

REGIONAL INTEREST DEVELOPMENT APPLICATION ASSESSMENT REPORT PPL 2050 WACKETT 4

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Appendix A EA EA0002115

Abbreviations

The following abbreviations are used throughout this Supporting Information Report.

Acronym	Description
ATP	Authority to Prospect
BIM	Block Identification Map
BPEM	Best Practice Environmental Management
DEHP	Department of Environment and Heritage Protection, Queensland
DES	Department of Environment and Science, Queensland
EA	Environmental Authority
ESA	Environmentally Sensitive Area
GES	General Ecological Significance
ha	Hectares
km	Kilometre
LC	Least Concern
m	Metres
MSES	Matters of State Environmental Significance
N/A	Not Applicable
NCA	<i>Nature Conservation Act 1992</i>
NCAP	No Concern at Present
PPL 2050	Petroleum Pipeline Licence 2050
RE	Regional Ecosystem
RoW	Right of Way
SEA	Strategic Environmental Area
SMP	Site Management Plan
SMS	Santos Management System

1 Introduction

1.1 Overview

Santos Limited (Santos) Pty Ltd is the operator and authorised holder of Petroleum Pipeline Licence (PPL) 2050. PPL 2050 is located in the Cooper Basin, south west Queensland approximately 30 km east of Durham. This application relates to the Wackett 4 pipeline within PPL 2050.

The construction of the Wackett 4 pipeline occurred in 2005 in accordance with the conditions of the Environmental Authority (EA) EPPG00980113 (formerly Integrated Authority No 150 029). A new area PPL licence 2050 was granted in 2020 and the Wackett 4 pipeline was transferred to this licence. Pipeline operation is a low impact activity and is undertaken in accordance with EA EA0002115.

PPL 2050 is located within the Channel Country strategic environmental area (SEA) prescribed under the *Regional Interests Planning Regulation 2014* (RPI Reg). Prescribed SEAs are identified as 'areas of regional interest' under section 7 of the *Regional Interests Planning Act 2014* (RPI Act). A regional interest development approval (RIDA) issued under section 53 of the RPI Act is required in order to carry out a resource activity within an 'area of regional interest'.

Santos has prepared this assessment report to support an assessment application for a RIDA. This RIDA proposes 0.8 hectares (ha) of disturbance activities relating to the installation of a new mid-line riser within the Channel Country SEA.

The assessment report has been prepared in accordance with the RPI Act Statutory Guideline 01/14: *How to make an assessment application for a regional interests development approval under the RPI Act and the RPI Act Statutory Guideline 05/14: Carrying out resource activities and regulated activities within a Strategic Environmental Area*.

This assessment report provides the following:

- Description of the proposed activities
- Identification of the relevant environmental attributes of the land subject to the application
- Evaluation of the potential impacts on the identified relevant environmental attributes
- An assessment of how the proposed activities meet the required outcome for SEA as detailed in the RPI Reg.

1.2 Applicant and related approvals

Santos is the holder of PPL 2050 and associated Environmental Authority and is therefore an *eligible person* under s28 of the RPI Act.

1.3 Non-notifiable application

In accordance with Section 34(2) of the RPI Act, and Section 13 of the RPI Reg, notification of the assessment application is not mandatory, as the activities are not proposed to be carried out in an area of regional interest that is a priority living area.

The proposed activities within the SEA are located on entirely on the Durham Downs Pastoral Station (Lot 1 on Plan SP133822). Discretionary notification under s34(4) would not be necessary given that separate regulatory systems are in place that require Santos to notify the landholder of petroleum activities occurring within their properties, the very large size of the cattle station relative to the activities, and that the landholder will receive a copy of the application as described below.

1.4 Landholder copy of the application

In accordance with Section 30 of the RPI Act and Schedule 5 of the RPI Reg, a copy of the application will be given to the landowner within 5 business days after the application is made.

1.5 Referable application

In accordance with Section 12(2) and Schedule 1 of the RPI Reg, the application is referable to the Department of Environment and Science (DES) and the Department of Resources (DoR).

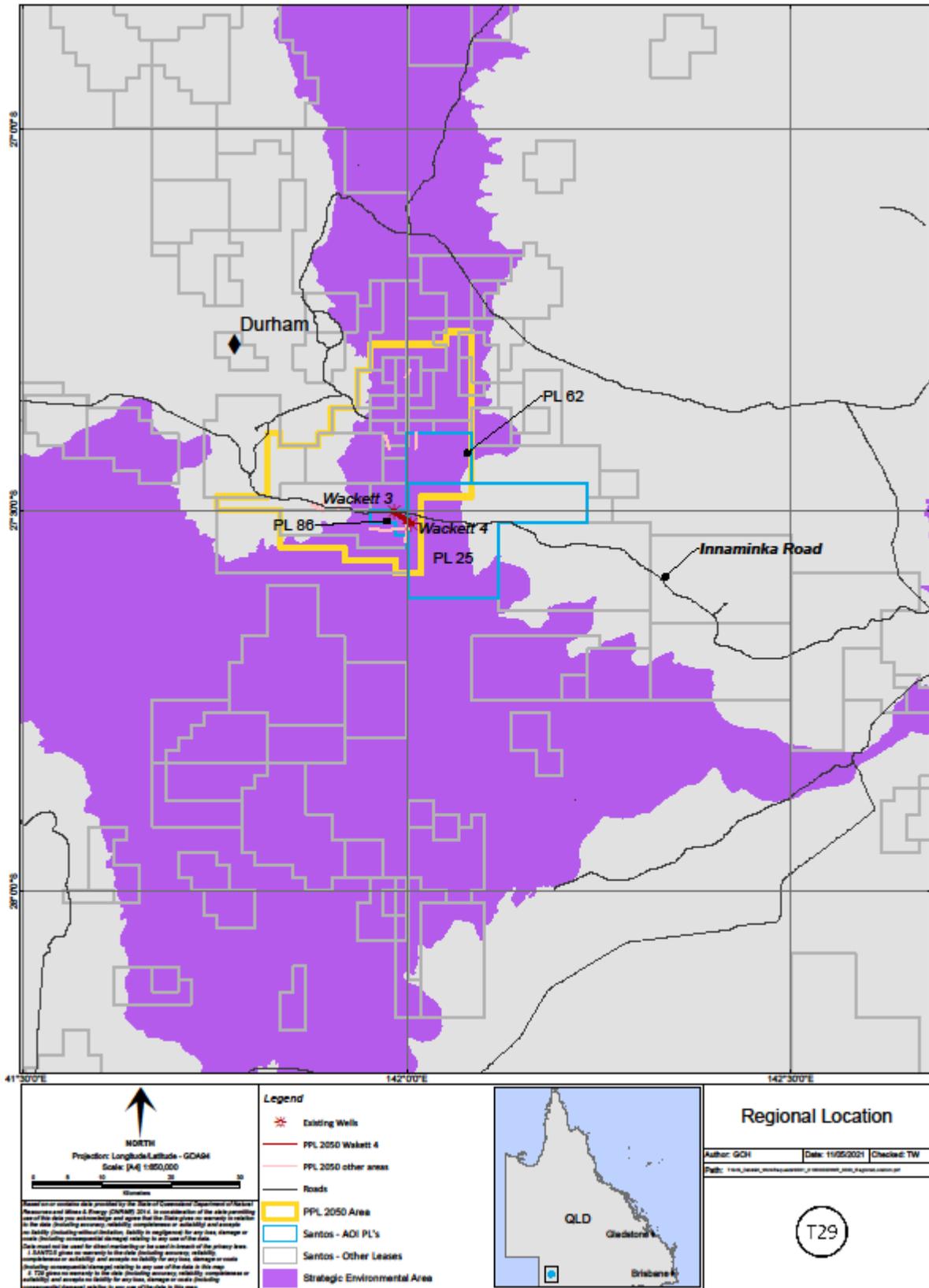


Figure 1 PPL 2050 location

2 Proposed activity – PPL 2050

2.1 Description of activities

Santos proposes the following activities within the Channel Country SEA:

- Excavation of the existing Wackett 4 and Wackett 10 connection and installation of a new riser. The riser will require approximately 20 m of above ground pipe and will be < 1 m high to centreline of piping from grade
- Removal of part of the existing above ground manifold, which currently has a riser and a tee connection to the underground Wackett 4 flowline and replacement with a new manifold pipe and new mid-line riser assembly.

Total area of disturbance proposed is approximately 0.8 ha which includes 0.03 ha for excavation and the remaining area for laydown and workspace is predominately located in an area disturbed for the initial pipeline installation. Works will take approximately 2 to 3 weeks from mobilisation to demobilisation.

The proposed PPL 2050 activities have been minimised in size as far as reasonably practicable and utilise the area previously disturbed for the pipeline installation. The proposed location is located outside riparian corridors.

Erosion and sediment controls are also proposed within the 0.8 ha of construction disturbance, ensuring topsoil is appropriately managed, batters are appropriate and drainage structures are installed as required.

The proposed mid-line riser activities will replace the existing connection of the Wackett 10 flowline into the PPL 2050 pipeline network. In addition, the new riser assembly will have the ability to isolate production which is not currently possible. Refer to Figure 2 for details of the existing and proposed pipe configuration.

