protocol for identifying and notifying the Department and relevant stakeholders of these events.

B14. The Applicant must implement the approved Noise Management Plan.

BLASTING

Blasting Criteria

B15. The Applicant must ensure that any blasting in the project area does not cause exceedances of the criteria in Table 4. These criteria do not apply apply if the Applicant has an agreement with the owner/s of the relevant residence to exceed the blasting criteria, and the Applicant has advised the Department in writing of the terms of this agreement.

Table 4: *Blasting criteria*

Location	*Airblast overpressure (dB(Lin Peak))*	*Ground vibration (mm/s)*	*Allowable exceedance*
Residence on privately-owned land	120	10	0%
	115	5	5% of the total number of blasts over a calendar year

B16. The Applicant must only carry out blasting in the project area between 9 am and 5 pm (Monday to Saturday inclusive). No blasting is allowed on Sundays, public holidays or any other time without the prior written approval of the Planning Secretary.

Blast Operating Conditions

B17. The Applicant must:

(a) implement all reasonable and feasible measures to:

(i) ensure the safety of people and livestock from blasting impacts of the development;

(ii) protect public and private infrastructure and property in the project area from blasting damage associated with the development;

(iii) ensure that blasting in the project area does not damage heritage items; and

(iv) minimise the dust and fume emissions of any blasting;

(b) minimise any public road closures for blasting, and use all reasonable efforts to avoid road closures during peak traffic periods; and

(c) carry out regular blast monitoring to determine whether the development is complying with the relevant conditions of this consent.

AIR QUALITY AND GREENHOUSE GAS

Odour

B18. The Applicant must ensure that no offensive odours, as defined under the POEO Act, are emitted from the development.

Air Quality Criteria

B19. The Applicant must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that air emissions generated by the development do not cause exceedances of the criteria listed in Table 5 at any residence on privately-owned land.

Table 5: *Air quality criteria*

Pollutant	*Averaging period*	*Criterion*
Particulate matter < 10 µm (PM_{10})	Annual	[a, c] 25 µg/m^3
	24 hour	[b] 50 µg/m^3
Particulate matter < 2.5 µm ($PM_{2.5}$)	Annual	[a, c] 8 µg/m^3
	24 hour	[b] 25 µg/m^3
Total suspended particulate (TSP) matter	Annual	[a, c] 90 µg/m^3
Nitrogen dioxide (NO_2)	1 hour	[a] 246 µg/m^3
	Annual	[a] 62 µg/m^3

Pollutant	*Averaging period*	*Criterion*
Ozone (O_3)	1 hour	[a] 214 µg/m^3
	4 hour	[a] 171 µg/m^3

Notes:

[a] Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources).

[b] Incremental impact (i.e. incremental increase in concentrations due to the development on its own).

[c] Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents or any other activity agreed by the Planning Secretary.

B20. Air emissions generated by the development must be measured in accordance with the relevant requirements and exemptions of the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales* (EPA, 2007).

B21. The air quality criteria in Table 5 do not apply if the Applicant has an agreement with the owner/s of the relevant residence or land to exceed the air quality criteria, and the Applicant has advised the Department in writing of the terms of this agreement.

Air Quality Operating Conditions

B22. The Applicant must:

(a) implement all reasonable and feasible measures to:

(i) minimise odour, fume and particulate matter (including PM_{10} and crustal and combustion $PM_{2.5}$) emissions of the development;

(ii) minimise point source and fugitive emissions of methane, carbon dioxide and other pollutants from all project related infrastructure;

(iii) minimise any visible off-site air pollution generated by the development;

(iv) minimise the extent of potential dust generating surfaces exposed in the project area at any given point in time;

(v) ensure negligible contribution to baseline methane, carbon dioxide and other pollutant levels at any residence or other sensitive receiver location;

(vi) improve energy efficiency and reduce greenhouse gas emissions of the development;

(vii) minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see Note c to Table 5 above);

(b) operate a detailed air quality management system that uses a combination of unattended and attended air quality monitoring to ensure compliance with the relevant conditions of this consent; and

(c) regularly assess meteorological and air quality monitoring data and modify operations in the project area to ensure compliance with the relevant conditions of this consent.

Air Quality and Greenhouse Gas Management Plan

B23. Prior to the commencement of Phase 2, the Applicant must prepare an Air Quality and Greenhouse Gas Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:

(a) be prepared by a suitably qualified and experienced person/s;

(b) be prepared in consultation with the EPA, NSW Health and the CCC;

(c) describe the measures to be implemented to ensure:

(i) compliance with the air quality criteria and operating conditions in this consent;

(ii) reasonable and feasible air quality and greenhouse gas mitigation measures are being employed;

(iii) leaks are promptly detected and repaired; and

(iv) the air quality impacts of the development are minimised during adverse meteorological conditions and extraordinary events; and

(d) describe the air quality management system, and leak detection and repair system, in detail;

(e) detail baseline levels of methane, carbon dioxide and other pollutants in the project area, at representative sensitive receiver locations, and adjacent the Leewood facility;

(f) include predicted air quality concentrations for all potential pollutants at representative sensitive receiver locations, and adjacent the Leewood facility, based on additional air quality assessment and modelling; and

(g) include an air quality monitoring program that:

(i) evaluates and reports on:

- the effectiveness of the air quality management system;
- compliance against the air quality criteria in this consent;

- compliance with air quality impact assessment criteria in the *Approved Methods for Modelling and Assessment of Air Pollutants in New South Wales* (EPA, 2016), for other relevant pollutants (including air toxics);
- composition of the coal seam gas extracted by the development;
- changes to baseline methane, carbon dioxide and other pollutant levels in the project area;
- compliance against the air quality operating conditions;
- leakage and detection from project related infrastructure; and

(ii) defines what constitutes an air quality exceedance, incident or non-compliance, and includes a protocol for identifying and notifying the Department and relevant stakeholders of these events.

B24. The Applicant must implement the approved Air Quality and Greenhouse Gas Management Plan.

METEOROLOGICAL MONITORING

B25. Prior to the commencement of Phase 1 and for the life of the development, the Applicant must ensure that there is a suitable meteorological station operating in the project area that:

(a) complies with the requirements in the *Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales* (DEC, 2007);

(b) is capable of continuous real-time measurement of wind speed, wind direction sigma theta and temperature; and

(c) can measure meteorological conditions in accordance with the *NSW Noise Policy for Industry* (EPA, 2017),

unless a suitable alternative is approved by the Planning Secretary following consultation with the EPA.

WATER

Soil Erosion

B26. The Applicant must install and maintain suitable erosion and sediment control measures in the project area, in accordance with the relevant requirements in the guidance series *Managing Urban Stormwater: Soils and Construction – Volume 1 (Landcom, 2004) and 2E Mines and Quarries (DECC, 2008).*

Water Supply

B27. The Applicant must ensure that it has enough water for all stages of the development, and if necessary, adjust the scale of the development to match its available water supply.

B28. Prior to the commencement of each Phase of the development, the Applicant must demonstrate that it has adequate water licences to account for the maximum predicted water take for the applicable Phase (including both short term and long term direct and indirect water take) to the satisfaction of the Planning Secretary.

Note: *The maximum predicted water take will be based on the most recent update of the ground water model.*

B29. The Applicant must report on water extracted by the development each year (direct and indirect) in the Annual Review, including water taken under each water licence.

Note: *Under the Water Act 1912 and/or the Water Management Act 2000, the Applicant is required to obtain all necessary water licences for the development, including during rehabilitation and post closure.*

Compensatory Water Supply

B30. The Applicant must provide a compensatory water supply to any landowner of privately-owned land whose rightful water supply is adversely and directly impacted (other than an impact that is minor or negligible) as a result of the development, in consultation with DPIE Water, and to the satisfaction of the Planning Secretary.

B31. The compensatory water supply measures must provide an alternative long-term supply of water that is equivalent, in quality and volume, to the loss attributable to the development. Equivalent water supply should be provided (at least on an interim basis) as soon as practicable after the loss is identified, unless otherwise agreed with the landowner.

B32. If the Applicant and the landowner cannot agree on whether the loss of water is to be attributed to the development or the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Planning Secretary for resolution.

B33. If the Applicant is unable to provide an alternative long-term supply of water, then the Applicant must provide compensation, to the satisfaction of the Planning Secretary.

Notes*:*

- *The Water Management Plan is required to include trigger levels for investigating potentially adverse impacts on water supplies.*
- *The burden of proof that any loss of surface water or groundwater access is not due to petroleum mining impacts rests with the Applicant.*

Water Discharges

B34. The Applicant must ensure that all surface discharges from the development comply with:

(a) discharge limits (both volume and quality) set for the development in any EPL or RREO; and

(b) relevant provisions of the POEO Act.

Water Management Performance Measures

B35. The Applicant must ensure that the development complies with the water management performance measures in Table 6.

Table 6: *Water management performance measures*

Feature	***Performance Measure***
Water management – General	• Maximise water recycling, reuse and sharing opportunities • Maximise beneficial re-use of treated water • Minimise the need for discharge of treated water to Bohena Creek • Design, install, operate and maintain water management infrastructure in a proper and efficient manner
Namoi alluvial aquifers and Great Artesian Basin aquifers	• Negligible environmental consequences to the aquifers beyond those predicted in the EIS, including: o negligible change in groundwater levels; o negligible change in groundwater quality; and o negligible impact to other groundwater users • No exceedance of the minimal harm considerations in the *Aquifer Interference Policy* (DPI, 2012) • Negligible change to baseline methane levels in groundwater user bores
Gunnedah Oxley Basin aquifers	• Drawdown and water take to be generally consistent with the 'base case' predictions and produced water profile in the EIS • Negligible change in groundwater quality
Riparian and aquatic ecosystems	• Maintain or improve baseline channel stability in affected watercourses • Negligible change to surface water quality in any watercourse • Negligible impact on groundwater dependent ecosystems • Design, install and maintain erosion and sediment controls in accordance with the guidance series *Managing Urban Stormwater: Soils and Construction – Volume 1 (Landcom, 2004) and 2E Mines and Quarries (DECC, 2008)* • Design, install and maintain any infrastructure within 40 metres of watercourses in accordance with the guidance series for *Controlled Activities on Waterfront Land* (DPI Water, 2012) • Design, install and maintain any creek crossings generally in accordance with the *Fisheries NSW Policy and Guidelines for Fish Habitat Conservation and Management* (DPI, 2013) and *Why Do Fish Need To Cross The Road*? *Fish Passage Requirements for Waterway Crossings* (NSW Fisheries, 2003) • Develop site-specific in-stream water quality objectives in Bohena Creek in accordance with the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC & ARMCANZ, 2000) and *Using the ANZECC Guidelines and Water Quality Objectives in NSW* (DEC, 2006)

Feature	*Performance Measure*
Well integrity	• Design, construct, maintain and decommission gas wells in accordance with the *Code of Practice for Coal Seam Gas Well Integrity* (2012, as may be updated or amended), unless approval is granted to vary this standard by the Planning Secretary • Minimise leakage of methane, carbon dioxide, drill fluids, saline groundwater and other potential contaminants to the environment • No oil based or synthetic based drill fluids to be used in well production
Produced water management	• Implement all reasonable and feasible measures to minimise risk of leaks and spills • Design, install and maintain leak detection systems and fail-safe measures on the produced water management system • Design, install and maintain all produced water storage ponds to provide enough freeboard to accommodate a 72 hour 1 in 100 year ARI flood event • All produced water to be treated to meet the treated water quality criteria in Appendix 6, unless otherwise authorised in an EPL • Design, install and maintain produced water infrastructure in accordance with the *Exploration Code of Practice: Produced Water Management, Storage and Transfer* (DPE, 2017)
Irrigation and beneficial reuse management	• Negligible change to soil quality and groundwater quality and levels in irrigation areas and other areas subject to treated water application • Only amended treated water to be used for reuse activities (except for firefighting), unless other use of treated water has been approved as part of the Water Management Plan • No irrigation in forested area, apart from dust suppression and construction activities on operational areas and access roads
Bohena Creek water discharge	• No discharge of treated water to Bohena Creek when the creek is flowing less than 100 ML/day (at the gauging station identified in the Water Management Plan) • Maximum discharge of 10ML/day of treated water to Bohena Creek, unless otherwise authorised by an EPL
Salt management	• Maximise beneficial reuse of produced salt, as far as reasonable and feasible • Classify produced salt in accordance with the EPA's Waste Classification Guidelines • Store produced salt on-site within weather-proof structure, prior to off-site transport for reuse or disposal • Dispose salt waste not able to be beneficially reused to appropriately licenced waste facility
Chemical and hydrocarbon storage	• Chemical and hydrocarbon products to be stored in bunded areas in accordance with the relevant Australian Standard

Water Technical Advisory Group

B36. The Applicant must establish and operate a Water Technical Advisory Group for the development to the satisfaction of the Planning Secretary. The group must:

(a) be established in consultation with DPIE Water and EPA, and comprise a range of water experts whose appointments have been approved by the Planning Secretary, including representatives from:

(i) government including DPIE Water and EPA (if available);

(ii) independent experts from the scientific community (at least 2 representatives); and

(iii) local groundwater users organisations and/or landowners (at least 2 representatives);

(b) be established prior to the commencement of Phase 1;

(c) meet at least twice a year; and

(d) provide advice on project-related water management issues, including preparation and implementation of the:

(i) Groundwater model;

(ii) Water Management Plan; and

(iii) Field Development Plan.

***Note**: The Water Technical Advisory Group is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this approval.*

Groundwater Model

B37. The Applicant must periodically update the groundwater model for the development, to the satisfaction of the Planning Secretary. The model update must:

(a) be prepared and peer reviewed by suitably qualified and experienced persons;

(b) be undertaken in consultation with DPIE Water, EPA and the Water Technical Advisory Group;

(c) be undertaken prior to the commencement of Phase 2, and every 3 years thereafter (unless the Planning Secretary agrees or directs otherwise);

(d) be undertaken in accordance with the *Australian Groundwater Modelling Guidelines* (2012, or as updated) and other relevant guidelines including the IESC's *Information Guidelines Explanatory Note – Uncertainty analysis – Guidance for groundwater modelling within a risk management framework* (2018);

(e) include all reasonable and feasible measures to improve the model to meet the requirements of a Class 2 and Class 3 confidence level model (as per the *Australian Groundwater Modelling Guidelines*) as soon as is reasonable and feasible; and

(f) include:

(i) transient groundwater flow modelling;

(ii) updated geological modelling based on all available drill data and analysis, including:

- detailed structure assessment at best practice resolution;
- consideration of neotectonics and the stress field in the project area and surrounds;
- consideration of faulting, and exclusion of faulting;

(iii) updated hydrogeological modelling based on all well data, drilling data, hydrogeological analysis and water monitoring data for all aquifers and aquitards, including:

- consideration of impacts from the GABSI;
- consideration of leakage from the GAB to the Lower Namoi Groundwater Source using the heads predicted by the EIS model;

(iv) updated predictions of groundwater drawdown and water take from all applicable groundwater sources as a result of the development; and

(v) consideration of the predicted impacts against the:

- previous model predictions and monitoring results;
- water management performance measures in Table 6;
- minimal harm considerations in the NSW Aquifer Interference Policy; and
- groundwater management response triggers in the Water Management Plan.