2.2 Construction methodology

As described above, the proposed activities includes the excavation of the existing Wackett 4 and Wackett 10 connection and installation of a new riser (refer Photo 1). The new riser will enable development work which is to occur late in 2021. Tasks included in this project will include:

- Using a pipelines inspection gauge (PIG) to remove hydrocarbons from the Wackett 4 flowline
- Excavation at the Wackett 10 tie-in (~10 m x 30 m area)
- Cutting of Wackett 4 flowline
- Installation of new above ground riser for Wackett 10 tie-in
- Installation of an isolation valve
- Installation of new above ground pipe to tie Wackett 10 into Wackett 4 flowline.

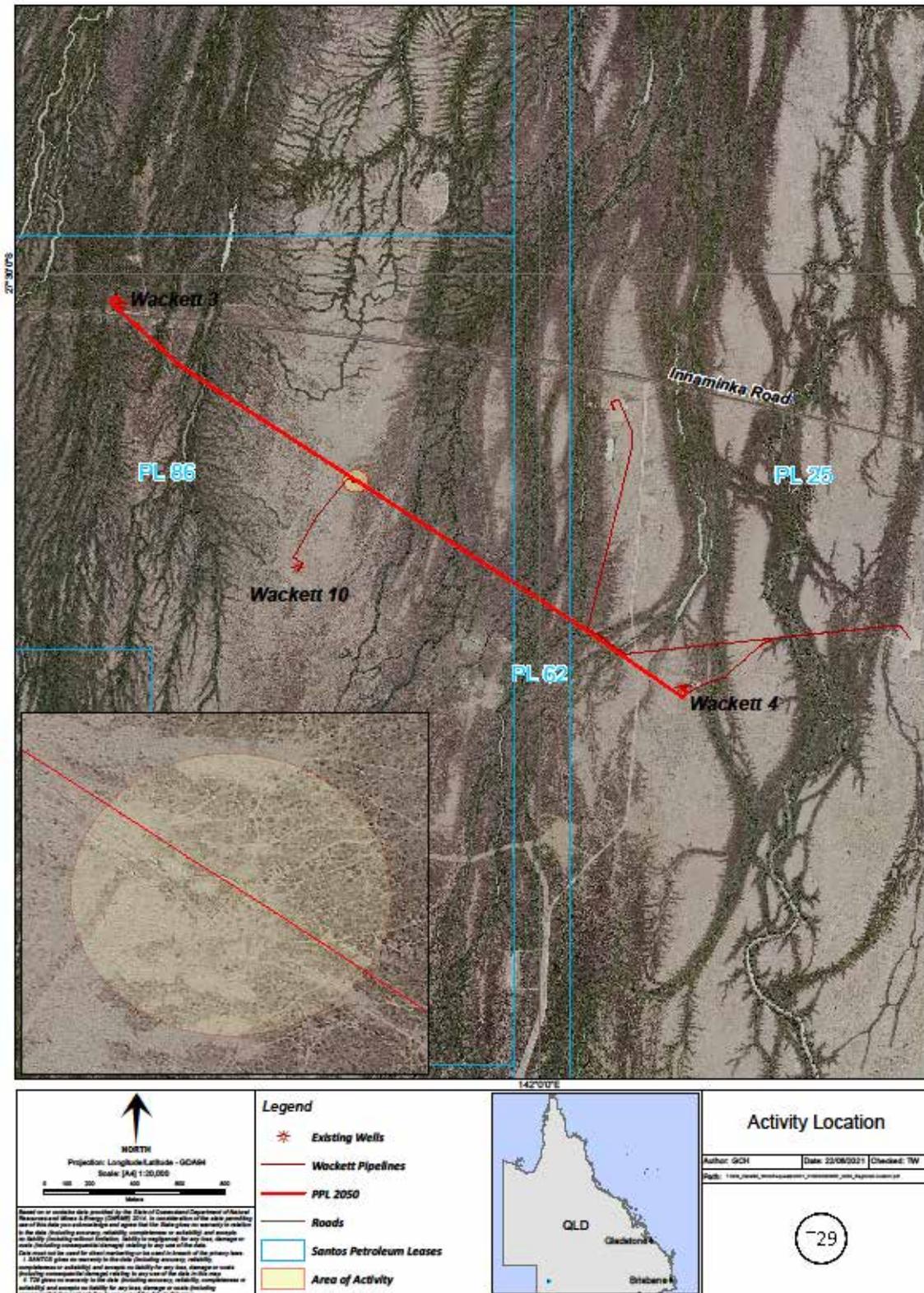


Figure 3 Activities location



Photo 1: Proposed activities

3 Environmental Attributes and Potential Impacts

Section 7 of the RPI Reg prescribes the following environmental attributes relevant to the Channel Country SEA:

- a) the natural hydrologic processes of the area characterised by-
 - i. natural, unrestricted flows in and along stream channels and the channel network in the area; and
 - ii. overflow from stream channels and the channel network onto the flood plains of the area, or the other way; and
 - iii. natural flow paths of water across flood plains connecting waterholes, lakes and wetlands in the area; and
 - iv. groundwater sources, including the Great Artesian Basin and springs, that support waterhole persistence and ecosystems in the area;
- b) the natural water quality in the stream channels and aquifers and on flood plains in the area;
- c) the beneficial flooding of land that supports flood plain grazing and ecological processes in the area.

DSDMIP's RPI Act Statutory Guideline 05/14: Carrying out resource activities and regulated activities within a Strategic Environmental Area summarises the above attributes to broadly relate to:

- Riparian process
- Wildlife corridors
- Water quality
- Hydrologic processes
- Geomorphic processes
- Beneficial flooding.

The relevance of the above environmental attributes to the proposed activities is described below.

3.1 Land Use

The Durham Downs Pastoral Station (Lot 1 on Plan SP133822) is a pastoral lease that operates as a cattle station with a capacity of up to 21,500 head of cattle¹. The primary land uses are cattle grazing and petroleum activities. Sections of the pastoral leases have been subject to long-term grazing from pastoral operations.

¹ S. Kidman & Co Ltd (2018) Durham Downs, <https://www.kidman.com.au/locations/durham-downs/> Accessed 05/02/21.

3.2 Climate

The Channel Country SEA is in an arid to semi-arid region of central Australia where the average rainfall is low. Seasons in the area are characterised by dry, hot summers and short, very dry winters as shown on Figure 4. Climate data from a nearby weather station (Ballera Gas Field (Station Number 045009)) shows that the mean rainfall for the project area from 2000 - 2019 is 181.8 mm/year. The mean number of days of rain more than or equal to 1 mm is 20.1 days/year; that is on average, the project area can expect approximately 344 days each year of less than 1 mm of rainfall. The El-Nino Southern Oscillation (ENSO) exerts significant influence on inter-annual climate variability across the area, producing marked fluctuations in the amount, timing and distribution of rainfall. As such, there is considerable year-to-year variation, particularly during the summer months, ranging from 'failed' wet seasons, to 'normal' and above average rainfall and tropical cyclone activity.

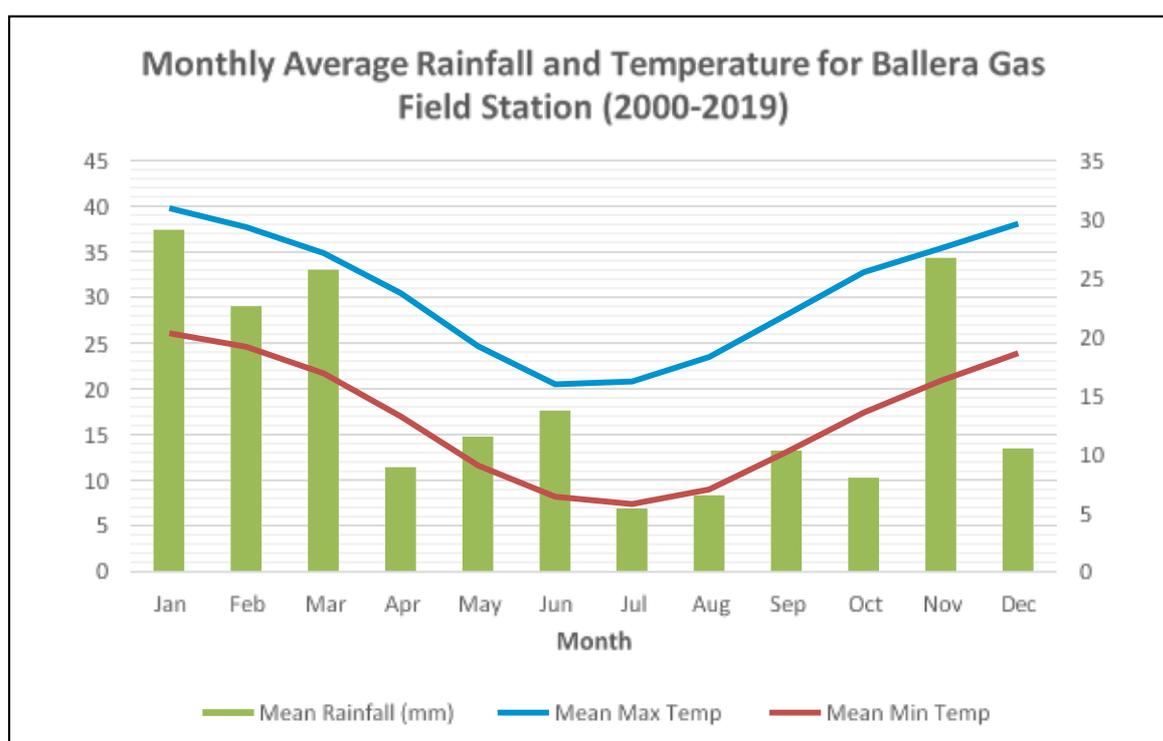


Figure 4 Monthly Average Rainfall and Temperature for Ballera Gas Field Station (2000-2019)