Water Management Plan

B38. Prior to the commencement of Phase 1, the Applicant must prepare a Water Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:

(a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;

(b) be prepared in consultation with DPIE Water, EPA and the Water Technical Advisory Group;

(c) describe the measures to be implemented to ensure that the Applicant complies with the water management performance measures (see Table 6);

(d) include a:

(i) **Erosion and Sediment Control Plan** that:

- is consistent with the requirements of *Managing Urban Stormwater: Soils and Construction - Volume 1: Blue Book* (Landcom, 2004) and *Volume 2E: Mines and Quarries* (DECC, 2008);
- identifies all activities that could cause soil erosion, generate sediment or affect flooding;
- describes measures to minimise soil erosion and the potential for the transport of sediment to downstream waters, and manage flood risk;
- describes the location, function, and capacity of erosion and sediment control structures and flood management structures; and
- describes what measures would be implemented to maintain (and if necessary, decommission) the structures over time;

(ii) **Site Water Balance** that includes details of:

- predicted annual inflows and outflows in the project area;
- sources and security of water supply for the life of the development (including authorised entitlements and licences);
- water storage and treatment capacity;
- water use and management in the project area, including any water transfers or sharing with neighbouring water users;
- licensed discharge points and limits; and
- reporting procedures, including the annual preparation of an updated site water balance;

(iii) **Surface Water Management Plan** that includes:

- detailed baseline data on surface water flows and quality of watercourses and/or water bodies potentially impacted by the development (based on at least 3 years of monitoring data where available), including:
  - stream and riparian vegetation health;
  - channel stability (geomorphology);
  - water supply and quality for other surface water users; and
  - natural methane leaks and accumulations;
- a detailed description of the surface water management system;
- detailed plans, design objectives and performance criteria for water infrastructure, including:
  - any creek restoration works associated with the development;
  - water run-off diversions and catch drains;
  - water storages and sediment dams;
  - water discharge pipelines and infrastructure; and
  - reinstated drainage networks on rehabilitated areas of the project area;
- detailed performance criteria, including trigger levels for identifying and investigating any potentially adverse impacts associated with the development, for:
  - downstream surface water flows and quality;
  - channel stability;
  - downstream flooding impacts;
  - stream and riparian vegetation health;
  - water supply for other water users; and
  - post-mining water pollution from rehabilitated areas of the project area;
- a program to monitor and evaluate:
  - compliance with the relevant performance measures listed in Table 6 and the performance criteria established above;
  - controlled and uncontrolled discharges, including upstream and downstream monitoring at discharge sites;
  - seepage and leachate from ponds and dams containing produced water and/or brine;
  - surface water inflows, outflows and storage volumes to inform the Site Water Balance; and
  - the effectiveness of the surface water management systems and the measures within the Erosion and Sediment Control Plan;

- reporting procedures for the results of the monitoring program; and
- a plan to respond to any exceedances of the performance measures or performance criteria, and repair, mitigate and/or offset any adverse surface water impacts of the development;

(iv) **Groundwater Management Plan**, that includes:

- detailed baseline data of hydrogeology and groundwater levels, formation parameters (such as hydraulic conductivity, storage and yield) and quality for groundwater resources potentially impacted by the development (based on at least 3 years of monitoring data), including:
  - aquifer and aquitard health;
  - subsidence and seismicity, including a topographic baseline survey using interferometric synthetic aperture radar (or similar method as agreed by the Planning Secretary);
  - groundwater supply and quality for other water users;
  - natural methane leaks and accumulations, including in privately-owned bores and monitoring bores; and
  - groundwater dependent ecosystems;
- a detailed description of the groundwater management and monitoring system, including a monitoring network that is capable of:
  - characterising temporal and spatial variations of all potentially affected water sources;
  - verifying actual direct and indirect water take;
  - providing an early warning of any impacts to potentially affected water sources, at varying depths in the geological profile;
  - providing data to improve the confidence level class of the groundwater model as soon as reasonable and feasible; and
  - integrating with any government monitoring networks in the area;
- detailed performance criteria, including trigger levels for identifying and investigating any potentially adverse impacts associated with the development, on:
  - regional and local aquifers and aquitards (alluvial and hardrock);
  - ground subsidence and seismicity;
  - groundwater supply and quality for other water users, including all potentially affected privately-owned licensed groundwater bores;
  - groundwater dependent ecosystems; and
  - aquatic habitat and stygofauna;
- a program for baseline data acquisition (works and timing) for the required groundwater model updates;
- a program to monitor and evaluate:
  - compliance with the relevant performance measures listed in Table 6, and the performance criteria established above;
  - groundwater flows, quality and yield in regional and local aquifers and aquitards (alluvial and hardrock),
  - ground subsidence and seismicity;
  - geological fracturing and heterogeneity;
  - water loss/seepage/leakage from water storages and project related infrastructure into the groundwater system;
  - potential cross-contamination of aquifers, including migration from lower aquifers to the GAB;
  - sub-surface leakage of methane, drilling fluids and saline groundwater;
  - groundwater inflows, outflows and storage volumes to inform the Site Water Balance;
  - the effectiveness of the groundwater management systems;
- reporting procedures for the results of the monitoring program; and
- a plan to respond to any exceedances of the groundwater performance criteria, and repair, mitigate and/or offset any adverse groundwater impacts of the development;

(v) **Produced Water Management Plan**, that includes:

- detailed baseline data on produced water yield and quality;
- a detailed description of the produced water management system, including details of:
  - produced water collection, transfer, storage, treatment, beneficial usage and/or disposal infrastructure;
  - fail-safe, redundancy and contingency measures;

- capacity of water storages, large ponds and dams, including during plant outages and extreme weather events;
- provision for continuous logging of produced water and treated water volumes;
- leak detection and spill response;
- preferential beneficial water use options;

- detailed performance criteria, including trigger levels for identifying and investigating any potentially adverse impacts associated with:
  - produced water yield and quality;
  - treated water yield and quality;
  - leaks and spills;
  - treated water irrigation and other beneficial reuse application;
  - discharge of excess treated water to Bohena Creek;
  - salt yield and quality;
- a program to monitor, evaluate and report on:
  - compliance with the relevant performance measures listed in Table 6, and the performance criteria established above;
  - produced water yield and quality, including chemicals of potential concern;
  - treated water yield and quality, including chemicals of potential concern;
  - leaks and spills;
  - soil, surface water and groundwater quality in irrigation and other beneficial reuse application areas;
  - Bohena Creek discharges, flows and water quality;
  - salt and other waste products yield and quality; and
  - the effectiveness of the produced water management system;

(vi) **Irrigation Management Plan** for managing beneficial reuse of treated water for crop irrigation and stock watering, that includes details of:

- site selection and assessment in accordance with applicable guidelines including the *Environmental Guidelines: Use of Effluent by Irrigation* (DEC 2004);
- irrigation areas and off-site storage capacity, including provisions for ensuring sustainable irrigation before, during and after peak water production;
- agreements with third parties receiving treated water (excluding any commercial in confidence material);
- baseline soil and groundwater conditions and quality, based on additional assessment by a suitably qualified agricultural expert/s;
- a protocol for operation of the irrigation management system, including any irrigation subject to a RREO;
- measures to:
  - maintain soil structure, stability and agricultural productive capacity;
  - minimise erosion and sedimentation, ponding and waterlogging;
  - ensure effective surface water and stormwater runoff controls;
  - maintain groundwater quality and minimise changes to groundwater levels;
  - coordinate optimal cropping regimes to maintain water balance throughout the year; and
  - provide contingency measures for irrigation and storage;

(vii) **Dust Suppression Protocol** for managing beneficial reuse of treated water for dust suppression and construction activities (including rehabilitation and drilling), that includes details of:

- site selection and assessment;
- baseline soil and groundwater conditions and quality;
- a protocol for operation of the dust suppression system;
- measures to:
  - maintain soil structure, stability and productive capacity;
  - minimise erosion and sedimentation, ponding and waterlogging;
  - ensure effective surface water and stormwater runoff controls; and
  - maintain groundwater quality and minimise changes to groundwater levels;

(viii) **Managed Release Protocol** for managing disposal of treated water to Bohena Creek, that includes:

- details of baseline creek water flows, quality and stream health;
- details of predicted plume dispersal for all potential pollutants, based on updated mixing zone assessment and modelling;
- a protocol and detailed procedures for managed release, in accordance with the water management performance measures in Table 6;
- measures to:
  - upgrade and maintain applicable infrastructure, including a stream flow gauging and monitoring station/s;
  - maintain water quality and stream and riparian health;
  - minimise erosion and sedimentation, or changes to channel stability; and
  - minimise downstream flooding;

(ix) **Salt Management Plan**, that includes details of:

- salt and other waste volumes and composition generated by the produced water management system, including chemicals of potential concern;
- a program for investigating and implementing beneficial reuse options for the salt product, in accordance with the Produced Salt Beneficial Reuse and Disposal Study;
- a protocol and procedures for collection, storage, waste classification, transport and disposal of salt and other waste products;
- measures to:
  - ensure all salt and other waste product is stored within a weather-proof structure while on site; and
  - ensure all salt and other waste product is disposed to an appropriately licenced off-site waste facility, if not able to be beneficially reused, in accordance with the Produced Salt Beneficial Reuse and Disposal Study; and

(x) **Pollution Incident Response Management Plan**, that has been prepared in accordance with Part 3A of the *Protection of the Environment Operations (General) Regulation 2009*, and includes:

- detailed procedures for responding to incidents, spills and leaks associated with the produced water management system; and
- a Dam Safety Emergency Plan for managing potential incidents and emergencies associated with produced water storages; and

(xi) a protocol to report on the measures, monitoring results and performance criteria identified above, in the Annual Review.

B39. The Applicant must implement the approved Water Management Plan.

BIODIVERSITY

Biodiversity Credits Required

B40. The Applicant must retire the biodiversity credits specified in Tables 7, 8 and 9 below, subject to the staged retirement conditions below, to offset the biodiversity impacts of the development. The retirement of credits must be carried out in consultation with BCD and, apart from the retirement of credits through ecological rehabilitation, in accordance with the Biodiversity Offsets Scheme of the BC Act and to the satisfaction of the BCT.

Table 7: *Biodiversity credit requirements – Ecosystem Credits*

Plant Community Type (PCT) and PCT Code	***Phase 2 Credits***		***Residual Credits***		***Maximum Area directly impacted (ha)***
	Area (ha)	***Credits Required***	***Area (ha)***	***Credits Required***	
Weeping Myall open woodland of the Darling Riverine Plains and Brigalow Belt South Bioregions – Woodland (BCA and EPBC listed EEC) (PCT 27)	0.1	5	N/A	N/A	0.1
Weeping Myall open woodland of the Darling Riverine Plains Bioregion and Brigalow Belt South Bioregion – DNG (PCT 27)	0.5	20	N/A	N/A	0.5

Plant Community Type (PCT) and PCT Code	Phase 2 Credits		Residual Credits		Maximum Area directly impacted (ha)
	Area (ha)	Credits Required	Area (ha)	Credits Required	
Brigalow - Belah open forest / woodland on alluvial often gilgaied clay from Pilliga Scrub to Goondiwindi, Brigalow Belt South Bioregion – Woodland (BCA and EPBC listed EEC) (PCT 35)	19.3	1,305.5	N/A	N/A	19.3
Brigalow - Belah open forest / woodland on alluvial often gilgaied clay from Pilliga Scrub to Goondiwindi, Brigalow Belt South Bioregion – DNG (PCT 35)	26.0	910.7	11.2	390.3	37.2
Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions – Woodland (PCT 55)	2.7	153.8	1.2	65.91	3.9
Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions – DNG (PCT 55)	1.2	45.5	0.5	19.5	1.7
Pilliga Box - White Cypress Pine - Buloke shrubby woodland in the Brigalow Belt South Bioregion – Woodland (PCT 88)	28.6	1,991.9	12.2	853.7	40.8
Pilliga Box - White Cypress Pine - Buloke shrubby woodland in the Brigalow Belt South Bioregion – DNG (PCT 88)	6.2	198.1	2.6	84.9	8.8
Broombush - wattle very tall shrubland of the Pilliga to Goonoo regions, Brigalow Belt South Bioregion (PCT 141)	13.65	538.3	5.85	223.23	19.5
Fuzzy Box on loams in the Nandewar Bioregion and northern Brigalow Belt South Bioregion (BCA EEC) (PCT 202)	4.1	502.5	1.77	145.0	5.9
Green Mallee tall mallee woodland rises in the Pilliga – Goonoo regions, southern BBS Bioregion (PCT 256)	0.2	10.8	0.1	4.62	0.3
Inland Scribbly Gum - White Bloodwood - Red Stringybark – Black Cypress Pine shrubby sandstone woodland mainly of the Warrumbungle NP - Pilliga region in the BBS Bioregion – Woodland (PCT 379)	1.89	145.3	0.8	62.4	2.7
Poplar Box - White Cypress Pine shrub grass tall woodland of the Pilliga - Warialda region, BBS Bioregion – Woodland (PCT 397)	0.7	44.5	0.3	19.1	1

Plant Community Type (PCT) and PCT Code	Phase 2 Credits		Residual Credits		Maximum Area directly impacted (ha)
	Area (ha)	Credits Required	Area (ha)	Credits Required	
Poplar Box - White Cypress Pine shrub grass tall woodland of the Pilliga - Warialda *region, BBS Bioregion – DNG* (PCT 397)	0.9	23.1	0.4	9.9	1.3
Narrow-leaved Ironbark - White Cypress Pine - Buloke tall open forest on lower slopes and flats in the Pilliga Scrub and surrounding forests in the central north BBS Bioregion – Woodland (PCT 398)	226.4	17,576	97.0	6,075.3	323.4
Narrow-leaved Ironbark - White Cypress Pine - Buloke tall open forest on lower slopes and flats in the Pilliga Scrub and surrounding forests in the central north BBS Bioregion – DNG (PCT 398)	2.7	128.8	1.2	55.2	3.9
Red gum - Rough-barked Apple +/- tea tree sandy creek woodland (wetland) in the Pilliga - Goonoo sandstone forests, BBS Bioregion – Woodland (PCT 399)	2.4	155.8	1.0	64.4	3.4
Red gum - Rough-barked Apple +/- tea tree sandy creek woodland (wetland) in the Pilliga - Goonoo sandstone forests, BBS Bioregion – DNG (PCT 399)	0.14	0	0.06	0	0.2
Rough-barked Apple - red gum - cypress pine woodland on sandy flats, mainly in the Pilliga Scrub region – Woodland (PCT 401)	32.5	2,604.1	13.9	1,045.2	46.4
Rough-barked Apple - red gum - cypress pine woodland on sandy flats, mainly in the Pilliga Scrub region – DNG (PCT 401)	12.7	452.2	5.43	193.8	18.1
Mugga Ironbark - White Cypress Pine - gum tall woodland on flats in the Pilliga forests and surrounding regions, BBS Bioregion – Woodland (PCT 402)	1.1	65.1	0.5	27.9	1.6
Mugga Ironbark - White Cypress Pine - gum tall woodland on flats in the Pilliga forests and surrounding regions, BBS Bioregion – DNG (PCT 402)	1.1	0	0.5	0	1.6
Red Ironbark - White Bloodwood - /+ Burrows Wattle heathy woodland on sandy soil in the Pilliga forests – Woodland (PCT 404)	60.6	4,407.1	26.0	1,888.7	86.6

Plant Community Type (PCT) and PCT Code	Phase 2 Credits		Residual Credits		Maximum Area directly impacted (ha)
	Area (ha)	Credits Required	Area (ha)	Credits Required	
White Bloodwood - Red Ironbark - cypress pine shrubby sandstone woodland of the Pilliga Scrub and surrounding regions – Woodland (PCT 405)	173.0	12,003.9	74.1	4,795.3	247.1
White Bloodwood - Red Ironbark - cypress pine shrubby sandstone woodland of the Pilliga Scrub and surrounding regions – DNG (PCT 405)	1.3	50.4	0.6	21.6	1.9
White Bloodwood - Motherumbah - Red Ironbark shrubby sandstone hill woodland/ open forest mainly in east Pilliga forests – Woodland (PCT 406)	48.3	2,970.4	20.7	1,273.1	69
Dirty Gum (Baradine Gum) - Black Cypress Pine - White Bloodwood shrubby woodland of the Pilliga forests and surrounding region – Woodland (PCT 408)	23.3	1,750.5	10.0	660	33.3
Dirty Gum (Baradine Gum) - Black Cypress Pine - White Bloodwood shrubby woodland of the Pilliga forests and surrounding region – DNG (PCT 408)	0.3	7	0.1	3	0.4
White Cypress Pine - Silver-leaved Ironbark - Wilga shrub grass woodland of the Narrabri-Yetman region, BBS Bioregion – Woodland (PCT 418)	0.14	10.4	0.06	4.5	0.2
White Cypress Pine - Silver-leaved Ironbark - Wilga shrub grass woodland of the Narrabri-Yetman region, BBS Bioregion – DNG (PCT 418)	0.2	5.6	0.1	2.4	0.3
Spur-wing Wattle heath on sandstone substrates in the Goonoo - Pilliga forests, Brigalow Belt South Bioregion (PCT 425)	5.9	396.3	2.5	166.4	8.4
Total	**692.2**	**48,078.3**	**296.6**	**18,554.8**	**988.8**

Table 8: *Biodiversity credit requirements – Flora Species Credits*

Flora Species	***Phase 2 Credits***		***Residual Credits***		***Maximum number individuals directly impacted***	***Ecological Rehabilitat-ion Credits allowed***
	Individuals	***Credits Required***	***Individuals***	***Credits Required***		
Bertya opponens	7,216	101,028	3,093	43,298	10,309	Yes
Diuris tricolor	36	473	16	203	52	No
Lepidium aschersonii	54,384	761,372	23,307	326,302	77,691	Potential
Lepidium monoplocoides	781	11,718	335	5,022	1,116	Potential
Polygala linariifolia	176	2,646	76	1,134	252	Potential
Pomaderris queenslandica	327	4,577	140	1,961	467	Yes
Pterostylis cobarensis	4,661	69,766	1,997	25,966	6,658	No
Commersonia procumbens	2,601	39,018	1,115	16,722	3,716	Yes
Tylophora linearis	359	5,721	154	2,001	513	No

Table 9: *Biodiversity credit requirements – Fauna Species Credits*

Fauna species	***Phase 2* Credits**		***Residual Credits***		***Maximum Area of habitat directly impacted (ha)***	***Ecological Rehabilitat-ion Credits allowed***
	Area (ha)	***Credits Required***	***Area (ha)***	***Credits Required***		
Black-striped Wallaby *(Macropus dorsalis)*	692	22,006	297	8,450	989	Potential
Eastern Pygmy-possum *(Cercartetus nanus)*	542	13,026	232	4,924	775	No
Pale-headed Snake *(Hoplocephalus bitorquatus)*	620	24,457	266	9,283	885	No
Squirrel Glider *(Petaurus norfolcensis)*	603	15,927	259	6,026	862	No
Regent Honeyeater *(Anthochaera phrygia)*	34	3,035	14	1,220	48	No
Koala (*Phascolarctos cinereus)*	692	22,005	297	8,449	989	No

Notes*:*

- *The credits in Table 7, 8 and 9 were calculated in accordance with Framework for Biodiversity Assessment of the NSW Biodiversity Offset Policy for Major Projects (OEH, 2014) and will need to be converted to reasonably equivalent 'biodiversity credits', within the meaning of the BC Act, if the credits are to be retired in accordance with the Biodiversity Offsets Scheme of the BC Act.*
- *Apart from Commonwealth EECs listed under the EPBC Act, the Phase 2 Credits in Tables 7, 8 and 9 include 70% of the total direct and indirect credits and all cumulative impacts calculated for the development, as documented in the Response to Submissions Report for the development*
- *The Residual Credits in Tables 7, 8 and 9 include the remaining 30% of total direct and indirect credits calculated for the development.*

Staged Retirement

B41. Prior to the commencement of Phase 1, the Applicant must retire any ecosystem and species credit liabilities generated by the works proposed in the applicable Field Development Plan to the satisfaction of the BCT.