3.3 Relevant environmental values

Environmental attributes of the Channel Country SEA are identified in section 7 of the *Regional Planning Interests Regulation 2014* and include:

- a) the natural hydrologic processes of the area characterised by—
 - i. natural, unrestricted flows in and along stream channels and the channel network in the area; and
 - ii. overflow from stream channels and the channel network onto the flood plains of the area, or the other way; and

- iii. natural flow paths of water across flood plains connecting waterholes, lakes and wetlands in the area; and
- iv. groundwater sources, including the Great Artesian Basin and springs, that support waterhole persistence and ecosystems in the area;
- b) the natural water quality in the stream channels and aquifers and on flood plains in the area;
- c) the beneficial flooding of land that supports flood plain grazing and ecological processes in the area.

The Department of Infrastructure, Local Government and Planning's (DILGP) RPI Act Statutory Guideline 05/14 states that these attributes broadly relate to:

- riparian processes
- wildlife corridors
- water quality
- hydrologic processes
- geomorphic processes
- beneficial flooding.

These attributes (and related values including regional ecosystems, environmentally sensitive areas, protected plants and animals, surface waters and wetlands, land resources and Matters of State Environmental Significance) are considered the primary environmental values for this EA application.

While the application only seeks to enable 0.8 ha of temporary (two to three weeks) disturbance within SEA, for completeness, the following additional environmental values have been considered:

- air and noise
- waste
- rehabilitation.

Given the proposed activity is for a pipeline and would not impact on groundwater, and no particular cultural heritage values within the vicinity of the proposed activities have been identified, these values have not been considered further.

3.3.1 Riparian processes and regional ecosystems

Regional Ecosystem (RE) mapping and aerial photography indicate that vegetation present within PPL 2050 is typical of elsewhere in the bioregion (Channel Country) and subregions (Cooper - Diamantina Plains and Sturt Stony Desert). REs present in PPL 2050 are widespread and commonly present across the Cooper Creek catchment area. Vegetation within PPL 2050 has been subject to long-term cattle grazing from the operation the pastoral stations.

REs mapped to be present within the area of the proposed activities are shown in Figure 5 and detailed in **Error! Not a valid bookmark self-reference.** All REs are listed as No Concern at Present (NCAP). The proposed activities are entirely located within NCAP RE 5.3.18b/5.3.18a/5.3.8a

There are no mapped Environmentally Sensitive Areas (ESAs) present within the proposed disturbance area. The proposed activities will not be undertaken within areas mapped as essential habitat.

Table 1 Regional Ecosystems Descriptions

RE Code	RE Short Description	VM Act Class	BD Status	Structural Category
5.3.18a	Braided channel complex of major alluvial plains, includes <i>Chenopodium auricomum</i> open shrubland and variable sparse to open-herbland.	LC	NCAP	Sparse
5.3.18b	Braided channel complex of major alluvial plains, includes <i>Chenopodium auricomum</i> open shrubland and variable sparse to open-herbland.	LC	NCAP	Sparse
5.3.8a	<i>Eucalyptus coolabah</i> low open woodland +/- <i>Duma florulenta</i> on braided channels, drainage lines, flood plain lakes and claypans.	LC	NCAP	Very Sparse

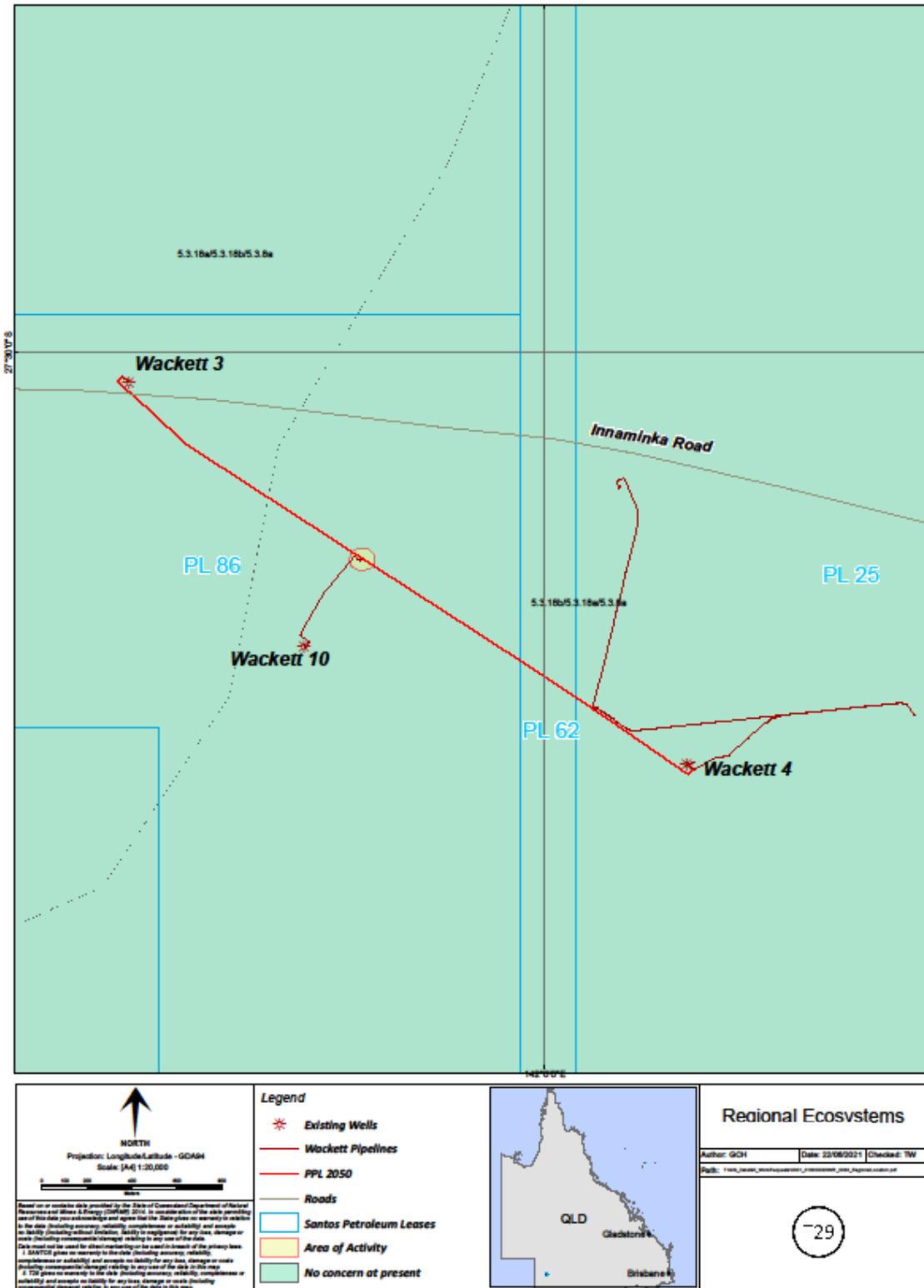


Figure 5 Regional Ecosystems

3.3.2 Wildlife Corridors and protected flora and fauna

Figure 6 shows state and regional riparian and terrestrial corridors in the vicinity of the proposed activities on PPL 2050 as per DES Biodiversity Planning Assessments and Aquatic Conservation Assessments environmental reports. The proposed activities are strategically located outside of riparian corridors.

Riparian corridors identified within these environmental reports are based upon major channels (250k geodata hierarchy 1) and minor channels (250k geodata hierarchy 2 and 3) necessary to capture permanent waterholes, buffered by 1 km either side and clipped to land zone 3². Terrestrial corridors identified within these environmental reports are based upon major themes of habitat connectivity across the bioregion. It includes the north/south and east/west links that cover areas characterised by a relative continuity of similar or related habitat.

The riparian corridors on the eastern and western ends of the PPL 2050 are associated primarily with the Cooper Creek and its braided channels.

The REs within the tenure area (as described in section 3) may provide suitable general habitat for a range of wetland water birds and other flora and fauna. A wildlife online search (both Wildnet records and modelled potential habitat) of the area indicates one species under the *Nature Conservation Act 1992* (NC Act) listed as potentially occurring within a 2 km radius of -27.5083, 141.9926, *Amytornis barbatus* (grey grasswren) which is listed as Near Threatened (refer Appendix B).

Considering the relatively small area of clearance (0.8 ha) and as the proposed activities are within an area which has been previously disturbed, it is unlikely that habitat for grey grasswren will be impacted.

² DERM 2009 *Biodiversity Planning Assessment, Channel Country Bioregion, Landscape Expert Panel Report, Version 1.1*

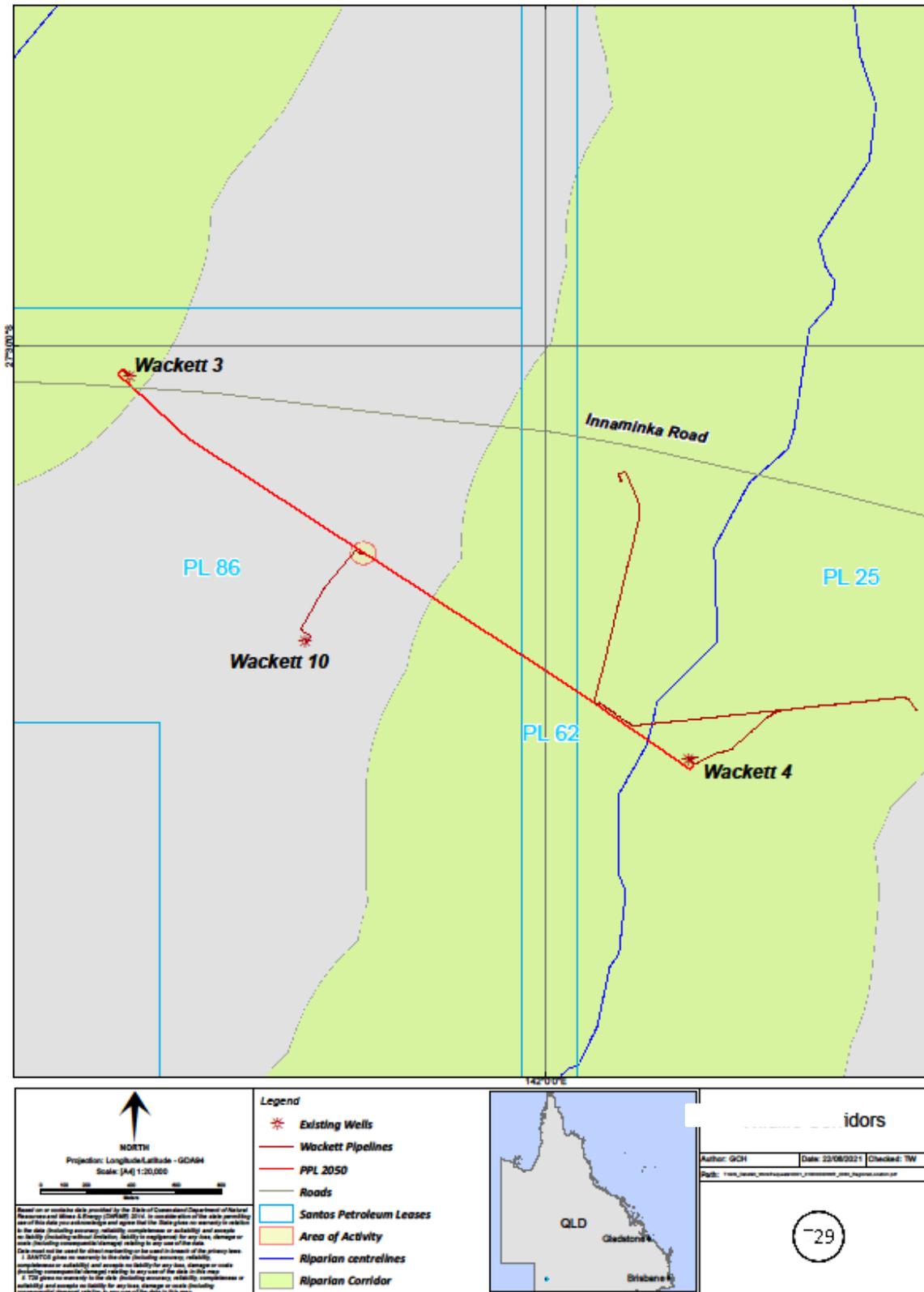


Figure 6 State and Regional Biodiversity Corridors

3.3.3 Surface water and wetlands

PPL 2050 is located in the Cooper Creek catchment area. The Cooper Creek and its braided channels run down the western boundary of the tenure (Figure 6). The drainage system is dominated by the Cooper Creek Basin draining towards Lake Eyre. During periods of high rainfall, the flat topography and drainage channel system becomes a largely flooded plain with water flow concentrating where Cooper Creek crosses the QLD-SA border.

The Cooper Creek system catchment covers an area of approximately 300,000 km². Generally, Cooper Creek streamflow is confined to the main channels, but every 3-4 years, flows are sufficient to inundate parts of the Cooper floodplain via a network of tributary channels. During extended periods of no flow, the Cooper Creek contracts to a series of waterholes. Very large Cooper Creek flood events with the potential to inundate the broader Channel Country region, and flow water into the lower Cooper Creek in South Australia, occur on average once every 10 years, reaching Lake Eyre North in an estimated 1 in every 20 years.

The proposed mid-line riser location does not intersect any mapped watercourses under the *Vegetation Management Act 1999* with the closest watercourse being mapped approximately 240 m from the edge of a disturbance area.

While there is limited water quality data available for Cooper Creek, the data that is available indicates water quality is likely subject to local influence and conditions vary between flood times and periods of no-flow (Smith et al. 2016). Electrical conductivity (EC) levels, while normally low and stable, tend to increase during low or no-flow periods and sharply decrease following inundation (Smith et al. 2016). Turbidity is generally high but varies subject to local influences (Smith et al. 2016). Turbidity decreases from upstream to downstream and then increases again before the Cooper Creek crosses the Queensland–SA border (Smith et al. 2016; Karim et al. 2015).

Historical (1965-2016) water quality data from the QLD Government's Cooper Creek gauging station 003103A, located approximately 99 kilometres south west, is summarised in Table 2.

Table 2 Cooper Creek Surface Water Quality (1956-2016)

Parameter	Average Value
Conductivity @ 25°C	345 µS/cm
Turbidity	512 NTU
pH	7.4
Total Nitrogen	1.4 mg/L
Total Phosphorus as P	0.4 mg/L
Sodium as Na	44.6 mg/L
Magnesium as Mg	7.4 mg/L
Chloride as Cl	62.6 mg/L
Fluoride as F	0.2 mg/L

3.3.4 Land resources and geomorphic processes

3.3.5 Regional

Surface geology is dominated by Quaternary alluvium deposits associated with flood plains, with consolidated Tertiary sediments or Winton Formation on the higher ground. Cooper Creek is a large sedimentary sump accreting over a vast floodplain³.

3.3.6 Local

The dominant soils⁴ within PPL 2050 is CC87;

Flood-plains of major rivers consisting of numerous braided stream channels that are seasonally flooded and slightly higher areas raised between the channels: chief soils are grey clays (Ug5.24) but other cracking clays such as (Ug5.34) and (Ug5.25) may occur.

³ Maroulis, J (undated) Channel Country landforms and the processes that shape them. University of Southern QLD Faculty of Education/Australian Centre for Sustainable Catchments.

⁴ ASRIS (2018). Atlas of Australian Soils (spatial dataset), Australian Soil Resource Information System (CSIRO), Accessed 22/02/2021. Available online at: <http://www.asris.csiro.au/downloads/Atlas/soilAtlas2M.zip>