B42. Prior to the commencement of Phase 2, the Applicant must retire the ecosystem and species credits liability identified as Phase 2 Credits in Tables 7, 8 and 9 to the satisfaction of the BCT. Any credits retired during Phase 1 may be deducted from the Phase 2 credit liability.

B43. Prior to exceeding the Phase 2 area or individuals limits in Tables 7, 8 and 9, the Applicant must retire the relevant ecosystem and species credit liabilities to enable any exceedances of the limits to the satisfaction of the BCT and/or by providing ecological rehabilitation credit offsets for the exceedances.

B44. The calculation of credits must be based on the *Framework for Biodiversity Assessment of the NSW Biodiversity Offset Policy for Major Projects* (OEH, 2014) and consistent with the calculation of credits applied during the preparation of the EIS.

B45. With the agreement of the Planning Secretary, the Applicant may adjust the staging of credit retirements. Any adjustments must be agreed, and the relevant credits must be retired, prior to the commencement of the associated impact on that ecosystem or species.

Ecological Rehabilitation Credit Offsets

B46. If the Applicant meets the ecological rehabilitation completion criteria in the Rehabilitation Management Plan to the satisfaction of BCD, then the Applicant may use the rehabilitated land to offset the relevant ecosystem and/or species credit liability for the 'Residual Credits' in Tables 7, 8 and 9. Ecological rehabilitation credits may be offset at a rate of:

(a) 12 credits per hectare for plant community types in Table 7;

(b) 7.1 credits per individual for relevant flora species in Table 8; and

(c) 7.1 credits per hectare of suitable habitat for relevant fauna species in Table 9.

Ecological rehabilitation credit offsets may only be sought for:

- plant community types in Table 7;
- flora and fauna species identified as 'Yes' to ecological rehabilitation in Tables 8 and 9; and
- flora and fauna species identified as 'Potential' to ecological rehabilitation in Tables 8 and 9, subject to the Applicant demonstrating that the relevant species is suitable for ecological rehabilitation, to the satisfaction of the BCD.

Biodiversity Management Plan

B47. Prior to the commencement of Phase 1, the Applicant must prepare a Biodiversity Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:

(a) be prepared by a suitably qualified and experienced person/s approved by the Planning Secretary;

(b) be prepared in consultation with BCD, DAWE, FCNSW and Council;

(c) describe the short, medium, and long-term measures to be undertaken to manage vegetation and fauna habitat in the project area including measures to avoid and/ or minimise impacts on threatened ecological communities;

(d) describe how biodiversity management would be integrated with similar measures in the Water Management Plan and Rehabilitation Management Plan;

(e) describe the measures to be implemented for undertaking micro-siting investigations for the Field Development Plan, including procedures for:

(i) desk top review and ground surveys for all proposed gas field infrastructure; and

(ii) managing any threatened species or ecological communities identified during the investigations, including measures to avoid disturbance of threatened species or ecological communities where reasonable and feasible;

(f) include a Biodiversity Offset Strategy that:

(i) is prepared in consultation with MEG (in addition to the agencies referred to in (b) above), in relation to the potential for resource sterilisation;

(ii) is prepared consistent with the NSW Biodiversity Offsets Policy for Major Projects;

(iii) describes how the biodiversity credits in Tables 7, 8 and 9 will be identified, secured and retired;

(iv) prioritises land-based offsets for retiring 'Phase 2 Credits' identified in Tables 7, 8 and 9;

(v) describes the staging of credit retirements and associated surface disturbance areas; and

(vi) describes how threatened species and communities listed under the EPBC Act would be suitably offset;

(g) include a Koala Research Program that:

(i) is designed to determine the location and size of remnant Koala populations in the Pilliga Forest;

(ii) investigates why suitable areas of habitat may not be occupied by Koalas; and

(iii) guides adaptive management of the Koala population in the project area and any land-based offset areas used to retire species credits for the Koala;

(h) describe the measures to be implemented within approved disturbance areas in the project area to:

(i) minimise the amount of clearing and employ temporary vegetation strategies;

(ii) minimise impacts on fauna, including undertaking pre-clearance surveys and targeted clearing windows and protocols to minimise impacts during key breeding seasons for threatened bats and birds;

(iii) maximise the salvage, transplanting and/or propagation of any threatened flora found during pre-clearance surveys, in accordance with the *Guidelines for the Translocation of Threatened Plants in Australia* (Vallee et al., 2004), where reasonable and feasible; and

(iv) maximise the salvage of resources, including tree hollows, vegetation and soil resources, for beneficial reuse, including fauna habitat enhancement;

(i) describe the measures to be implemented in the project area to:

(i) minimise impacts on fauna habitat resources such as hunting and foraging areas, habitat trees, fallen timber and hollow-bearing trees;

(ii) enhance the quality of vegetation, vegetation connectivity and wildlife corridors including through the assisted regeneration and/or targeted revegetation of appropriate canopy, sub-canopy, understorey and ground strata;

(iii) introduce naturally scarce fauna habitat features such as nest boxes and salvaged tree hollows and promote the use of these introduced habitat features by threatened fauna species;

(iv) manage any potential conflicts with Aboriginal heritage values;

(v) protect vegetation and fauna habitat outside of the approved disturbance areas;

(vi) manage potential indirect impacts on threatened flora and fauna species;

(vii) manage the collection and propagation of seed from the local area;

(viii) control weeds, including measures to avoid and mitigate the spread of noxious weeds;

(ix) control feral pests with consideration of actions identified in relevant threat abatement plans;

(x) control erosion;

(xi) manage any grazing and agriculture;

(xii) control access to vegetated or revegetated areas; and

(xiii) manage bushfire hazards;

(j) include a seasonally-based program to monitor and report on the effectiveness of the above measures, progress against the detailed performance and completion criteria in the Rehabilitation Management Plan, and improvements that could be implemented to improve biodiversity outcomes;

(k) identify the potential risks to the successful implementation of the Biodiversity Offset Strategy, and include a description of the contingency measures to be implemented to mitigate against these risks; and

(l) include details of who would be responsible for monitoring, reviewing, and implementing the plan.

B48. The Applicant must implement the approved Biodiversity Management Plan.

HERITAGE

Heritage Operating Conditions

B49. The Applicant must ensure that the development does not cause any direct or indirect impact on the heritage items identified in Appendix 7.

B50. If suspected human remains are discovered in the project area, then all work surrounding the area must cease, and the area must be secured. The Applicant must immediately notify NSW Police Force and BCD, and work must not recommence in the area until authorised by NSW Police Force and BCD.

B51. If any previously unknown Aboriginal or non-Aboriginal heritage item is identified during micro-siting investigations for a Field Development Plan, then the Applicant must:

(a) avoid all direct and indirect impacts on Aboriginal heritage items assessed as:

(i) having high significance (using the procedures established in the Aboriginal Cultural Heritage Management Plan); or

(ii) being of the following site types:

- burials;
- stone arrangements and earthen circles;
- carved trees;
- rock shelters;
- grinding grooves; and
- quarries;

(b) for other heritage items not identified as having high significance:

(i) ensure that the final design of the applicable gas field infrastructure considers all reasonable and feasible measures to avoid direct or indirect impacts on other identified heritage items; and

(ii) if avoidance of the heritage item is not reasonable or feasible, include detailed measures for minimising and/or managing the heritage item in the Field Development Plan.

B52. If any previously unknown Aboriginal object or Aboriginal place is discovered or suspected in the project area during operational or construction activities:

(a) all work in the immediate vicinity of the object or place must cease immediately;

(b) a 10 metre buffer area around the object or place must be cordoned off; and

(c) BCD and the Aboriginal Cultural Heritage Advisory Group must be contacted immediately.

Work in the immediate vicinity may only recommence if:

(i) the potential Aboriginal object or Aboriginal place is confirmed by the Aboriginal Cultural Heritage Advisory Group not to be an Aboriginal object or Aboriginal Place;

(ii) the Aboriginal Cultural Heritage Management Plan is revised to include the Aboriginal object or Aboriginal place and appropriate measures in respect of it; or

(iii) the Planning Secretary is satisfied with the measures to be implemented in respect of the Aboriginal object or Aboriginal place and makes a written direction in that regard.

B53. The Applicant must ensure that all Aboriginal objects or Aboriginal places identified in the project area are properly recorded, and those records are kept up to date, in the BCD Aboriginal Heritage Information Management System (AHIMS) Register.

Aboriginal Cultural Heritage Advisory Group

B54. The Applicant must establish and operate an Aboriginal Cultural Heritage Advisory Group for the development to the satisfaction of the Planning Secretary. The group must:

(a) be established in consultation with BCD, Registered Aboriginal Parties and other local knowledge holder groups;

(b) comprise Aboriginal heritage representatives whose appointments have been approved by the Planning Secretary, including representatives from:

(i) BCD (if available);

(ii) the scientific community, comprising suitably qualified archaeologists (at least 1 representative);

(iii) the Narrabri LALC (at least 1 representative);

(iv) the Wee Waa LALC (at least 1 representative); and

(v) the Gomeroi Native Title Applicant (at least 1 representative);

(c) be established prior to the commencement of Phase 1;

(d) meet at least twice a year; and

(e) provide advice on project-related cultural heritage management issues, including preparation and implementation of the:

(i) Aboriginal Cultural Heritage Management Plan; and

(ii) Field Development Plan, including micro-siting investigations.

***Notes**: The Aboriginal Cultural Heritage Advisory Group is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this approval.*

Aboriginal Cultural Heritage Management Plan

B55. Prior to the commencement of Phase 1, the Applicant must prepare an Aboriginal Cultural Heritage Management Plan for the development to the satisfaction of the Planning Secretary. The plan must:

(a) be prepared by suitably qualified and experienced persons;

(b) be prepared in consultation with BCD, the Aboriginal Cultural Heritage Advisory Group, Registered Aboriginal Parties and other local knowledge holder groups;

(c) identify all known Aboriginal objects and Aboriginal places in the project area and include a statement of significance for each item;

(d) describe the measures to be implemented for:

(i) undertaking micro-siting investigations for the Field Development Plan, in consultation with the Aboriginal Cultural Heritage Advisory Group, including procedures for:

- desk top review and ground surveys for all proposed gas field infrastructure;
- test excavations and subsurface testing where warranted, in accordance with a detailed archaeological research design and in accordance with the *NSW Code of Archaeological Practice* (2010);
- review and updating of Aboriginal cultural heritage sensitivity mapping;
- managing any Aboriginal objects or Aboriginal places identified during the investigations, including:

- significance assessment;
- avoidance of all objects or places of high significance;
- avoidance of other objects or places, where reasonable and feasible; and
- if avoidance is not reasonable or feasible, procedures for:
  - incremental and cumulative impact assessment, in consultation with Aboriginal stakeholders including Registered Aboriginal Parties; and
  - minimising and/or managing the direct and indirect impacts;

(ii) ensuring all workers receive suitable Aboriginal cultural heritage inductions prior to carrying out any activities which may cause impacts to Aboriginal objects or Aboriginal places, and that suitable records are kept of these inductions;

(iii) protecting Aboriginal objects and Aboriginal places located outside the approved disturbance area from impacts of the development, including identification and management of buffers;

(iv) managing the discovery of human remains and any new Aboriginal objects or Aboriginal places, including detailed provisions for burials, over the life of the development;

(v) maintaining and managing reasonable access for relevant Aboriginal stakeholders to Aboriginal objects and Aboriginal places in any biodiversity offset areas managed by the Applicant; and

(vi) facilitating ongoing consultation and involvement of Registered Aboriginal Parties in the conservation and management of Aboriginal cultural heritage in any biodiversity offset areas managed by the Applicant;

(e) include a strategy for the care, control, storage and/or relocation of any Aboriginal objects salvaged in the project area, both during the life of the development and in the long term; and

(f) include a program to fund and undertake projects in accordance with *Strengthening Aboriginal Community Wellbeing Toolkit* (OEH, 2012) to promote caring for land, bringing people together and cultural awareness/education.

B56. The Applicant must implement the approved Aboriginal Cultural Heritage Management Plan.

Historic Heritage Management Plan

B57. Prior to the commencement of Phase 1, the Applicant must prepare a Historic Heritage Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:

(a) be prepared by a suitably qualified and experienced person/s;

(b) be prepared in consultation with the Heritage Division, Council and relevant landowners and in accordance with the relevant Heritage Division guidelines;

(c) identify all heritage items in the project area and include a statement of significance for each item;

(d) describe the measures to be implemented for:

(i) managing any heritage items identified or suspected during micro-siting investigations for the Field Development Plan;

(ii) ensuring all workers receive suitable heritage inductions prior to carrying out any activities which may cause impacts to historic heritage, and that suitable records are kept of these inductions;

(iii) undertaking photographic/archival recording of any items of heritage significance potentially impacted by the development, prior to disturbance;

(iv) protecting heritage items located outside the approved disturbance area; and

(e) include a strategy for the care, control and storage of any relics salvaged in the project area, both during the life of the development and in the long term.

B58. The Applicant must implement the approved Historic Heritage Management Plan.

TRANSPORT

Road Upgrades

B59. Prior to the commencement of Phase 2, the Applicant must upgrade the following intersections to the satisfaction of TfNSW:

(a) Old Mill Road and the Newell Highway, to provide a Channelised Right (CHR) turn treatment on the highway, including sealing of Old Mill Road for at least 30 metres from the edge of the highway; and

(b) X-Line Road and the Newell Highway, to provide Auxiliary Left Short [AUL(S)] and Basic Right (BAR) turn treatments on the highway, including sealing of X-Line Road for at least 30 metres from the edge of the highway.

Note: *All works within the road reserve, including the pipeline crossing of the Newell Highway, require separate approval from the roads authority under the Roads Act 1993.*

Road Maintenance

B60. Prior to the commencement of Phase 2, the Applicant must enter into an agreement with TfNSW for the ongoing maintenance of the intersection upgrades required under B59.

VISUAL

Operating Conditions

B61. The Applicant must:

(a) implement all reasonable and feasible measures to minimise the visual and lighting impacts of the development;

(b) minimise the lighting and skyglow impacts of the development on Siding Springs Observatory, including:

(i) monitoring lighting levels in consultation with AAO, if requested by AAO; and

(ii) undertaking scheduled maintenance-related flaring activities when the moon is at least 50% illuminated (ie. gibbous moon), unless otherwise agreed with AAO and/or for emergency purposes;

(c) ensure no fixed outdoor lights shine directly above the horizontal or above the building line or any illuminated structure;

(d) ensure that all external lighting associated with the development complies with relevant guidelines and Australian Standards, including the latest version of:

- *AS 4282-1997 – Control of obtrusive effects of outdoor lighting*;
- *AS 1158-2010 – Lighting for roads and public spaces for roadways and plant*; and
- *Dark Sky Planning Guideline (2016) – Protecting the observing conditions at Siding Spring*;

(e) ensure that the visual appearance of all new buildings, structures, facilities or works is aimed at blending as far as reasonable and feasible with the surrounding landscape; and

(f) implement all reasonable and feasible measures to shield views of petroleum mining operations and associated equipment from users of public roads and privately-owned residences.