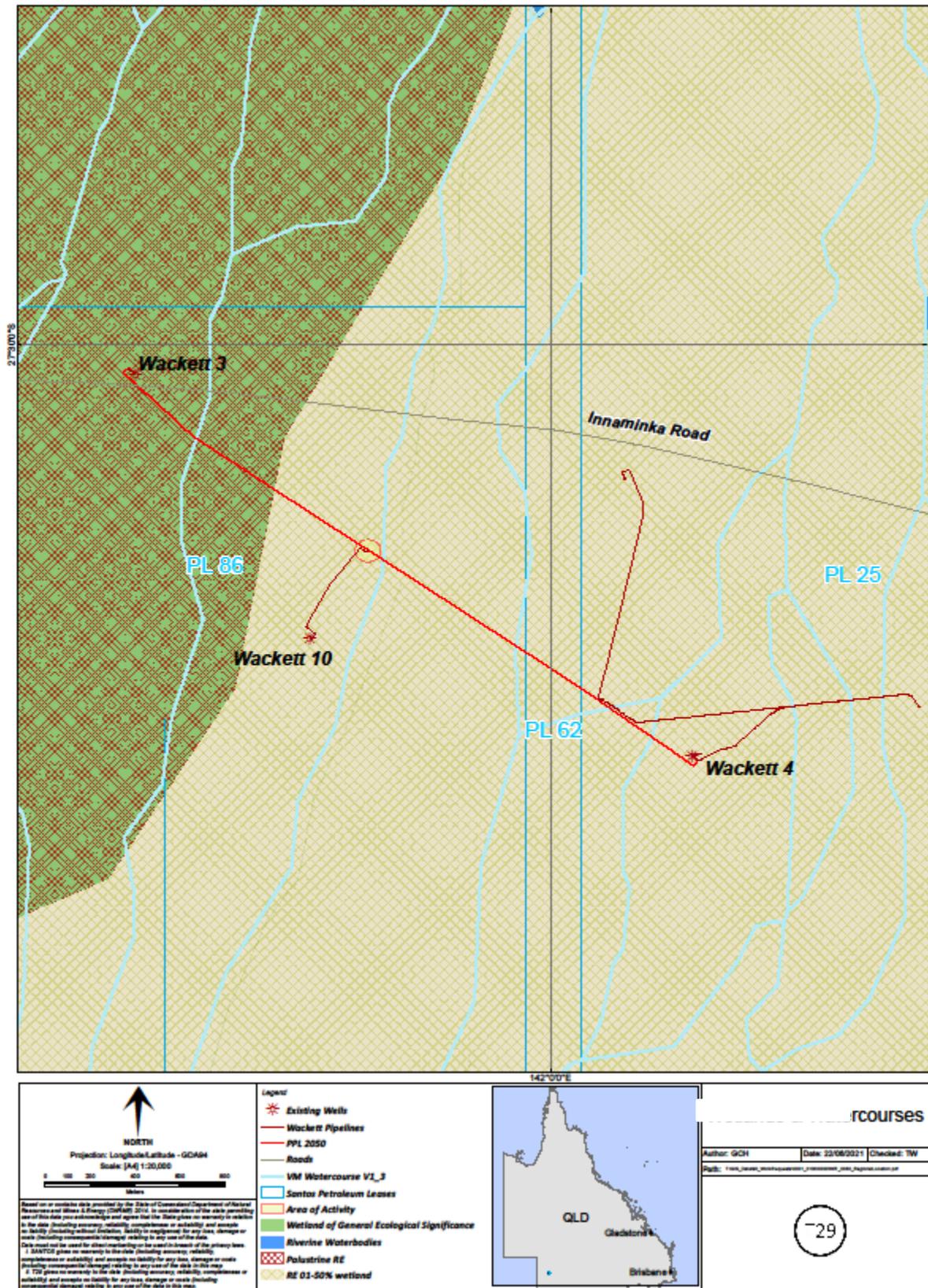


Figure 7 Watercourses and Wetlands

4 Impact assessment

The proposed activities would have a total initial (construction) disturbance area of approximately 0.8 ha within the administrative boundary of the SEA. Following completion of construction, the disturbed area would be rehabilitated to reinstate groundcover consistent with surrounding undisturbed.

4.1 Surface waters and wetlands

4.1.1 Water quality, Hydrological processes and beneficial flooding

No activities proposed involve the discharge of water (point or diffuse sources) or the construction or operation of regulated dams and other major infrastructure (i.e., separator ponds, permanent camps). Any fuels / chemicals used on site will be stored and handled in accordance with Australian Standards and spill kits will be located onsite where required to contain any spills should they occur. All waste materials and non-essential infrastructure will be removed at the end of the petroleum activities as soon as reasonably practicable, minimising risks associated with contamination, or a reduction in water quality, in accordance with EA conditions. Rehabilitation to promote conditions suitable for the natural revegetation of disturbed areas will occur progressively.

Contingency measures for unplanned releases of contaminants will be implemented in accordance with EA conditions. Moreover, due to the slow nature of the encroachment of flood waters in the Cooper Creek, sufficient time is generally available to prepare areas for potential flood impacts e.g. in these situations all non-essential materials present on site at the time (e.g. hydrocarbons, chemicals, infrastructure) shall be removed from construction and/or operational areas prior to the arrival of floodwaters. Works are expected to take two to three weeks.

4.1.2 Riparian processes, regional ecosystems

The proposed activities will result in minimal clearing given their strategic location in a previously disturbed area.

REs 5.3.18 and 5.3.8 are typical of the vegetation communities in the Channel Country Bioregion having very sparse structural categories. Given the sparse nature of the REs, there will be maximum ability to avoid woody mature vegetation. Furthermore, these REs are naturally ephemeral, disturbance tolerant and resilient having naturally adapted to respond to the periods of boom and bust associated with the Channel Country Bioregion.

Specific mitigation measures include:

- The proposed activities will be undertaken in accordance with the conditions of EA EA0002115, particularly Schedules B, E and F.
- Any fuels / chemicals will be stored and handled in accordance with Australian Standards and spill kits will be located onsite to contain any spills if required
- Measures shall be adopted to prevent fauna entrapment within excavation work areas
- Access to and from the proposed activities will occur along designated access tracks only
- Disturbances will be rehabilitated as soon as reasonably practicable following installation of the riser to promote the natural re-establishment of vegetation of similar species composition and density to the surrounding undisturbed land in accordance with the relevant EA.

4.2 Wildlife corridors and protected flora and fauna

Wildlife corridors in the tenure area are primarily associated with the major watercourses. The proposed activities are not within a wildlife corridor, are short duration and have a temporary impact of 0.8 ha.

The following management measures will be implemented:

- Access to and from the proposed activities would occur along designated access tracks only
- Rehabilitation to promote conditions suitable for the natural revegetation of disturbed areas would occur progressively
- Disturbances will be rehabilitated as soon as reasonably practicable following installation of the riser to promote the natural reestablishment of vegetation of similar species composition and density to the surrounding undisturbed land in accordance with the relevant EA.

4.3 Land resources and geomorphic processes

The proposed activity may increase the erosion potential of the site during construction. This is considered unlikely to significantly affect geomorphic processes of the SEA given the minor area of proposed disturbance, and the temporary nature of construction.

Following completion of activities rehabilitation would aim to reinstate the natural drainage features, and promote vegetation consistent with the surrounding undisturbed land such that natural erosion, sedimentation and depositional processes are maintained in the long- term.

4.4 Rehabilitation

Following cessation of petroleum activities, the disturbed area would be rehabilitated to meet the following final acceptance criteria:

- any contaminated land (e.g. contaminated soils) is remediated and rehabilitated
- groundcover, that is not a declared pest species is established and self-sustaining
- vegetation of similar species richness and species diversity to pre-selected analogue sites is established and self-sustaining.

4.5 Risk Assessment of Environmental Values

Table 3 Risk assessment of environmental values

Environmental Value	Risk	Cause	Potential Impacts	Unmitigated Risk			Controls	Residual Risk		
				Likelihood	Consequence	Risk Rating		Likelihood	Consequence	Risk Rating
Land use	Environmental harm causes impacts to landforms, productivity and soils	Ineffective land management during construction activities	<ul style="list-style-type: none"> • Erosion • Degradation of downstream water quality from sediment releases • Land degradation • Land contamination • Land compaction 	Unlikely	Minor	Low	<ul style="list-style-type: none"> • Staff Induction Program • Site planning constraints methodology • Erosion and Sediment Control Implementation • Progressive rehabilitation in accordance with the EA conditions • Santos Contracting Strategy and pre-qualification of contractors 	Rare	Minor	Low
Protected flora	Flora values are impacted causing environmental harm	Ineffective land management during construction activities	<ul style="list-style-type: none"> • Clearing/removal of high value plants (prescribed environmental matters, endangered plants, vulnerable plants) • Clearing/removal of vegetation communities • Translocation or exacerbation of invasive plants 	Unlikely	Minor	Low	<ul style="list-style-type: none"> • Preferentially avoid high value plants and vegetation communities • Staff Induction Program • Site planning constraints methodology • Weed management • Santos Contracting Strategy and pre-qualification of contractors 	Unlikely	Minor	Low

Environmental Value	Risk	Cause	Potential Impacts	Unmitigated Risk			Controls	Residual Risk		
				Likelihood	Consequence	Risk Rating		Likelihood	Consequence	Risk Rating
Protected Fauna	Fauna values are impacted causing environmental harm	Ineffective land management during construction activities	<ul style="list-style-type: none"> Changes in fauna behaviour and/or breeding patterns from noise, dust and/or vibration Entrapment of wildlife in open excavations Accidental injury or death during construction activities 	Unlikely	Minor	Low	<ul style="list-style-type: none"> Staff Induction Program Site planning constraints methodology Controlled vehicle speed where potential fauna movements may occur Short duration of activities Progressive rehabilitation Santos Contracting Strategy and pre-qualification of contractors 	Unlikely	Minor	Low
Surface Water	Quality and quantity is impacted beyond existing impacts in the region	Ineffective land management during construction activities	<ul style="list-style-type: none"> Increased impervious areas and associated increased runoff from site potentially causing sedimentation of watercourses and degradation of aquatic habitats and water quality Hydrocarbon or chemical spills and/or runoff potentially causing degradation of aquatic habitats and water quality Sedimentation of waters as a result of land disturbance 	Unlikely	Minor	Low	<ul style="list-style-type: none"> Erosion and Sediment Control implementation Site planning constraints methodology Staff Induction Program Progressive rehabilitation in accordance with the conditions of the EA Santos Contracting Strategy and pre-qualification of contractors Progressive rehabilitation Works will be undertaken outside of flooding/inundation periods 	Unlikely	Minor	Low

Table 4 Risk assessment matrix

Likelihood of the Consequence	Maximum Reasonable Consequence				
	Insignificant	Minor	Moderate	Major	Catastrophic
Almost certain	Moderate	Moderate-High	High	High	High
Likely	Low-Moderate	Moderate	Moderate-High	High	High
Occasionally	Low	Low-Moderate	Moderate-High	High	High
Unlikely	Low	Low	Moderate	Moderate-High	Moderate-High
Rare	Low	Low	Low-Moderate	Moderate	Moderate-High

Definitions

Likelihood of Consequence

- Rare: this will probably never happen / recur
- Unlikely: Do not expect it to happen / recur but it is possible it may do so
- Occasional: might happen or recur occasionally
- Likely: will probably happen/recur, but is not a persisting issue/ circumstance
- Almost certain: will undoubtedly happen/recur, possibly frequently

Maximum reasonable consequence

- Insignificant: A risk event that, if it occurs, will have little or no impact on the environmental value
- Minor: A risk event that, if it occurs, will have a minor impact on the environmental value
- Moderate: A risk event that, if it occurs, will have a minor impact on the environmental value
- Major: A risk event that, if it occurs, will have a major impact on the environmental value
- Catastrophic: A risk event that, if it occurs, will have a catastrophic impact on the environmental value

5 Required Outcome Assessment

Schedule 2, Part 5 of the RPI Reg provides criteria for assessment by agencies. In accordance with Section 14(3) of the RPI Reg, if the application demonstrates compliance with either of the prescribed solutions stated in Part 5, Schedule 2, the proposed activities will meet the required outcome for the regional interest. Critically, the application demonstrates that the prescribed solution provided in s15(1)(a) will be met as the proposed activity, 0.8 ha of temporary disturbance will not impact on an environmental attribute of the Channel Country SEA. The application also demonstrates the prescribed solution provided in s15(1)(b) will also be met (Table 5).

Table 5 Schedule 2, Part 5 RPI Reg

Schedule 2, Part 5 RPI Reg		Relevance To Application
<p>14 Required outcome <i>The activity will not result in a widespread or irreversible impact on an environmental attribute of a strategic environmental area.</i></p>	ü	The petroleum activities would not result in a widespread or irreversible impact on each of the environmental attributes as provided in section 3 and 4.
<p>15 Prescribed solution <i>(1) The application demonstrates either –</i> <i>(a) the activity will not, and is not likely to, have a direct or indirect impact on an environmental attribute of the strategic environmental area; or</i></p>	ü	Refer to section 3 and 4.
<p><i>(b) all of the following –</i> <i>(i) if the activity is being carried out in a designated precinct in the strategic environmental area –the activity is not an unacceptable use for the precinct;</i></p>	ü	The proposed activities do not include any of the unacceptable uses prescribed by Section 15(2) of the RPI Act.
<p><i>(ii) the construction and operation footprint of the activity on the environmental attribute is minimised to the greatest extent possible;</i></p>	ü	Constraints planning will be implemented to minimise disturbance to an absolute must.
<p><i>(iii) the activity does not compromise the preservation of the environmental attribute within the strategic environmental area;</i></p>	ü	Refer to section 3 and 4.
<p><i>(iv) if the activity is to be carried out in a strategic environmental area identified in a regional plan – the activity will contribute to the regional outcomes, and be consistent with the regional policies, stated in the regional plan.</i></p>	ü	The South West Regional Plan does not identify the Channel Country SEA.

References

BOM (2021). Climate Data Online Accessed: 03/04/2021. Available at:

<http://www.bom.gov.au/climate/data/>

BOM (2021). Queensland Flood History. Accessed: 03/04/2021.

http://www.bom.gov.au/qld/flood/fld_history/

DEHP (2014) *Queensland Environmental Offsets Policy Significant Residual Impact Guideline*, Department of Environment and Heritage Protection.

DEHP (2013) *Guideline: Application requirements for petroleum activities*, version 4. Department of Environment and Heritage Protection.

DoE (2019) *Consultation document on listing eligibility and conservation actions Falco hypoleucos (Grey Falcon)*. Accessed 03/04/2021. Available at:

<http://www.environment.gov.au/search/site/%29%20Consultation%20document%20on%20listing%20eligibility%20and%20conservation%20actions%20Falco%20hypoleucos>

Karim F, Smith M and Cassel R (2015) Current water accounts and water quality for the Cooper subregion. Product 1.5 for the Cooper subregion from the Lake Eyre Basin Bioregional Assessment. Department of the Environment, Bureau of Meteorology, CSIRO and Geoscience Australia, Australia.

<http://data.bioregionalassessments.gov.au/product/LEB/COO/1.5>.

Marree Soil Conservation Board (2004). Marree Soil Conservation Board, District Plan. Government of South Australia, Adelaide.

Smith M, Karim F, Sparrow A, Cassel R and Hall L (2015) Context statement for the Cooper subregion. Product 1.1 for the Cooper subregion from the Lake Eyre Basin Bioregional Assessment. Department of the Environment, Bureau of Meteorology, CSIRO and Geoscience Australia, Australia.

Appendix A EA EA0002115

Permit

Environmental Protection Act 1994

Environmental authority EA0002115

This environmental authority is issued by the administering authority under Chapter 5 of the Environmental Protection Act 1994.

Environmental authority number: EA0002115

Environmental authority takes effect on a date to be decided later.

Environmental authority holder(s)

Name(s)	Registered address
SANTOS LIMITED	Ground Floor, Santos Centre 60 Flinders Street ADELAIDE SA 5000 Australia
SANTOS PETROLEUM PTY LTD	Ground Floor, Santos Centre 60 Flinders Street ADELAIDE SA 5000 Australia
VAMGAS PTY LTD	Ground Floor, Santos Centre 60 Flinders Street ADELAIDE SA 5000 Australia
SANTOS AUSTRALIAN HYDROCARBONS PTY LTD	Ground Floor, Santos Centre 60 Flinders Street ADELAIDE SA 5000 Australia
DELHI PETROLEUM PTY. LTD.	25 Conyngham Street GLENSIDE SA 5065 Australia
BEACH ENERGY (OPERATIONS) LIMITED	Level 8 80 Flinders St ADELAIDE SA 5000 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Resource Activity, Non-Scheduled, Petroleum Activity, Petroleum Pipeline Licence - PPL	PPL2050

Additional information for applicants

Environmentally relevant activities

The description of any environmentally relevant activity (ERA) for which an environmental authority (EA) is issued is a restatement of the ERA as defined by legislation at the time the EA is issued. Where there is any inconsistency between that description of an ERA and the conditions stated by an EA as to the scale, intensity or manner of carrying out an ERA, the conditions prevail to the extent of the inconsistency.

Environmental authority

An EA authorises the carrying out of an ERA and does not authorise any environmental harm unless a condition stated by the EA specifically authorises environmental harm.

A person carrying out an ERA must also be a registered suitable operator under the Environmental Protection Act 1994 (EP Act).

Contaminated land

It is a requirement of the EP Act that an owner or occupier of contaminated land give written notice to the administering authority if they become aware of the following:

- the happening of an event involving a hazardous contaminant on the contaminated land (notice must be given within 24 hours); or
- a change in the condition of the contaminated land (notice must be given within 24 hours); or
- a notifiable activity (as defined in Schedule 3) having been carried out, or is being carried out, on the contaminated land (notice must be given within 20 business days);

that is causing, or is reasonably likely to cause, serious or material environmental harm.

For further information, including the form for giving written notice, refer to the Queensland Government website www.qld.gov.au, using the search term 'duty to notify'.

Take effect

Please note that, in accordance with section 200 of the EP Act, an EA has effect:

- a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority-on the nominated day; or
- b) if the authority states a day or an event for it to take effect-on the stated day or when the stated event happens; or
- c) otherwise-on the day the authority is issued.

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the Sustainable Planning Act 2009 or an SDA Approval under the State Development and Public Works Organisation Act 1971), this EA will not take effect until the additional authorisation has taken effect.

If this EA takes effect when the additional authorisation takes effect, you must provide the administering authority written notice within 5 business days of receiving notification of the related additional authorisation taking effect.

If you have incorrectly claimed that an additional authorisation is not required, carrying out the ERA without the additional authorisation is not legal and could result in your prosecution for providing false or misleading information or operating without a valid environmental authority.

Environmental authority

Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Date issued: 17 January 2020

Enquiries:
Department of Environment and Science
GPO Box 2454 Brisbane QLD 4001
Phone: 1300 130 372
Email: palm@des.qld.gov.au

Environmental authority

Obligations under the Environmental Protection Act 1994

In addition to the requirements found in the conditions of this environmental authority, the holder must also meet their obligations under the EP Act, and the regulations made under the EP Act. For example, the holder must comply with the following provisions of the Act:

- general environmental duty (section 319)
- duty to notify environmental harm (section 320-320G)
- offence of causing serious or material environmental harm (sections 437-439)
- offence of causing environmental nuisance (section 440)
- offence of depositing prescribed water contaminants in waters and related matters (section 440ZG)
- offence to place contaminant where environmental harm or nuisance may be caused (section 443)

Conditions of environmental authority

Conditions of approval for this environmental authority are the eligibility criteria and standard conditions contained within the attached document(s) entitled:

Eligibility criteria and standard conditions Petroleum pipeline activities - Version 2

All reasonable steps must be taken to ensure the activity complies with the eligibility criteria and standard conditions.

Eligibility criteria and standard conditions

Petroleum pipeline activities – Version 2

This document provides eligibility criteria and standard conditions for petroleum pipeline activities. Eligibility criteria are to be used for making a standard or variation application for an environmental authority. Standard conditions are to be used in an environmental authority (standard or variation application) or where necessary and desirable on an environmental authority (site specific application).