Additional Visual Mitigation

B62. Prior to the commencement of Phase 2, the Applicant must implement tree screening along the Newell Highway in the vicinity of the development (including the Leewood facility), to screen views to the development from residences and road users. The screening shall be undertaken in accordance with a tree screening plan that has been prepared in consultation with Council and TfNSW and to the satisfaction of the Planning Secretary.

WASTE

Operating Conditions

B63. The Applicant must:

(a) implement all reasonable and feasible measures to:

(i) maximise beneficial reuse of waste generated by the development;

(ii) minimise the residual waste generated by the development;

(b) classify all waste in accordance with the EPA's Waste Classification Guidelines (2014, as may be updated or replaced);

(c) dispose of all waste at appropriately licensed waste facilities, or as otherwise approved in an EPL or RREO in the case of treated water or drilling-related waste;

(d) manage sewage treatment and disposal in accordance with the requirements of Council;

(e) keep accurate records of the amount of waste transported from the project area (on a monthly basis), and report on this in the Annual Review; and

(f) monitor and report on the effectiveness of waste avoidance, minimisation and management measures in the Annual Review.

B64. Except as expressly permitted in an applicable EPL, specific resource recovery order or exemption under the *Protection of the Environment Operations (Waste) Regulation 2014*, the Applicant must not receive waste in the project area for storage, treatment, processing, reprocessing or disposal.

Produced Salt Beneficial Reuse and Disposal Study

B65. Prior to the commencement of Phase 2, the Applicant must undertake a Produced Salt Beneficial Reuse and Disposal Study, to the satisfaction of the Planning Secretary. The study must:

(a) be prepared by a suitably qualified and experienced person/s;

(b) be prepared in consultation with the EPA, Council and the owner of any waste facilities identified under (c)(iv) below;

(c) include:

(i) detailed assessment of salt volumes and composition, including chemicals of potential concern;

(ii) an assessment of reasonable and feasible beneficial reuse options;

(iii) a strategy for maximising beneficial reuse for identified reasonable and feasible reuse options; and

(iv) a strategy for disposal of any produced salt that is not able to be beneficially reused, including demonstration that occupiers of waste facilities can lawfully accept, and will permit, the volume and composition of salt waste produced by the development for disposal at their premises.

Waste Management Plan

B66. Prior to the commencement of Phase 2, the Applicant must prepare a Waste Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:

(a) be prepared by a suitably qualified and experienced person/s;

(b) be prepared in consultation with the EPA, Council, and the owner of any waste facilities or land on which waste is proposed to be disposed;

(c) describe the measures to be implemented to ensure:

(i) compliance with the waste operating conditions in this consent;

(ii) compliance with the *Protection of the Environment Operations (Waste) Regulation 2014*; and

(iii) reasonable and feasible waste minimisation and management measures are being employed;

(d) identify all waste streams generated by the development;

(e) describe the waste management system in detail, including a contingency strategy if beneficial reuse and/or disposal options become unavailable; and

(f) include a monitoring program that:

(i) evaluates and reports on:

- the effectiveness of the waste management system;
- ongoing classification of waste (including salt); and
- compliance against the waste operating conditions and the EPL; and

(ii) defines what constitutes a waste-related incident or non-compliance and includes a protocol for identifying and notifying the Department and relevant stakeholders of these events.

B67. The Applicant must implement the approved Waste Management Plan.

HAZARDS AND RISK

Final Hazard Studies

B68. Prior to the commencement of Phase 2, the Applicant must prepare the following to the satisfaction of the Planning Secretary a:

(a) Fire Safety Study for the development covering all relevant aspects of the Department's *Hazardous Industry Planning Advisory Paper No. 2, 'Fire Safety Study Guidelines'* and the NSW Government's *Best Practice Guidelines for Contaminated Water Retention and Treatment Systems*. The Fire Safety Study must be developed in consultation with Fire and Rescue NSW and must include:

(i) consequence analysis (including appropriate consequence diagrams) for all potential fire and explosion scenarios in the project area throughout the development;

(ii) details of all fire engineering controls and measures; and

(iii) details of the roles and duties of various parties if a fire, explosion or spillage occur;

(b) Hazard and Operability Study (HAZOP) for all potentially hazardous facilities associated with the development (including conversion or upgrade of existing wells using appropriate risk management). The study must:

(i) be prepared by a suitably qualified and experienced person/s who is independent of the development and has been approved by the Planning Secretary;

(ii) be consistent with the Department's *Hazardous Industry Planning Advisory Paper No. 8, 'HAZOP Guidelines'*;

(iii) be accompanied by a program for the implementation of all recommendations made in the report;

(iv) include safety related recommendations for the final design of the development. If the Applicant intends to defer the implementation of a recommendation, reasons must be documented and justified; and

(v) where the detailed design of certain components of the development is not available, a Package Unit HAZOP must be conducted. This must also consider the tie-in and the flow-on effect for the remainder of the development;

(c) Final Hazard Analysis of the development based on its final design, consistent with the Department's *Hazardous Industry Planning Advisory Paper No. 6, 'Hazard Analysis'*. The Final Hazard Analysis must be prepared in consultation with SafeWork NSW and must:

(i) re-evaluate and confirm all relevant data and assumptions of the Preliminary Hazard Analysis, and provide details on any differences between the Preliminary Hazard Analysis and Final Hazard Analysis;

(ii) address all materials that may present a hazard to people, property or the biophysical environment at all potentially hazardous facilities associated with the final design;

(iii) re-evaluate and confirm all control measures proposed for the prevention and mitigation of incidents;

(iv) include Safety Integrity Level (SIL) allocation and verification studies;

(v) demonstrate the adequacy of the safety systems included in the final design;

(vi) re-evaluate the risk from the development based on the outcomes of the SIL allocation and verification report for the development;

(iv) include off-site impacts from wellhead scenarios and hazards and risks associated with the conversion and/or upgrade of existing wells;

(v) include the outcome of well pad design verification assessments to minimise off-site impact;

(vi) demonstrate that the cumulative risk complies with all the Department's risk criteria for the protection of people, property and the biophysical environment, including:

- bushfire risk from wells and associated gathering lines;
- major facilities; and
- transport between potentially hazardous facilities;

(vii) provide details of measures that would be implemented to minimise the risk to the surrounding land, including negotiated arrangements with other stakeholders to implement appropriate risk reduction measures;

(d) Construction Safety Study, consistent with the Department's *Hazardous Industry Planning Advisory Paper No. 7, 'Construction Safety'* and the most recent Australian Standard *AS 2885.1, Pipelines – Gas and liquid petroleum (Part 1: Design and construction)*. The plan must specifically address all safety measures related to construction, testing and commissioning; and

(e) Pipeline Safety Management Study, prepared in accordance with the Australian Standard *AS 2885 - 2007, Pipelines – Gas and liquid petroleum*. The study must be prepared in consultation with all relevant stakeholders including, but not limited to, the pipeline operator.

B69. The Applicant must design and operate the development in accordance with the approved Final Hazard Analysis.

Safety Plans

B70. Prior to the commencement of Phase 3, the Applicant must prepare the following to the satisfaction of the Planning Secretary:

(a) an Emergency Plan and detailed emergency procedures for the development prepared in consultation with Safework NSW and Fire and Rescue NSW. This plan must:

(i) be consistent with the Department's *Hazardous Industry Planning Advisory Paper No. 1, 'Emergency Planning'* and the *Code of Practice for Coal Seam Gas Well Integrity* (2012, as may be updated or amended);

(ii) include consideration of the safety of all people outside of the site that may be at risk from the development; and

(iii) include details of the roles and responsibilities of key personnel and relevant agencies if an incident occurs; and

(b) a Safety Management System that must be prepared in consultation with SafeWork NSW and must:

(i) be prepared in accordance with the Department's *Hazardous Industry Planning Advisory Paper No. 9, 'Safety Management'*;

(ii) cover all development operations and potentially hazardous facilities, and must clearly specify all safety related procedures, responsibilities and policies, along with details of mechanisms for ensuring adherence to the procedures;

(iii) include an inspection, testing and preventive maintenance program that would be implemented and maintained to ensure the reliability and availability of the key safety critical equipment is, at a minimum, consistent with the data estimated in the Final Hazard Analysis; and

(iv) include arrangements for transport of hazardous materials including details of routes to be used for hazardous materials transport which have been selected in accordance with the Department's *Hazardous Industry Planning Advisory Paper No. 11, 'Route Selection'.*

B71. The Applicant must implement the approved Emergency Plan and Safety Management System.

Post-Startup Compliance Report

B72. Three months after the commencement of Phase 3, the Applicant must submit to the Planning Secretary, a report demonstrating that:

(a) actions have been taken to implement the recommendations and safety-related control measures in the approved studies/plans/systems;

(b) the Emergency Plan is in place and that at least one emergency exercise has been conducted; and

(c) the Safety Management System has been fully implemented and that records required by the system are being kept.

Dangerous Goods

B73. The Applicant must ensure that the storage, handling, and transport of:

(a) dangerous goods is done in accordance with the relevant Australian Standards and guidelines, particularly *AS1940* and *AS1596*, the *Dangerous Goods Code*, and the EPA's *Storing and Handling of Liquids: Environmental Protection – Participants Manual*; and

(b) any explosives are managed in accordance with the requirements of the Resources Regulator.

Bushfire Management

B74. The Applicant must:

(a) ensure that the development:

(i) provides for asset protection in accordance with the relevant requirements in the *Planning for Bushfire Protection* (RFS, 2006) guideline; and

(ii) ensure that there is suitable equipment to respond to any fires in the project area; and

(b) assist the RFS and emergency services to the extent practicable if there is a fire in the vicinity of the project area.

B75. Prior to the commencement of Phase 1, the Applicant must prepare a Fire Management Plan for the development in consultation with RFS, FCNSW and landowners upon which gas field infrastructure is proposed to be located. This plan must include a:

(a) contact person and 24 hour contact phone number;

(b) schedule and description of proposed bushfire mitigation works, including:

(i) location of managed and unmanaged vegetation within the project area;

(ii) asset protection zones for project related infrastructure, based on detailed risk assessment;

(iii) design of applicable buildings (including the Westport workers accommodation facility) in accordance with the requirements in the *Planning for Bushfire Protection* (RFS, 2006) guideline;

(iv) location of water supply;

(v) internal access roads;

(c) protocol for certification of project related infrastructure in relation to radiant heat exposure;

(d) plan identifying the location and storage of bulk flammable liquids and materials;

(e) plan and procedures for minimising bushfire risks associated with safety flaring activities;

(f) plan and procedures for shutting-in wells in the event of bushfire risk;

(g) 'hot works' management plan, including:

(i) restrictions on when 'hot works' are limited and prohibited; and

(ii) safety measures to be implemented when 'hot works' are being conducted; and

(h) emergency/evacuation plan in accordance with the *Guidelines for the Preparation of Emergency/Evacuation* Plans (RFS) and Australian Standard *AS3745 Planning for emergencies in facilities.*

B76. The Applicant must implement the Fire Management Plan in consultation with RFS and FCNSW.

REHABILITATION

Rehabilitation Objectives

B77. The Applicant must rehabilitate all areas of the project area affected by the development to the satisfaction of the Resources Regulator and EPA. This rehabilitation must be generally consistent with the proposed rehabilitation activities described in the document/s listed in condition A2(c), and comply with the objectives in Table 10.

Table 10: *Rehabilitation objectives*

Feature	***Objective***
All areas of the project area affected by the development	• Safe, stable and non-polluting • Fit for the intended post-mining land use/s

Areas proposed for Ecological Rehabilitation	• For each plant community type, establish self-sustaining native woodland ecosystems that meet the performance and completion criteria approved under the Rehabilitation Management Plan • For each threatened flora species, establish a self-sustaining population that meets the performance and completion criteria approved under the Rehabilitation Management Plan • For each threatened fauna species, establish self-sustaining habitat that meets the performance and completion criteria approved under the Rehabilitation Management Plan
Areas proposed for native woodland	• Restore self-sustaining native woodland ecosystems using species found in the local area and complement the areas proposed for Ecological Rehabilitation • Establish areas of self-sustaining: - riparian vegetation, within any diverted and/or re-established creek lines and retained water features; - habitat resources for threatened flora and fauna species; and - vegetation connectivity and wildlife corridors, as far as is reasonable and feasible
Areas proposed for agricultural land	• Establish/restore agricultural areas to support sustainable agricultural activities • No reduction in land and soil capability class
Surface infrastructure	• To be decommissioned and removed, unless the Resources Regulator agrees otherwise
Wells and gas field infrastructure	• Wells to be progressively decommissioned and rehabilitated in accordance with the *Code of Practice for Coal Seam Gas Well Integrity* (2012, as may be updated or amended) • Well cementing to include sub-vertical and horizontal well sections, where reasonable and feasible • Gas field infrastructure to be progressively decommissioned and rehabilitated in accordance with the *Exploration Code of Practice: Rehabilitation* (2017, as may be updated or amended)
Rehabilitation materials	• Materials from areas disturbed under this consent (including topsoils, substrates and seeds) are to be recovered, managed and used as rehabilitation resources, to the greatest extent practicable
Water quality	• Water retained in the project area is fit for the intended post-mining land use/s • Water discharged from the development is suitable for receiving waters and fit for aquatic ecology and riparian vegetation
Community	• Ensure public safety • Minimise adverse socio-economic effects associated with petroleum development closure

Note: *The rehabilitation objectives detailed in Table 10 apply to the entire project area, including all landforms constructed under either this consent or previous consents.*

Progressive Rehabilitation

B78. The Applicant must rehabilitate the development progressively, that is, as soon as reasonably practicable following disturbance. All reasonable steps must be taken to minimise the total area exposed at any time. Interim stabilisation and temporary vegetation strategies must be employed when areas prone to dust generation, soil erosion and weed incursion cannot be permanently rehabilitated.

Rehabilitation Management Plan

B79. Prior to the commencement of Phase 1, the Applicant must prepare a Rehabilitation Management Plan for the development to the satisfaction of the Resources Regulator. This plan must:

(a) be prepared by a suitably qualified and experienced person/s;

(b) be prepared in consultation with the Department, EPA, DPIE Water, FCNSW, BCD, MEG and Council;

(c) be prepared in accordance with any relevant MEG code of practice and/or guideline;

(d) describe how the rehabilitation of the project area would achieve the objectives identified in Table 10 and be integrated with the measures in the Biodiversity Management Plan;

(e) include detailed petroleum mining plan closure and final landform designs;

(f) include a detailed plan for the reinstatement and review of the proposed:

(i) ecological rehabilitation and native woodland areas, including a protocol for progressive reviews to demonstrate that the target vegetation communities are being achieved; and

(ii) agricultural land rehabilitation;

(g) include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the project area, and for triggering remedial action;

(h) include protocols and procedures for testing and management of drill cuttings used for rehabilitation of well pads to ensure the materials are fit for purpose to achieve rehabilitation objectives;

(i) describe the measures to be implemented to ensure compliance with the relevant conditions of this consent, and address all aspects of rehabilitation including closure and final land use/s;

(j) include a program to monitor, independently audit and report on the effectiveness of the measures in paragraph (i), and progress against the detailed performance and completion criteria in paragraph (g);

(k) to the greatest extent practicable build on and integrate with the other management plans required under this consent; and

(l) include detailed scheduling for progressive rehabilitation to be initiated, undertaken and/or completed over the next 3 year.

B80. The Applicant must implement the approved Rehabilitation Management Plan.

SOCIAL

Social Impact Management Plan

B81. Prior to the commencement of Phase 2, the Applicant must prepare a Social Impact Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:

(a) be prepared by a suitably qualified and experienced person/s;

(b) be prepared in consultation with Council, the CCC, and representatives the local community in the Narrabri LGA;

(c) identify negative social impacts resulting from the development both locally and regionally;

(d) specify adaptive management and mitigation measures to avoid, minimise, and/or mitigate negative social impacts;

(e) identify opportunities to secure and enhance positive social impacts of the development, including opportunities to:

(i) assist in maintaining community services and facilities; and

(ii) improve the way of life, wellbeing, and social cohesion within the local community;

(f) include a program to monitor, review, and report on the effectiveness of these measures, including:

(i) identifying representative parameters or indicators to be monitored, how and when data is to be collected, and who is responsible for collecting it;

(ii) ongoing analysis of social risks; and

(iii) undertaking additional research, if necessary, to reduce uncertainties; and

(g) include a Stakeholder Engagement Plan to guide the evaluation and implementation of social impact management and mitigation measures.