Eligibility criteria

Eligibility criteria are constraints set to ensure environmental risks associated with the operation of the environmentally relevant activity (ERA) are able to be managed by the standard conditions.

Standard conditions

Schedule A – Authorised activities

Conditions in Schedule A apply in addition to those in all other schedules. The purpose of Schedule A is to outline that while certain activities are authorised under the *Petroleum and Gas (Production and Safety) Act 2004*, a number of activities are not authorised or are otherwise restricted under the standard conditions in Schedule A (i.e. the 'PPSCA' conditions). This is because the process followed for a standard application does not require a formal assessment by the administering authority.

Schedule B – Protecting environmental values

Conditions in Schedule B apply in addition to those in all other schedules. The purpose of the conditions in Schedule B is to outline the environmental values to be protected or enhanced to minimise environmental harm resulting from the petroleum activities. Negative impacts to these environmental values beyond the authorisations in the standard conditions in Schedule B (i.e. the 'PPSCB' conditions) are considered unlawful environmental harm.

Schedule C – General conditions

Conditions in Schedule C apply in addition to those in all other and apply to all the phases of the petroleum activities including pipeline planning, construction, post-construction, operation, maintenance and decommissioning. Conditions in Schedule C are the operating requirements considered by the administering authority to be acceptable performance standards. In complying with the standard conditions in Schedule C (i.e. the 'PPSCC' conditions), the holder will be carrying out the petroleum activities in a way that reduces the risk of environmental harm. Industry is encouraged to exceed these performance standards.

Schedule D – Pipeline planning

The conditions in Schedule D apply in addition to those in Schedules A, B, C and G and apply to the pipeline planning phase. In complying with the standard conditions in Schedule D (i.e. the 'PPSCD' conditions), the holder will be carrying out the petroleum activities in a way that reduces the risk of environmental harm. Industry is encouraged to exceed these performance standards.

Schedule E – Construction conditions

The conditions in Schedule E apply in addition to those in Schedules A, B, C and G and apply to the construction phase of the pipeline. Under the *Petroleum and Gas (Production and Safety) Act 2004*, a holder of a pipeline licence must comply with [Australian Standard 2885](#) which requires that a construction environmental management plan (CEMP) be developed and implemented. In complying with the CEMP and the standard conditions in Schedule E (i.e. the 'PPSCE' conditions), the holder will be carrying out the petroleum activities in a way that reduces the risk of environmental harm. Industry is encouraged to exceed these performance standards.

Schedule F – Post-construction conditions including operations, maintenance and decommissioning

The conditions in Schedule F apply in addition to those in Schedules A, B, C and G and apply to the post-construction phase of the pipeline. The post construction phase includes operations, maintenance and decommissioning. Under the *Petroleum and Gas (Production and Safety) Act 2004*, a holder of a pipeline licence must comply with Australian Standard 2885.3 which requires that an operations environmental management plan (OEMP) be developed and implemented. In complying with the OEMP and the standard conditions in Schedule F (i.e. the 'PPSCF' conditions), the holder will be carrying out the petroleum activities in a way that reduces the risk of environmental harm. Industry is encouraged to exceed these performance standards.

Schedule G – Monitoring and reporting conditions

The standard conditions in Schedule G (i.e. the 'PPSCG' conditions) apply in addition to all other schedules throughout the life of the petroleum activities. The conditions in Schedule G relate to monitoring and reporting which are necessary and desirable to ensure the activities are being undertaken in compliance with the standard conditions under Schedule B and Schedule C.

Standard applications

If an applicant can meet all of the eligibility criteria and standard conditions, then they may make a standard application. Applicants are required to complete a 'Standard application form'. The form can be downloaded from www.business.qld.gov.au.

Variation applications

If an applicant can comply with all the eligibility criteria but not all of the standard conditions, then the applicant may make a variation application. Applicants are required to complete a 'Variation application form'. The form can be downloaded from www.business.qld.gov.au.

Site specific applications

Applicants who cannot meet the eligibility criteria must make a site specific application. Applicants are required to complete a 'Site specific application form'. The form can be downloaded from www.business.qld.gov.au.

Amendment applications

If the holder of an environmental authority (standard application) needs to amend a standard condition in the issued environmental authority, then the holder must submit an 'Amendment application form'. The form can be downloaded from www.business.qld.gov.au.

For details on how to make an amendment application, see Chapter 5, Part 7, Division 2, sections 224 to 227 of the *Environmental Protection Act 1994*.

Definitions

Some terms used in this document are underlined the first time they appear. They are defined in Appendix 2.

References to other documents

References in this document to laws, regulations, standards, policies, programs, guidelines and similar documents and instruments are to the current version of those documents and instruments, as amended or replaced from time to time.

Version history

Version	Date	Description of changes
1	31 May 2013	Eligibility criteria and standard conditions take effect
2	30 September 2015	Amended for repeal of wild river provisions (as allowed in section 715C of the <i>Environmental Protection Act 1994</i>), updated definitions, and

Eligibility criteria

PPEC 1.

The applicant for the environmental authority is the holder of, or an applicant for a Pipeline Licence (PPL) tenure type issued under the *Petroleum and Gas (Production and Safety) Act 2004*.

PPEC 2.

The petroleum activities are authorised petroleum activities for the purposes of the *Petroleum and Gas (Production and Safety) Act 2004*.

PPEC 3.

The petroleum activity does not include extending an existing pipeline by more than 150 kilometres under a petroleum authority.

PPEC 4.

The petroleum activity does not include constructing a new pipeline of more than 150 kilometres under a petroleum authority.

PPEC 5.

The petroleum activities do not occur in coastal waters of Queensland.

PPEC 6.

The petroleum activity is not, or will not be, carried out under an environmental authority under which any of the following is, or is to be, authorised:

- (a) the injection of a waste fluid or gas for gas storage into a natural underground reservoir or aquifer
- (b) a regulated dam
- (c) the carrying out of the following environmentally relevant activities (ERAs):
 - i. ERA 8 – Chemical Storage
 - ii. ERA 60(1a) – (1d) – Regulated waste disposal
 - iii. ERA 60(2d) – (2h) – General waste disposal > 10,000t/year
 - iv. ERA 63(1a)(ii) – (1b)(ii), (1c) – (1g) – Sewage treatment with a total daily peak design capacity of greater than 21 equivalent persons (EP) which releases to other than an infiltration trench or irrigation scheme or where the sewage treatment activities have a total combined daily peak design capacity exceeding 1500 equivalent persons (EP)
 - v. ERA 64(2a) and (2b) and (4a) and (4b) – Water treatment where desalination of more than 0.5ML of water is treated, allowing the release of waste to waters other than seawater; or carrying out, in a day, advanced treatment of 5ML or more of water, allowing the release of waste only to seawater; or to waters other than seawater.

Standard conditions

Schedule A – Authorised activities

PPSCA 1.

All reasonable steps must be taken to ensure the petroleum activities comply with the eligibility criteria for the activity.

PPSCA 2.

The following types of petroleum activities are not authorised:

- (a) processing or storing petroleum or petroleum by-products that are not necessarily associated with pipeline construction or operation
- (b) extracting earthen materials (other than drilling waste rock or trench spoil) of more than 100,000t/year
- (c) extracting by dredging more than 1000t/year of material from the bed of naturally occurring surface waters
- (d) construction of power lines (either above or below ground) outside the right of way necessary for the pipeline.

Explanatory Note: Standard Condition PPSCA 2(d) does not authorise additional significant disturbance to land. The construction of power lines must be within the pipeline's right of way.

PPSCA 3.

Only low impact petroleum activities can be undertaken within Category A Environmentally Sensitive Areas (ESAs), or Category B ESAs or Category C ESAs other than state forests or timber reserves, or within the ESAs' primary protection zone.

Explanatory Note: Standard condition (PPSCA 3) does not allow for petroleum activities other than low impact petroleum activities within the mentioned ESAs, therefore negative impacts are not authorised to environmental or biodiversity values that are required to be offset under any relevant Queensland Offset Policy. In the event that standard condition (PPSCA 3) needs to be varied to allow for such impacts, offsets under any relevant Queensland Offset Policy may be required.

PPSCA 4.

Non-linear infrastructure is permitted within the secondary protection zone of ESAs provided the location is justified given other constraints and can not be avoided and it can be demonstrated that there will be no negative impacts on the ESA.

PPSCA 5.

Records demonstrating compliance with standard condition (PPSCA 4) must be kept.

Explanatory Note: A risk assessment of the environmental values, impacts and mitigation measures can be developed to help demonstrate compliance with standard conditions (PPSCA 4) and (PPSCA 5).

Schedule B – Protecting environmental values

PPSCB 1.

Petroleum activities that cause significant disturbance to land must not be carried out until financial assurance has been given to the administering authority as security for compliance with the environmental authority and any costs or expenses, or likely costs or expenses, mentioned in section 298 of the *Environmental Protection Act 1994*.

PPSCB 2.

Petroleum activities must not cause environmental nuisance from dust, odour, light, smoke or noise at a sensitive place, other than where an alternative arrangement is in place.