B82. The Applicant must implement the approved Social Impact Management Plan.

PART C ADDITIONAL PROCEDURES

ADDITIONAL MITIGATION UPON REQUEST

C1. Upon receiving a written request from the owner of any residence on the privately-owned land listed in Table 11, the Applicant must implement additional noise mitigation measures in consultation with the landowner, to mitigate noise impacts on the residence associated with non-routine safety flaring operations at the Leewood Facility. These measures may include provision of alternative accommodation during non-routine safety flaring operations, or provision of acoustic treatments to the residence, and must be consistent with the measures outlined in the *Voluntary Land Acquisition and Mitigation Policy for State Significant Mining, Petroleum and Extractive Industry Developments* (NSW Government, 2018). They must also be reasonable and feasible, proportionate to the level of predicted impact and directed towards reducing the relevant noise impacts of the development during non-routine safety flaring operations.

Table 11: *Land subject to additional mitigation upon request*

Mitigation Basis	*Land*
Noise (during non-routine safety flaring operations)	179, 182, 189, 191, 216, 217

Note: *The location of the land referred to in Table 11 is shown on the applicable figure in Appendix 3.*

C2. If within 3 months of receiving this request from the owner, the Applicant and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Planning Secretary for resolution.

C3. At least 3 months prior to the commencement of Phase 3, the Applicant must notify in writing the owners of the residences on the land listed in Table 11 that they are entitled to ask the Applicant to undertake additional mitigation measures upon request.

NOTIFICATION OF EXCEEDANCES

C4. As soon as practicable and no longer than 7 days after obtaining monitoring results showing an exceedance of any noise, air quality, water or blasting criterion or performance measure in this consent, or in any management plan required under this consent, the Applicant must provide the details of the exceedance to any affected landowners and tenants.

INDEPENDENT REVIEW

C5. If a landowner considers the development to be exceeding any relevant noise, air quality, water or blasting criterion or performance measure in this consent, or in any management plan required under this consent, on their residence or land, they may ask the Planning Secretary in writing for an independent review of the impacts of the development on their residence or land.

C6. If the Planning Secretary is not satisfied that an independent review is warranted, the Planning Secretary will notify the landowner in writing of that decision, and the reasons for that decision, within 21 days of the request for a review.

C7. If the Planning Secretary is satisfied that an independent review is warranted, within 3 months, or other timeframe agreed by the Planning Secretary and the landowner, of the Planning Secretary's decision, the Applicant must:

(a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Planning Secretary, to:

(i) consult with the landowner to determine their concerns;

(ii) conduct monitoring to determine whether the development is complying with the relevant criterion or performance measure on their residence or land; and

(iii) if the development is not complying with the relevant criterion or performance measure, identify measures that could be implemented to ensure compliance with the relevant criterion or performance measure;

(b) give the Planning Secretary and landowner a copy of the independent review; and

(c) comply with any written requests made by the Planning Secretary to implement any findings of the review.

PART D ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

D1. Prior to the commencement of Phase 1, the Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Planning Secretary. This strategy must:

(a) be prepared in consultation with the EPA;

(b) provide the strategic framework for environmental management of the development;

(c) identify the statutory approvals that apply to the development;

(d) set out the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;

(e) set out the procedures to be implemented to:

(i) keep the local community and relevant agencies informed about the progress and performance of the development;

(ii) receive, handle, respond to and record complaints;

(iii) resolve any disputes that may arise during the development;

(iv) respond to incidents and non-compliance; and

(v) respond to any emergency.

D2. The Applicant must implement the approved Environmental Management Strategy.

Management Plan Requirements

D3. The Applicant must ensure that (where relevant) the management plans required under this consent include:

(a) a summary of relevant background or baseline data;

(b) details of:

(i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);

(ii) any relevant limits or performance measures and criteria; and

(iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;

(c) any relevant commitments or recommendations identified in the document/s listed in condition A2(c);

(d) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;

(e) a program to monitor and report on the:

(i) impacts and environmental performance of the development; and

(ii) effectiveness of the management measures set out pursuant to paragraph (d);

(f) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;

(g) a program to investigate and implement ways to improve the environmental performance of the development over time;

(h) a protocol for managing and reporting any:

(i) incident, non-compliance or exceedance of any impact assessment criterion and performance criterion;

(ii) complaint; or

(iii) failure to comply with other statutory requirements; and

(i) a protocol for periodic review of the plan.

REVISION OF STRATEGIES, PLANS AND PROGRAMS

D4. Within 2 months of:

(a) the submission of an incident report;

(b) the submission of an Annual Review;

(c) the submission of an Independent Environmental Audit;

(d) the submission of a Field Development Plan;

(e) the submission of a Groundwater Model Update; or

(f) the approval of any modification of the conditions of this consent,

the Applicant must review the suitability of existing strategies, plans and programs required under this consent.

D5. If the review determines that the strategies, plans and programs required under this consent require revision - to either improve the environmental performance of the development, cater for a modification or comply with a direction – then the Applicant must submit the revised document to the Secretary for approval within 6 weeks of the review.

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

REPORTING AND AUDITING

Incident Notification

D6. The Applicant must notify the Department and any other relevant agencies via the Major Projects Portal immediately after it becomes aware of the incident. This notice must describe the location and nature of the incident.

Non-Compliance Notification

D7. Within 7 days of becoming aware of a non-compliance with the conditions of this consent, the Applicant must notify the Department of the non-compliance via the Major Projects Portal. This notice must set out the non-compliance, the reasons for the non-compliance (if known) and what actions have been taken, or will be taken, to address the non-compliance.

Note*: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.*

Annual Review

D8. By the end of March each year, unless the Planning Secretary agrees otherwise, the Applicant must submit an Annual review of the environmental performance of the development to the Department via the Major Projects Portal. This review must:

(a) describe the development (including any rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year;

(b) report on the progress of biodiversity credits retirements and the associated actual versus proposed surface disturbance for each stage;

(c) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, including a comparison of these results against the:

(i) relevant statutory requirements, limits or performance measures/criteria;

(ii) requirements of any plan or program required under this consent;

(iii) monitoring results of previous years; and

(iv) relevant predictions in the document/s listed in condition A2(c);

(d) identify any non-compliance or incident which occurred in the previous calendar year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence;

(e) evaluate and report on compliance with the performance measures, criteria and operating conditions in this consent;

(f) identify any trends in the monitoring data over the life of the development;

(g) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and

(h) describe what measures will be implemented over the next calendar year to improve the environmental performance of the development.

Independent Environmental Audit

D9. Within one year of commencement of Phase 1 and every 3 years thereafter, unless the Planning Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:

(a) be led and conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Planning Secretary;

(b) be carried out in consultation with the relevant agencies and the CCC and Advisory Groups;

(c) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent, water licences and petroleum mining leases for the development (including any assessment, strategy, plan or program required under these approvals);

(d) include a hazard audit undertaken in accordance with the Department's *Hazardous Industry Planning Advisory Paper No. 5, 'Hazard Audit Guidelines*', including verification of implementation of engineering or non-engineering control measures in the hazards studies/plans required under this consent;

(e) review the adequacy of any approved strategy, plan or program required under the abovementioned approvals and this consent;

(f) recommend appropriate measures or actions to improve the environmental performance of the development and any assessment, strategy, plan or program required under the abovementioned approvals and this consent; and

(g) be conducted and reported to the satisfaction of the Planning Secretary.

Note: *The audit team must be led by a suitably qualified auditor and include experts in groundwater, well integrity, hazards, and any other fields specified by the Planning Secretary.*

D10. Within 3 months of commencing an Independent Environmental Audit, unless the Planning Secretary agrees otherwise, the Applicant must submit a copy of the audit report to the Department (and any other NSW agency that requests it) via the Major Projects Portal together with its response to any recommendations contained in the audit report, and a timetable for the implementation of the recommendations.

Monitoring and Environmental Audits

D11. Any condition of this consent that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance report and independent audit.

Note: *For the purposes of this condition, as set out in the EP&A Act, "monitoring" is monitoring of the development to provide data on compliance with the consent or on the environmental impact of the development, and an "environmental audit" is a periodic or particular documented evaluation of the development to provide information on compliance with the consent or the environmental management or impact of the development.*

D12. Noise, blast and air quality monitoring under this consent is not required at all privately-owned residences and the use of representative monitoring locations can be used to demonstrate compliance with criteria.

ACCESS TO INFORMATION

D13. From the commencement of Phase 1, until the completion of all rehabilitation required under this consent, the Applicant must:

(a) make copies of the following information publicly available on its website:

(i) the document/s listed in condition A2(c);

(ii) current statutory approvals for the development;

(iii) approved strategies, plans and programs;

(iv) detailed plans for the Phases of the development;

(v) minutes of CCC and Advisory Group meetings;

(vi) regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent;

(vii) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;

(viii) a summary of the current phase/s and progress of the development;

(ix) contact details to enquire about the development or to make a complaint;

(x) a complaint register, updated monthly;

(xi) a record of all incidents and non-compliances;

(xii) the Annual Reviews of the development;

(xiii) audit reports prepared as part of any Independent Environmental Audit of the development and the Applicant's response to the recommendations in any audit report; and

(xiv) any other matter required by the Planning Secretary; and

(b) keep such information up to date.

APPENDIX 1 SCHEDULE OF LAND

Lot/Plan
241/620138
1/757098
6/757098
21/1055453
52/43308
242/620138
22/757120
21/757120
36/828078
54/821267
44/1212288
27/757098
3/757098
32/828711
28/44006
1/653781
1/652381
29/44006
8/757098
25/757120
11/757098
15/757098
10/757098
51/43308
2/757098
53/43308
7300/1137650
26/757098
19/757098
31/705370
332/1095730
331/1095730
17/757098
16/757098
12/746733
31/1034772
27/757120
1/653174
45/757120
432/1018381
1/730132
26/757120
20/757120
28/757120
3/757097
1/653073
22/1055453
31/719217
18/757120
33/791317
14/757120
42/856653
40/843103
39/843103
141/708354
26/863891
202/877118
201/877118
1821/880046
21/757086
25/863891
19/757086
2/790376
7004/1068409
2/1050103
1/1050103
161/802977
184/814965
1/1049313
15/757086
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2/1049313
14/609017
7313/1147165
3/45260
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3/843278
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2/781866
40/757104
551/609651
4/715462
3/715462
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29/757083
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53/757114
57/757114
1/126331
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60/757104
58/757114
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442/708169
2/715462
7001/1030015
7002/1030015
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2/1040807
185/814965
1/248407
24/757087
9/757087
38/43335
21/757087
431/1018381
34/791317
2/713934
42/757120
102/708414
104/852566
163/1012802
1/1040807
4/757097
27/757086
2/115246
62/791840
452/1038294
46/757120
8/805987
1/604751
1/713934
2/1064422
164/1012802
15/757120
12/757086
3/115246
7005/1068409
1822/880046
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142/708354
5/757093
3/1064422
11/805987
4/1064422
21/1034651
451/1038294
554/613281
32/757087
1812/840549
28/757104
1/781866
103/852566
Bibblewindi State Forest
Jacks Creek State Forest
Pilliga East State Forest
Gazetted roads within Project Area boundary
Newell Highway
State of NSW Crown Land

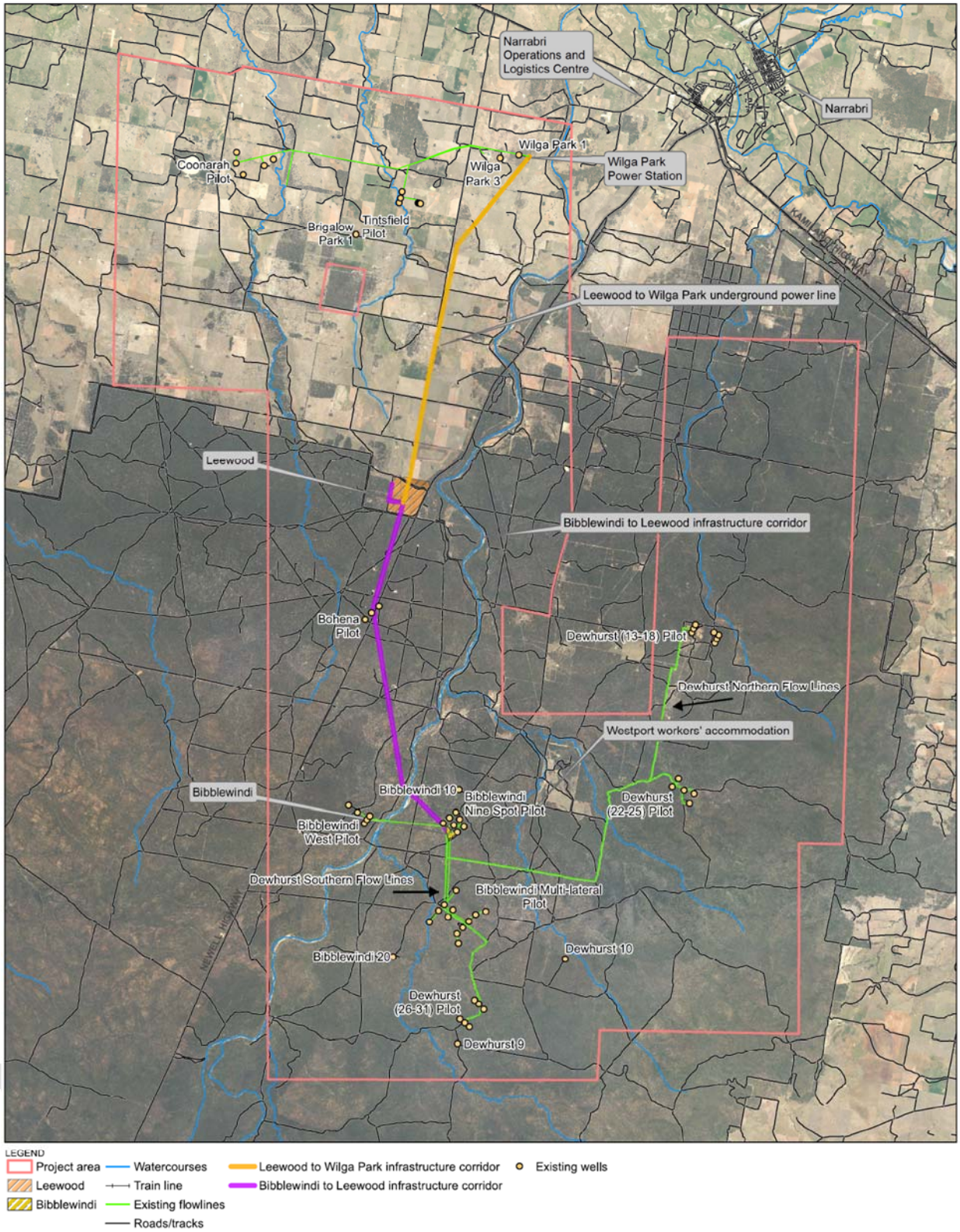


Figure 1: Pre-existing Infrastructure

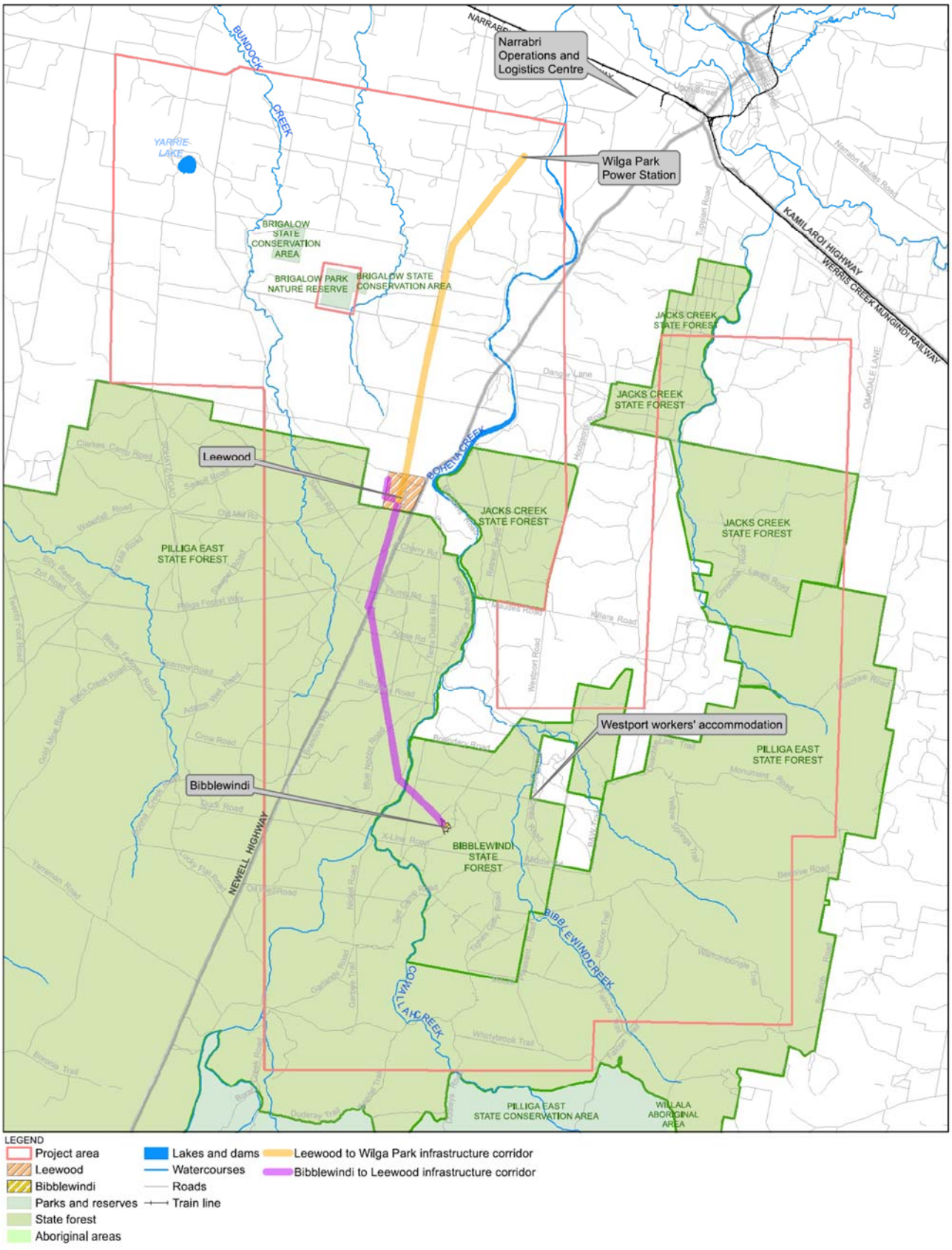


Figure 2: Key Project Components

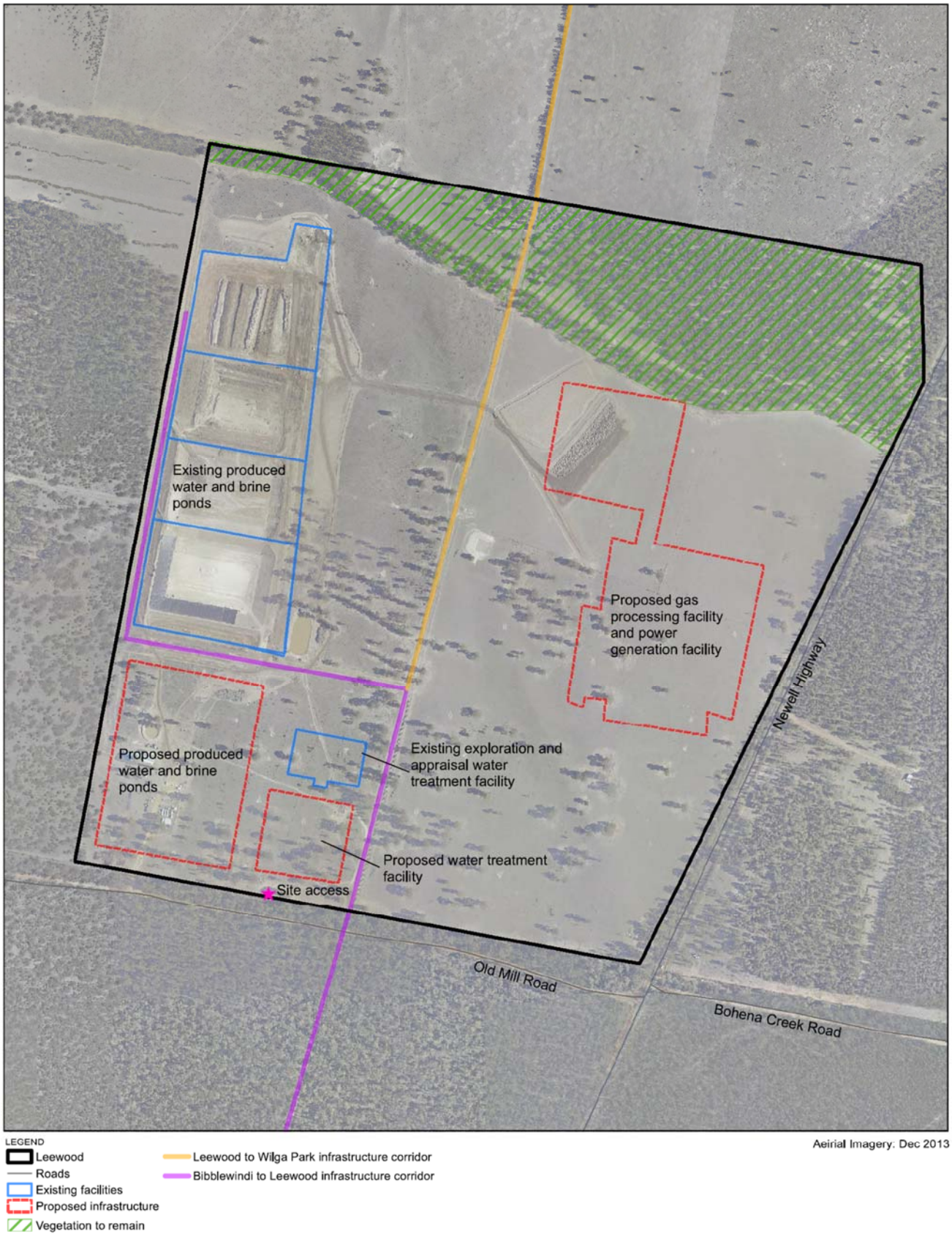


Figure 3: Leewood Facility

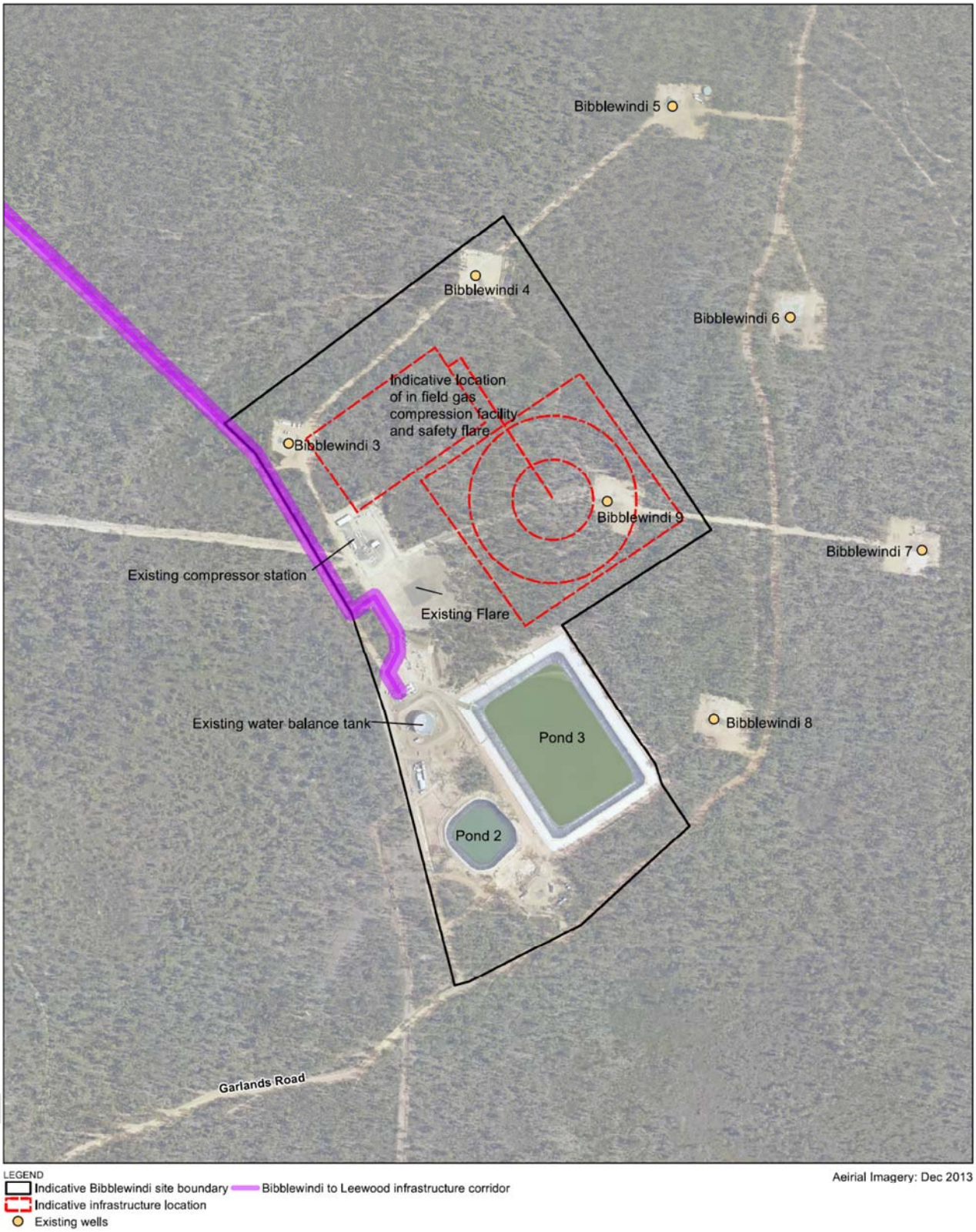


Figure 4: Bibblewindi Facility

APPENDIX 3 RECEIVER ZONES AND LOCATIONS

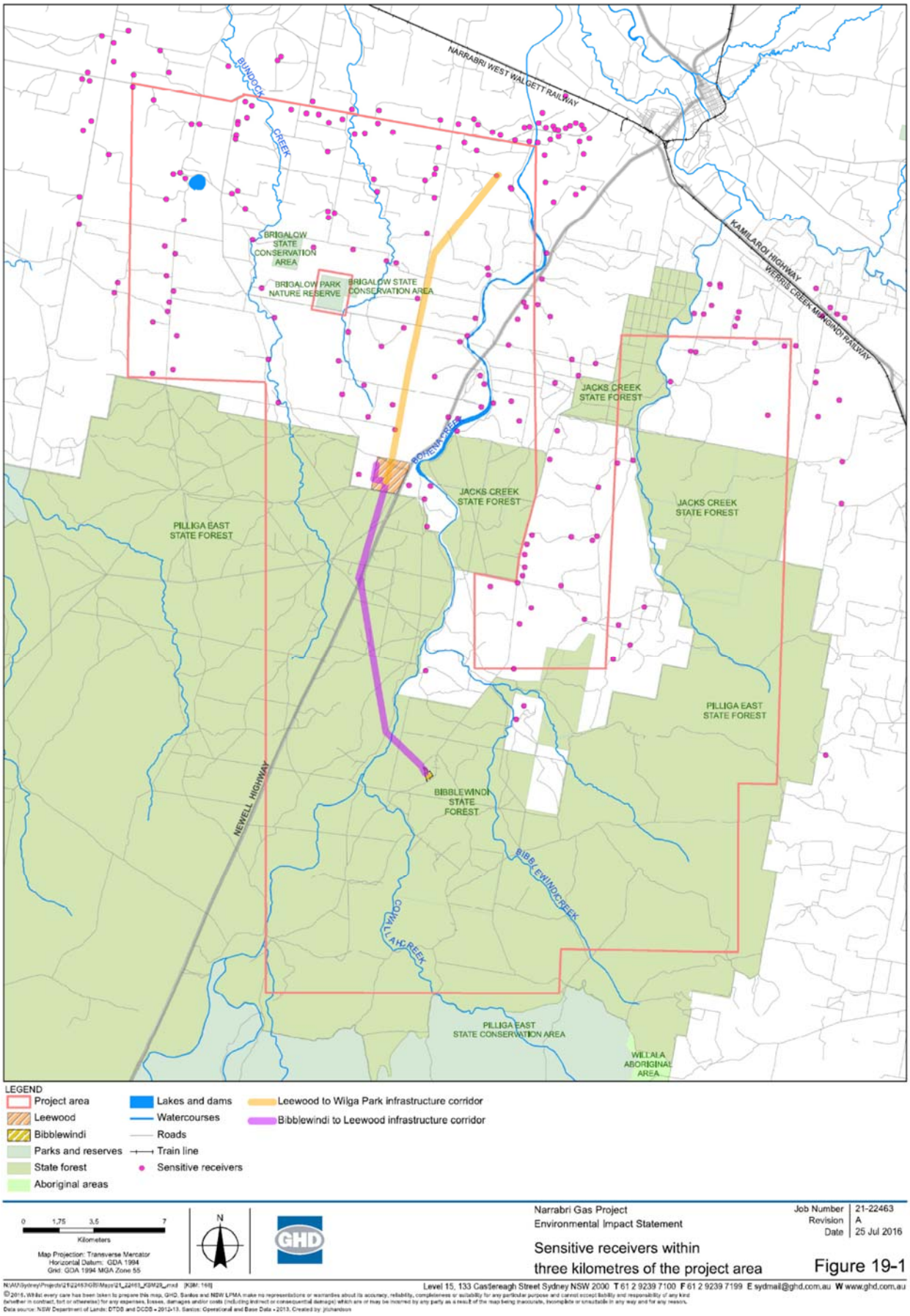


Figure 5: Receiver Locations – Project Area

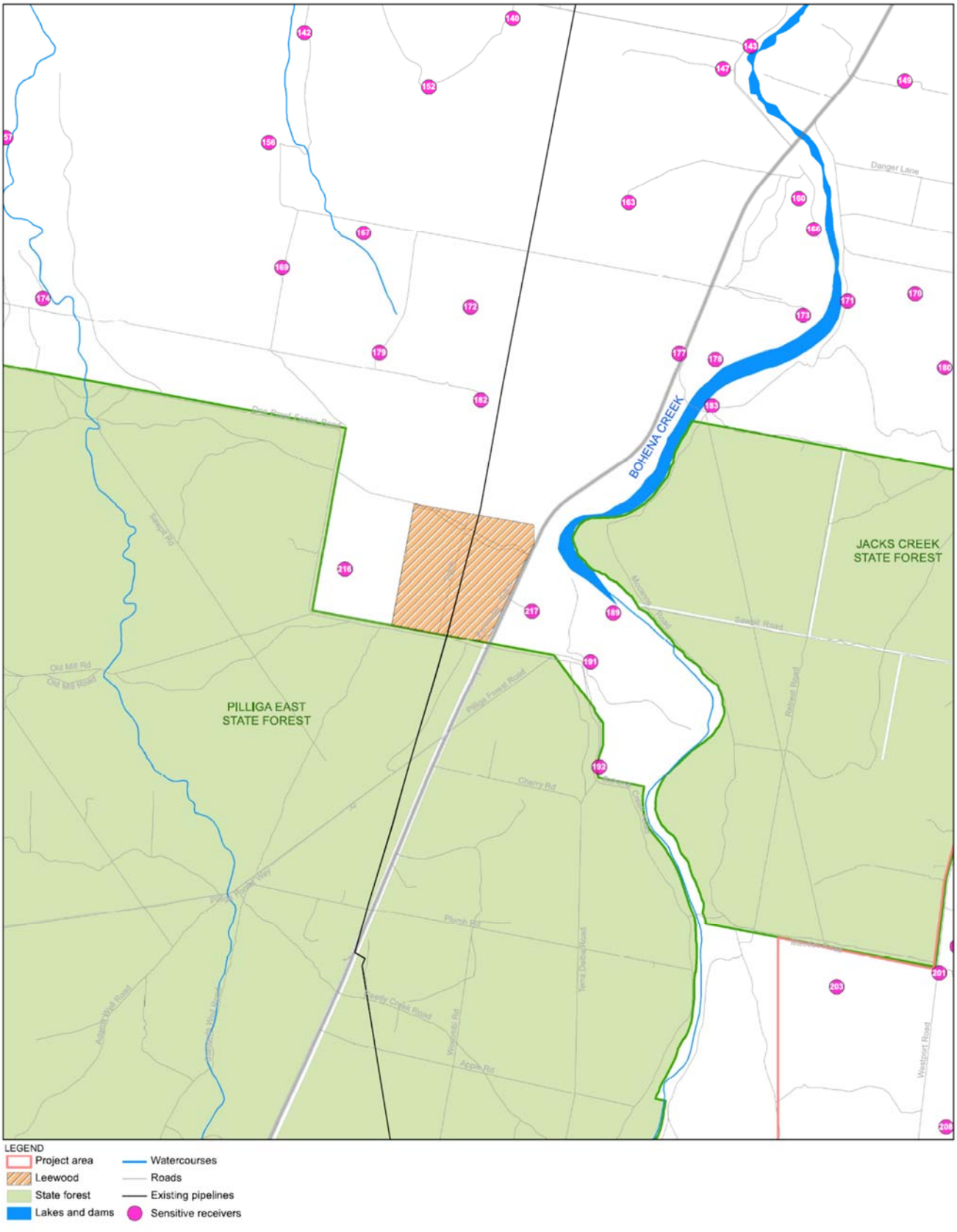


Figure 6: Receiver Locations – Leewood

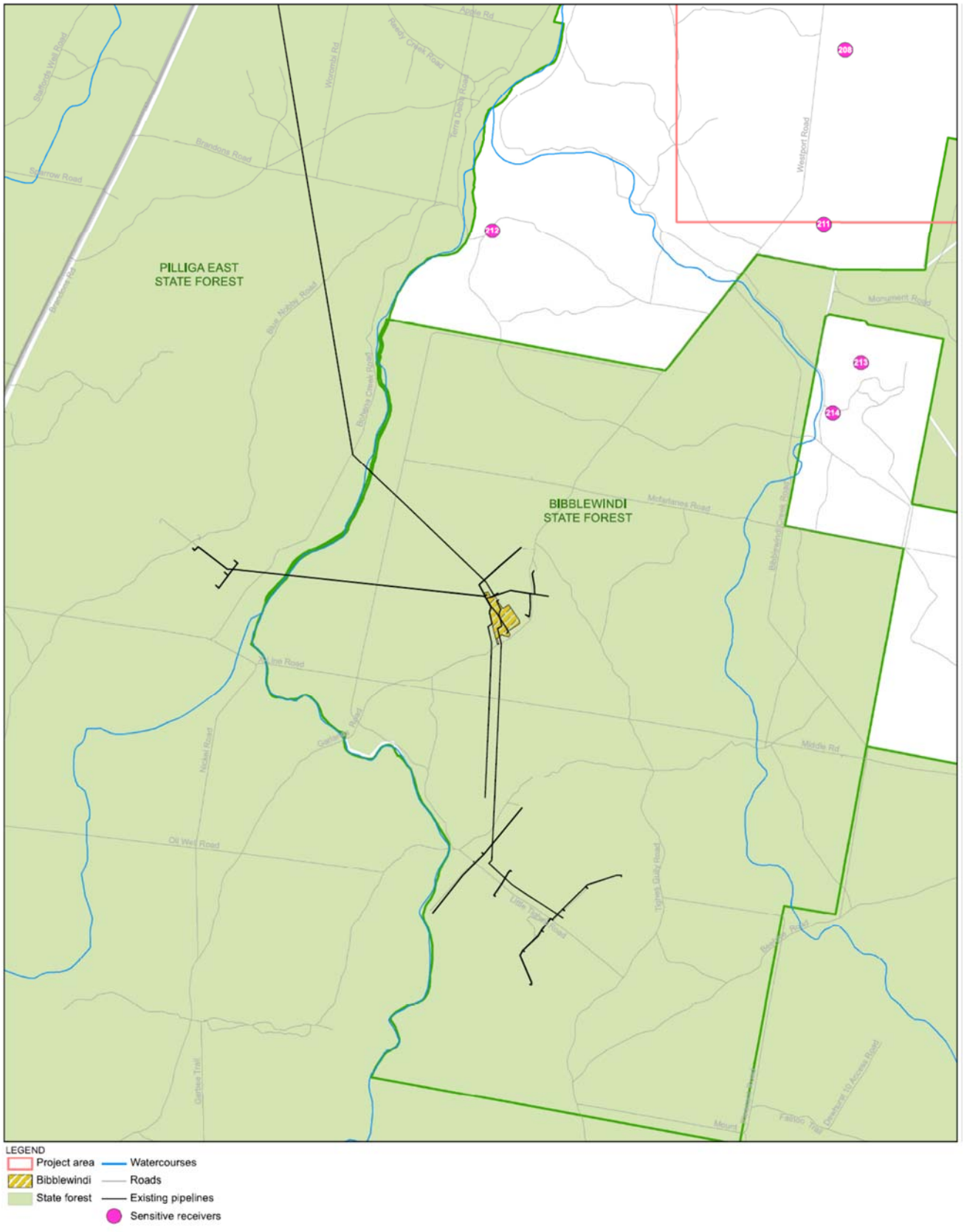


Figure 7: Receiver Locations – Bibblewindi

APPENDIX 4 NOISE COMPLIANCE ASSESSMENT

Applicable Meteorological Conditions

1. The noise criteria in Part B are to apply under all meteorological conditions except the following:

   (a) where 3°C/100 metres (m) lapse rates have been assessed, then:

      (i) wind speeds greater than 3 metres/second (m/s) measured at 10m above ground level;

      (ii) temperature inversion conditions between 1.5°C and 3°C/100m and wind speeds greater than 2m/s measured at 10m above ground level; or

      (iii) temperature inversion conditions greater than 3°C/100m.

   (b) where Pasquill Stability Classes have been assessed, then:

      (i) wind speeds greater than 3m/s at 10m above ground level;

      (ii) stability category F temperature inversion conditions and wind speeds greater than 2m/s at 10m above ground level;

      (iii) stability category G temperature inversion conditions.

Determination of Meteorological Conditions

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions shall be that recorded by the meteorological station.

Compliance Monitoring

3. Unless otherwise agreed by the Planning Secretary, the attended compliance monitoring must be carried out in accordance with the relevant requirements for reviewing performance set out in the *NSW Industrial Noise Policy* (EPA, 2000), in particular the requirements relating to:

   (a) monitoring locations for the collection of representative noise data;

   (b) meteorological conditions during which collection of noise data is not appropriate;

   (c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and

   (d) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration,

   with the exception of applying appropriate modifying factors for low frequency noise during compliance testing. This should be undertaken in accordance with Fact Sheet C of the *NSW Noise Policy for Industry* (EPA, 2017).

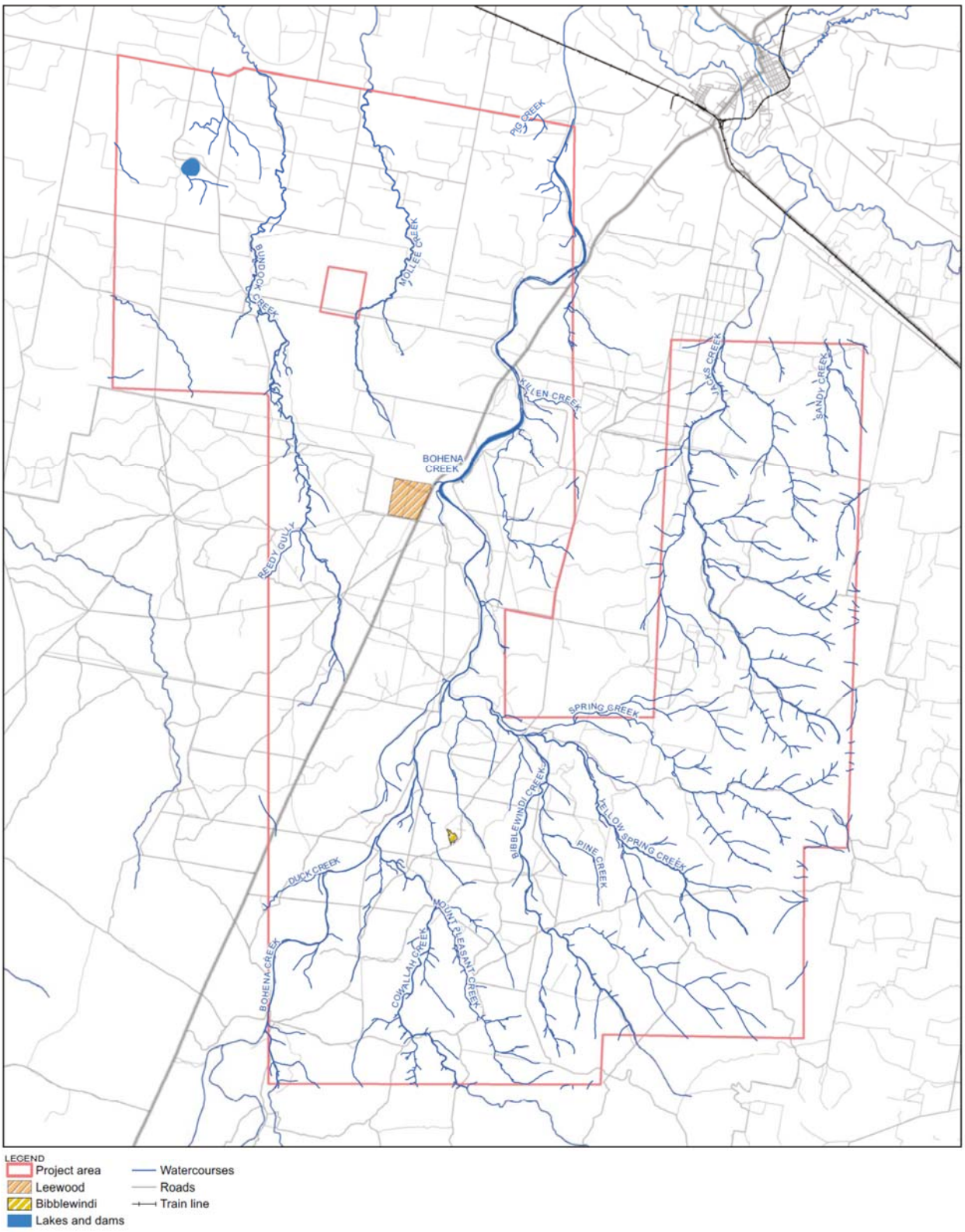


Figure 8: Watercourses

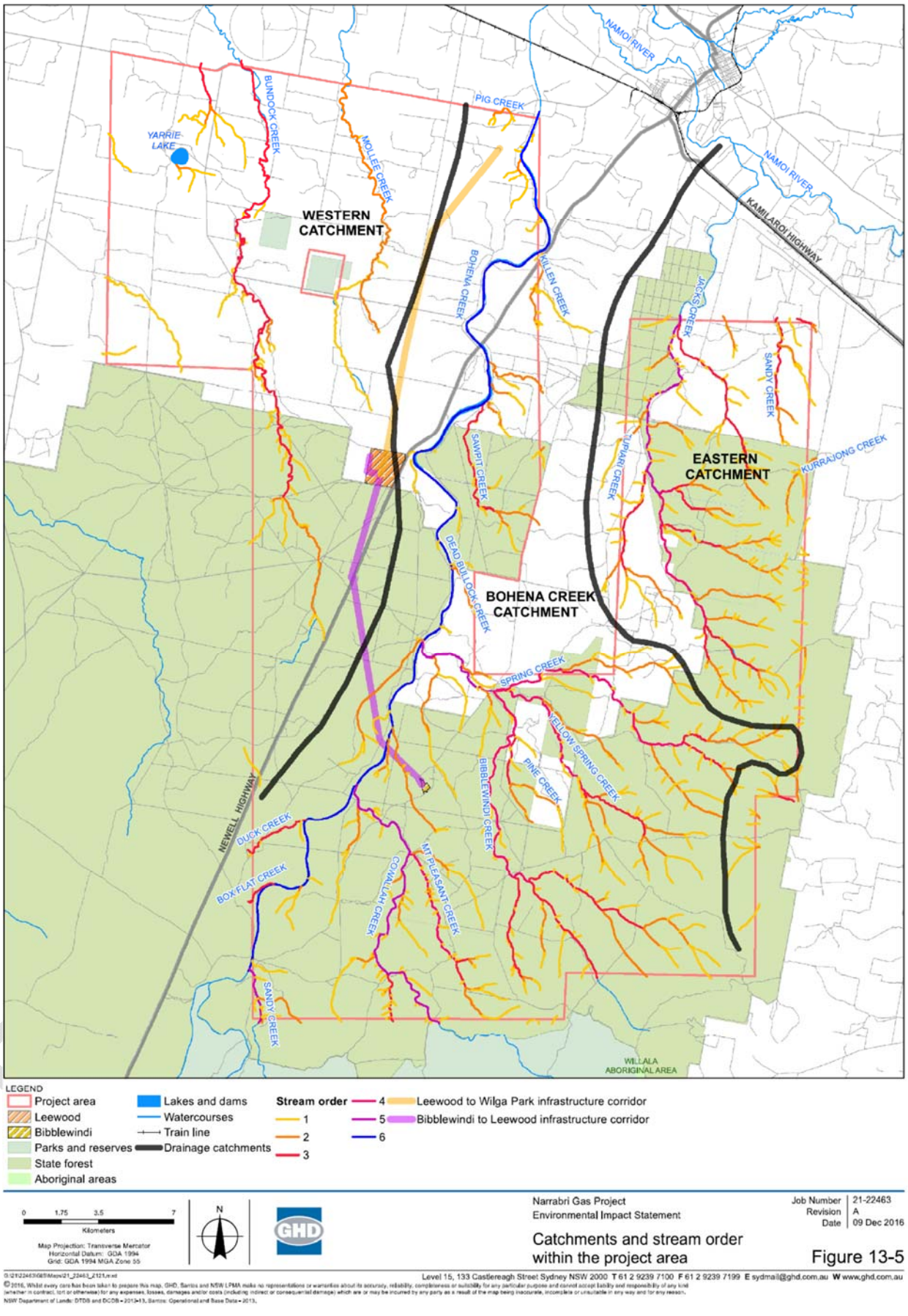


Figure 9: Catchments and Stream Order

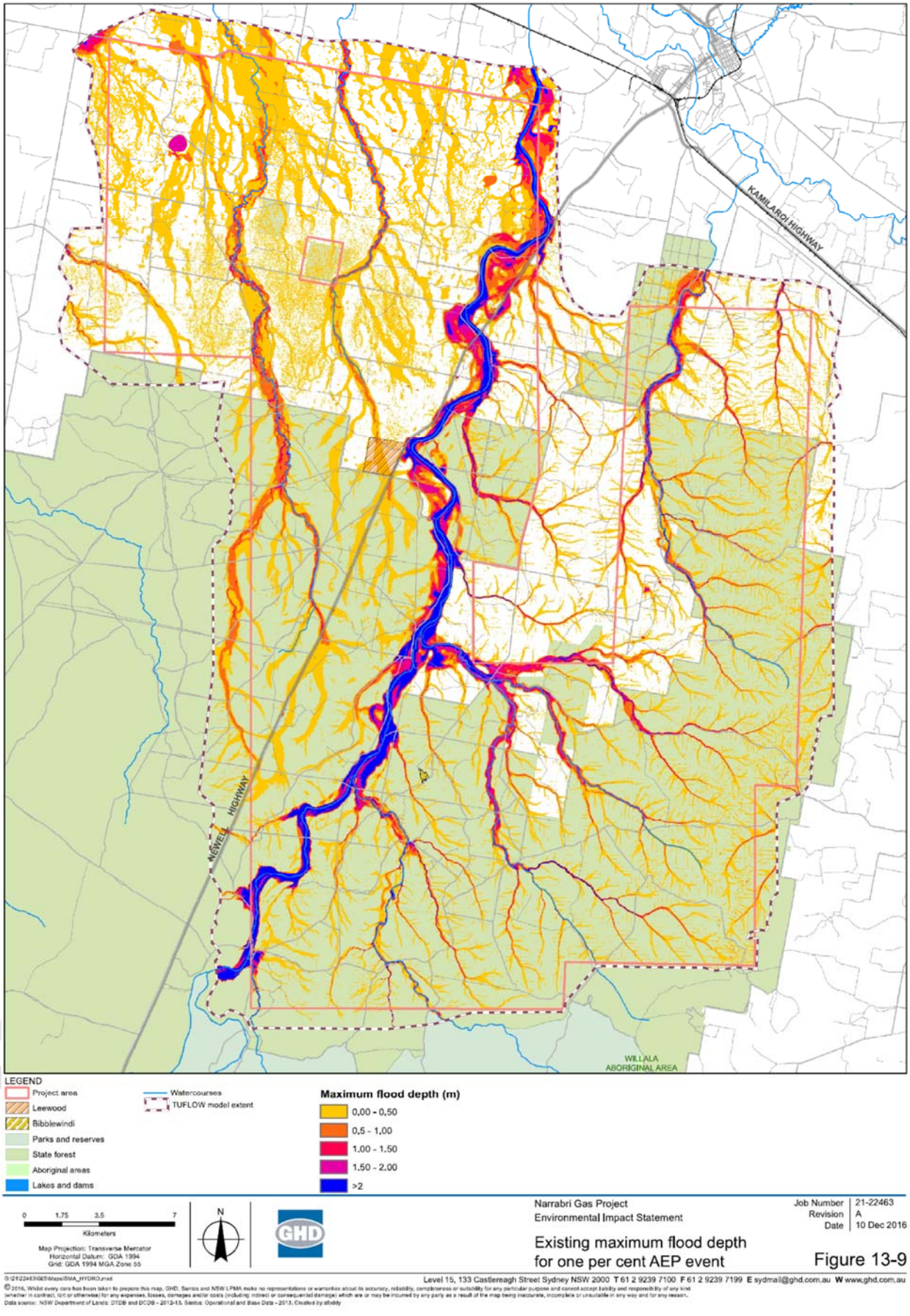


Figure 10: Flooding 1% AEP Event

APPENDIX 6 TREATED WATER QUALITY

Parameter	Australian Drinking Water and Recreational Guidelines (NHMRC, NRMMC 2008; 2011, 2017)	ANZECC / ARMCANZ (2000) Irrigation Guidelines (Long Term > 20 years)	ANZECC / ARMCANZ (2000) Stock watering	Treated water[a]	Treated and Amended water[b]	Treated water[c] (Leewood WBTP)	Treated and Amended water[d] (Leewood WBTP)	RO brine[e] (Leewood WBTP)
	(mg/L)			Target (mg/L)		Actual (mg/L)		
pH (pH units)	6.5 – 8.5	6.0 -9.0	Not referenced	7.1	7.1	7.9	7.1	(Lab) 9.3
Electrical conductivity (laboratory) (µS/cm)	Not referenced	Crop specific – Lucerne (2,700 in loamy soils)	Not referenced	357	566	n/a	107	76000
Total dissolved solids	Health: Not referenced Aesthetic as follows: <600 Good quality 600-900 Fair quality 900-1,200 Poor quality >1,200 Unacceptable	Crop specific – Lucerne: 1,273 – 3,015	No adverse effects to: Beef cattle, pigs and horses: 4,000 Sheep: 5,000	232	368	56	71	n/a
Sodium Adsorption Ratio	Not referenced	<1 Excellent 1-2 Good 2-4 Fair 4-8 Poor 8-15 Very poor >15 Unacceptable	Not referenced	130	3.3	29	3.7	1046
Sodium (filtered)	Health: Not referenced Aesthetic: 180	Crop specific – Lucerne (230 - 460)	Not referenced	77	77	17	18	41600
Magnesium (filtered)	Not referenced	Not referenced	Not referenced	<0.01	<0.01	<1	<1	55

Parameter	Australian Drinking Water and Recreational Guidelines (NHMRC, NRMMC 2008; 2011, 2017)	ANZECC / ARMCANZ (2000) Irrigation Guidelines (Long Term > 20 years)	ANZECC / ARMCANZ (2000) Stock watering	Treated water[a]	Treated and Amended water[b]	Treated water[c] (Leewood WBTP)	Treated and Amended water[d] (Leewood WBTP)	RO brine[e] (Leewood WBTP)
	(mg/L)			Target (mg/L)		Actual (mg/L)		
Aluminium	Health: Not referenced Aesthetics: 2	5	5	<0.001	<0.001	<0.01	<0.01	<0.05
Silica (SiO_2) (µg/L)	80	Not referenced	Not referenced	23	0.15	<0.1	<0.1	135
Potassium (filtered)	Not referenced	Not referenced	Not referenced	0.8	0.8	<1	<1	387
Calcium (filtered)	Health: Not referenced Aesthetic as follows: <60 Soft 60-200 Good quality >200 Increased scaling	Not referenced	1,000	0.01	40.01	<1	6	28
Chromium (III+VI)	0.05	0.1 (Cr^{VI})	1	<0.001	<0.001	<0.001 (Cr^{VI})	<0.001 (Cr^{VI})	<0.01
Manganese	0.5	0.2	Not sufficiently toxic	<0.001	<0.001	<0.001	<0.001	0.014
Iron	<1	0.2	Not sufficiently toxic	<0.001	<0.001	<0.05	<0.05	0.27
Boron	4	Crop specific: 0.5 (sensitive) to 15 (very tolerant)	5	0.12	0.12	0.11	0.09	5.57
Cobalt	Not referenced	0.05	1	<0.001	<0.001	<0.001	<0.001	<0.005
Nickel	0.02	0.2	1	<0.001	<0.001	<0.001	<0.001	<0.005
Copper	2	0.2	0.4 (sheep) 1 (cattle) 5 (pigs)	<0.001	<0.001	<0.001	<0.001	<0.005

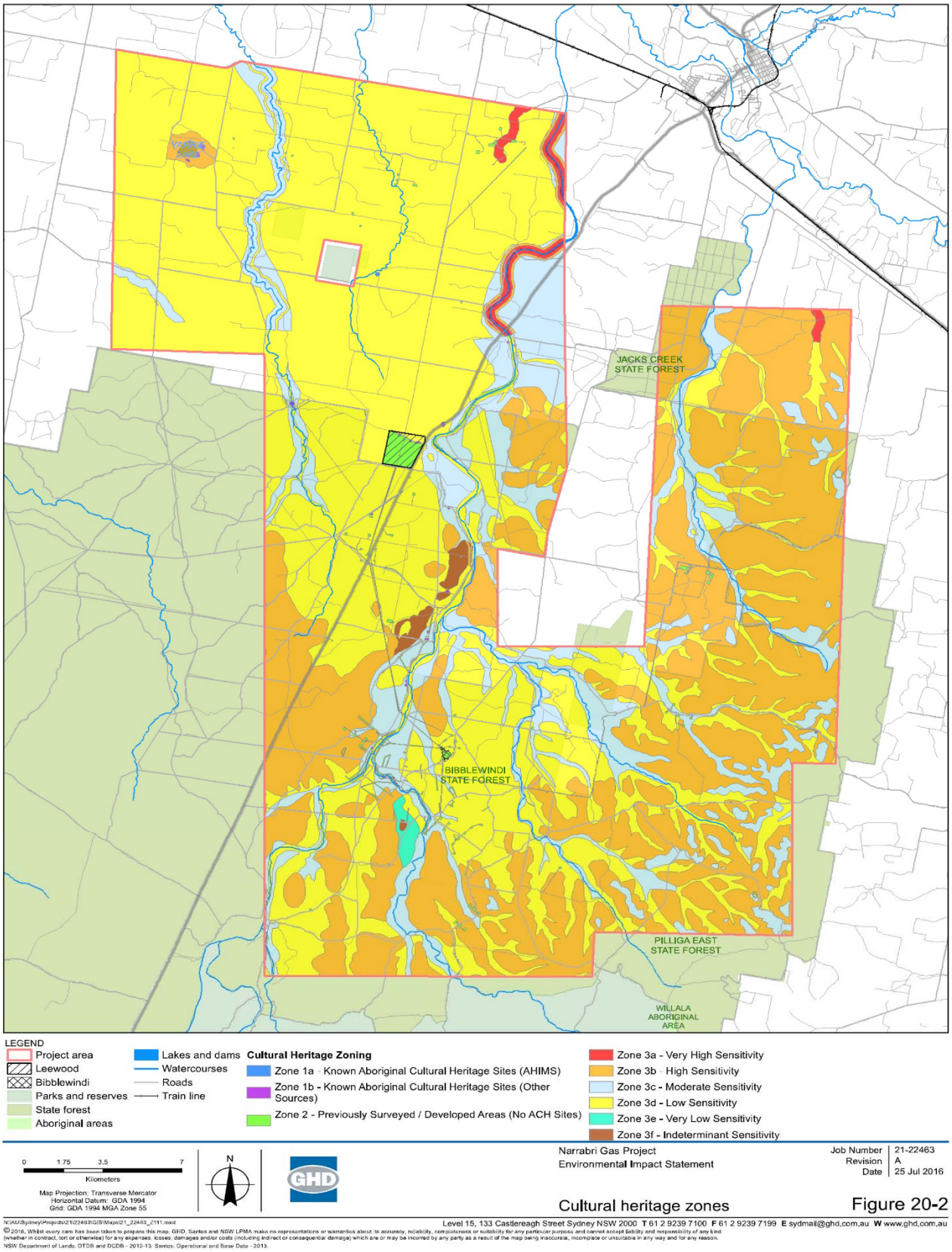
Parameter	Australian Drinking Water and Recreational Guidelines (NHMRC, NRMMC 2008; 2011, 2017)	ANZECC / ARMCANZ (2000) Irrigation Guidelines (Long Term > 20 years)	ANZECC / ARMCANZ (2000) Stock watering	Treated water[a]	Treated and Amended water[b]	Treated water[c] (Leewood WBTP)	Treated and Amended water[d] (Leewood WBTP)	RO brine[e] (Leewood WBTP)
	(mg/L)			Target (mg/L)		Actual (mg/L)		
Zinc	Health: Not referenced Aesthetic: 3	2	20	<0.001	<0.001	<0.005	<0.005	<0.025
Arsenic	0.01	0.1	0.5 – 5	<0.001	<0.001	<0.001	<0.001	0.018
Selenium	0.01	0.02	0.02	<0.001	<0.001	<0.01	<0.01	<0.05
Molybdenum	0.05	0.01	0.15	<0.001	<0.001	<0.001	<0.001	0.006
Cadmium	0.002	0.01	0.01	<0.001	<0.001	<0.0001	<0.0001	0.0012
Barium	2	Not referenced	Not referenced	<0.001	<0.001	<0.001	<0.001	12.3
Mercury	0.001	0.002	0.002	0.0000067	<0.001	<0.0001	<0.0001	<0.0005
Lead	0.017	2	0.1	<0.001	<0.001	<0.001	<0.001	<0.005
Uranium	0.017	0.01	0.2	<0.0028	<0.0028	<0.001	<0.001	<0.005
Alkalinity (total as $CaCO_3$)	Not referenced	Not referenced	Not referenced	139	139	34	28	73500
Ammonia (as N)	Health: Not referenced Aesthetic: 0.5	Crop specific: 25 – 125 (as N)	Not referenced	0.005	0.005	0.25	0.24	n/a
Nitrate (as N)	11	Crop specific: 25 – 125	400	0.005	0.005	0.04	0.06	n/a
Total N	Not referenced	5	Not referenced	0.005	0.005	0.3	0.3	n/a
Sulfate	500	Not referenced	1,000	0.003	95.9	<1	<1	58
Chloride	Health: Not referenced Aesthetics: 250	Crop specific: Lucerne (350 – 700)	Not referenced	15	15	10	19	7030
Fluoride	0.5	1	2 (1 if livestock feed contains fluoride)	0.08	0.08	<0.1	<0.1	47
Total phosphorous	Not referenced	0.05[f]	Not referenced	0.01	0.01	<0.01	<0.01	n/a

n/a not analysed
[a] theoretical composition based on manufacturers specifications
[b] calculated composition based on theoretical treated water and amendment with 1 mol gypsum
[C] all values reported as maximum recorded values, except pH reported as average
[d] treated water amended with calcium chloride
[e] laboratory limits raised due to high salinity
[f] to minimise blocking of irrigation equipment only

APPENDIX 7 HERITAGE SITES

Figure 11: #Aboriginal Heritage Sites

Figure 12:



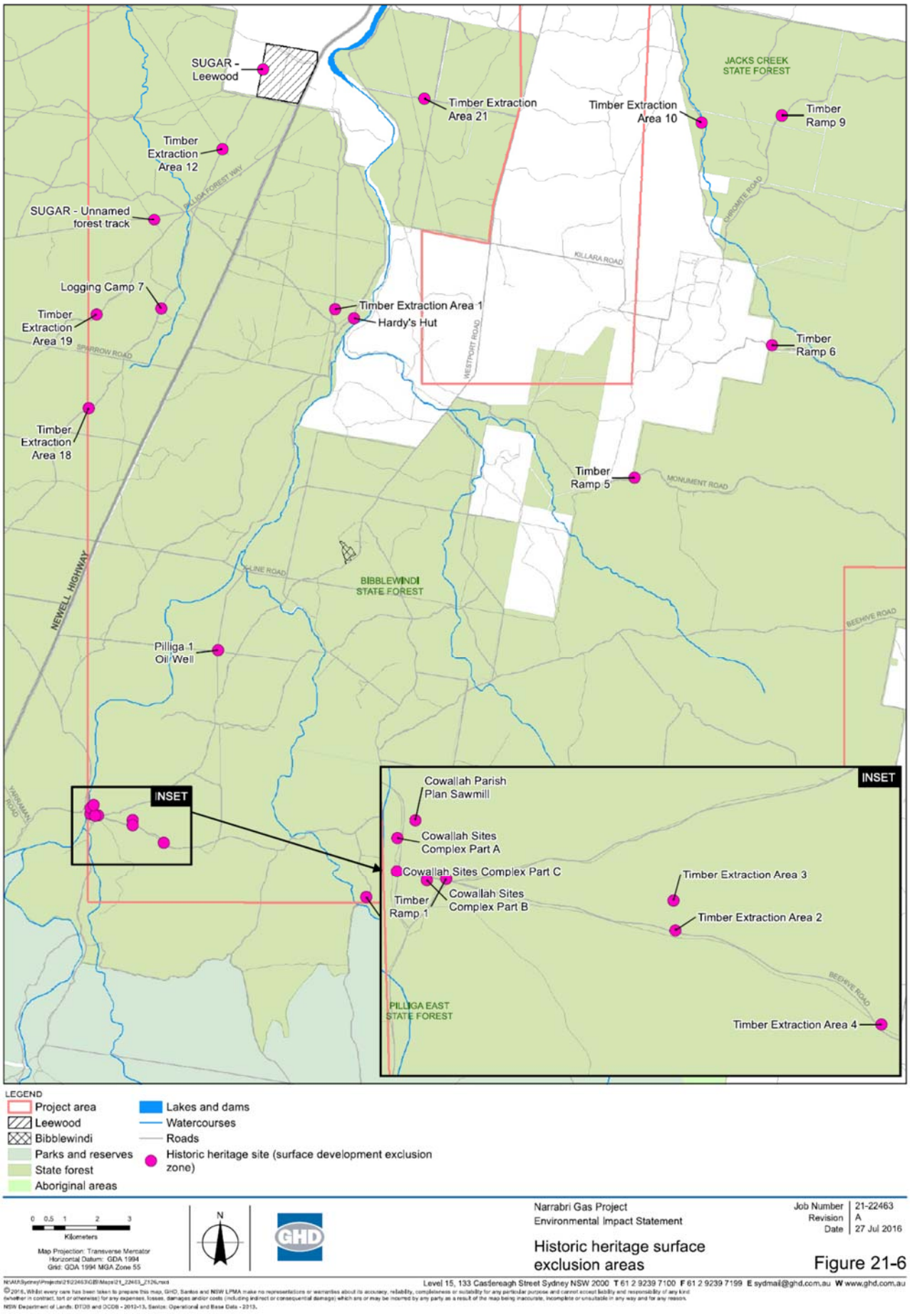


Figure 13: Historic Heritage Sites

APPENDIX 8 GENERAL TERMS OF PLANNING AGREEMENT

Applicant's Contribution	*Intended Use*	*Payment Details*
$10 million	Contributions to be applied towards projects agreed between the Applicant and Council	Initial contribution of $5 million to commence 6 months after development consent and all other approvals required to commence production including Applicant final investment decision, followed by five $1 million annual payments spaced 12 months apart after the date of the initial $5 million payment.
Up to $3 million	Contributions to be applied towards community initiatives and infrastructure projects agreed between the Applicant and Council	Annual payments to an amount the greater of: 0.025% of royalties payable; or $200,000 per year With the first payment to be made 6 years after the date of the initial $5 million payment and subsequent payments to be made on each anniversary thereafter for the next 14 years and up to a maximum total payment over the 14 year period of $3 million
$1.5 million	Maintenance of Council roads impacted by the project	Payment after development consent and all other approvals required to commence petroleum production including Applicant final investment decision