PPSCB 3.

Contaminants must not be directly or indirectly released to land or air except for those releases authorised by standard conditions (PPSCC 9), (PPSCC 13), (PPSCC 14), (PPSCC 15), (PPSCC 16), (PPSCE 4), (PPSCE 8), (PPSCE 11), (PPSCE 12) and (PPSCF 3).

PPSCB 4.

Only low impact petroleum activities are permitted in a designated precinct of a Strategic Environmental Area.

PPSCB 5.

Petroleum activities must:

- (a) firstly, avoid, then minimise, then mitigate any negative impacts on areas of vegetation or other areas of ecological value
- (b) minimise disturbance to land that may otherwise result in land degradation
- (c) minimise isolation, fragmentation or dissection of tracts of vegetation that would lead to a reduction in the current level of ecosystem functioning or ecological connectivity
- (d) minimise clearing of mature or hollow bearing trees.

Explanatory Note: *A written route selection report or CEMP or OEMP or decommissioning plan for the different stages of pipeline petroleum activities can be developed to demonstrate compliance with standard condition (PPSCB 5).*

PPSCB 6.

Where significant disturbance to land is to occur, records demonstrating compliance with standard condition (PPSCB 5) must be kept.

Schedule C – General conditions

Documentation

PPSCC 1.

All plans, procedures and reports must:

- (a) be certified by a suitably qualified person
- (b) be kept on record for a minimum of 5 years.

PPSCC 2.

All plans and procedures required to be developed must be implemented.

Plant and equipment

PPSCC 3.

All plant and equipment reasonably necessary to ensure compliance with the standard conditions must be installed.

PPSCC 4.

All plant and equipment must be maintained and operated in their proper and effective condition.

PPSCC 5.

All measures reasonably necessary to ensure compliance with the standard conditions must be implemented.

Contingency and emergency response

PPSCC 6.

Petroleum activities involving significant disturbance to land or which have the potential to cause environmental harm can only commence after the development of written contingency procedures which address the risks of non-compliance with Schedule B standard conditions.

PPSCC 7.

The contingency procedures must include, but not necessarily be limited to:

- (a) environmental nuisance and complaint management procedures including:
 - i. a description of the petroleum activities that might result in non-compliance with Schedule B standard conditions and what mitigation measures are required to be implemented; and
 - ii. the action that will be undertaken when a member of the public makes a valid complaint.
- (b) management procedures including details of what actions will be taken to protect environmental values and minimise potential environmental harm from petroleum activities as a result of floods, severe storms and fires
- (c) environmental emergency management procedures including details of the response and mitigation measures that will be actioned to reduce negative impacts to environmental values in the event of a non-compliance with Schedule B standard conditions.

Explanatory note: *The contingency procedures may incorporate other documents by reference and may include the emergency response procedures required under the Petroleum and Gas (Production and Safety) Act 2004.*

Soil management

PPSCC 8.

Measures must be implemented and maintained to minimise stormwater entry onto significantly disturbed land.

PPSCC 9.

Sediment and erosion control measures to prevent soil loss and deposition beyond significantly disturbed land must be implemented and maintained.

PPSCC 10.

The measures required by standard conditions (PPSCC 8) and (PPSCC 9) must be in accordance, to the greatest practicable extent, with the International Erosion Control Association (IECA) *Best Practice Erosion and Sediment Control (BPESC) document* and/or the Australian Pipeline Industry Association (APIA) *Code of Environmental Practice: Onshore Pipelines* (2009).

Chemical storage

PPSCC 11.

Chemicals and fuels on the relevant tenures must be stored in, or serviced by, an effective containment system that meets Australian Standards, where such a standard is relevant.

Waste management

PPSCC 12.

Measures must be implemented so that waste is managed in accordance with the waste and resource management hierarchy and the waste and resource management principles.

PPSCC 13.

For waste fluids that can be stored in a container that is other than a low hazard dam, the container must either be an above ground container or a structure which contains the wetting front.

PPSCC 14.

Waste, including waste fluids, must be transported off-site for lawful re-use, remediation, recycling or disposal unless the waste is specifically authorised by standard conditions (PPSCC 15), (PPSCC 16), (PPSCE 8) and (PPSCF 3) to be disposed of or used on-site.

PPSCC 15.

Green waste may be used on-site for rehabilitation and/or sediment and erosion control purposes.

Treated sewage effluent

PPSCC 16.

Treated sewage effluent or greywater can be released to land provided it:

- (a) meets or exceeds secondary treated class B standards for a treatment system with a daily peak design capacity of between 150 EP and 1500 EP; or
- (b) meets or exceeds secondary treated class C standards for a treatment system with a daily peak design capacity of less than 150 EP; and
- (c) is released within fenced and signed contaminant release area(s) and does not result in pooling or run-off or aerosols or spray drift or vegetation die-off.

Financial assurance

PPSCC 17.

Prior to any changes in petroleum activities which would result in an increase to the maximum disturbance since the last financial assurance calculation was submitted, the holder of the environmental authority must submit, and the administering authority must have approved, an application to amend the financial assurance.

Schedule D – Pipeline planning

Site planning

PPSCD 1.

Pipeline planning must be in accordance, to the greatest practicable extent, with the relevant section of the *APIA Code of Environmental Practice: Onshore Pipelines (2009)* and/or AS 2885.1:2012.

Planning for land disturbance

PPSCD 2.

Notwithstanding condition (PPSCD 1), pipeline construction corridors must:

- (a) be minimised in width to the greatest practicable extent
- (b) not exceed 40m in width
- (c) not include turn around and work areas associated with pipeline construction that exceed 50m in width
- (d) be preferentially located alongside existing linear infrastructure.

PPSCD 3.

Prior to any significant disturbance to land:

- (a) an ecological assessment of areas with native vegetation that are to be significantly disturbed, must be conducted in accordance with the Queensland Government's *Biocondition, a Condition Assessment Framework for Terrestrial Biodiversity in Queensland, Assessment Manual*; and
- (b) an assessment of the impacts that will occur as a result of significant disturbance to land must be undertaken.

Schedule E – Construction conditions

PPSCE 1.

Pipeline construction must be in accordance, to the greatest practicable extent, with the relevant section of the *APIA Code of Environmental Practice: Onshore Pipelines (2009)* and/or AS 2885.1:2012.

Activities in watercourses, wetlands, lakes and springs

PPSCE 2.

Petroleum activities that require earthworks, vegetation clearing and/or placing fill, other than that associated with the construction of linear infrastructure, are not permitted in or within:

- (a) 200 metres of any wetland, lake or spring; or
- (b) 100 metres of the outer bank of any other watercourse.

PPSCE 3.

The construction and/or maintenance for linear infrastructure that will result in significant disturbance to a wetland, lake, spring or watercourse must be conducted in accordance with the following order of preference. Conducting works:

1. firstly, in times where there is no water present
2. secondly, in times of no flow
3. thirdly, in times of flow, but in a way that does not impede low flow.

PPSCE 4.

Petroleum activities must not result in water turbidity increases of more than 10% in high ecological value waters outside contained construction or maintenance areas.

PPSCE 5.

The construction and/or maintenance for linear infrastructure that will result in significant disturbance to a lake, spring or watercourse must be designed and undertaken by a suitably qualified person in accordance with the guideline *Activities in a watercourse, lake or spring associated with a resource activity or mining operations*.

PPSCE 6.

The construction and/or maintenance for linear infrastructure that will result in significant disturbance to a wetland must be designed and undertaken by a suitably qualified person taking into consideration sections 5 and 6 of the guideline *Activities in a watercourse, lake or spring associated with a resource activity or mining operations*.

Fauna management

PPSCE 7.

Measures to prevent fauna entrapment must be implemented during the construction of pipelines in pipe sections and pipeline trenches and operation of dams.

Waste

PPSCE 8.

Trench water, hydrostatic testing water or water from low point drains, may be released to land provided that it:

- (a) can be demonstrated to meet the acceptable standards for release to land
- (b) is released in a way that does not cause visible scouring or erosion.

PPSCE 9.

If hydrostatic testing water quality does not or can not be treated to meet the requirements of standard condition (PPSCE 8), it must be managed in accordance with standard conditions (PPSCC 13) or (PPSCC 14).

Blasting

PPSCE 10.

A Blast Management Plan must be developed for each blasting activity in accordance with Australian Standard 2187.

PPSCE 11.

Blasting operations must be designed to not exceed an airblast overpressure level of 120dB (linear peak) at any time, when measured at or extrapolated to any sensitive place.

PPSCE 12.

Blasting operations must be designed to not exceed a ground-borne vibration peak particle velocity of 10mm/s at any time, when measured at or extrapolated to any sensitive place.

Structures that are dams or levees

PPSCE 13.

The hazard category of any dam or levee to be used in carrying out petroleum activities must be assessed in accordance with the Queensland Government *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*.

PPSCE 14.

Low hazard dams must be:

- (a) constructed, operated and maintained in accordance with accepted engineering standards currently appropriate for the purpose for which the dam is intended to be used; and
- (b) designed with a floor and sides made of material that will contain the wetting front and any entrained contaminants within the bounds of the containment system during both its operational life and including any period of decommissioning and rehabilitation.

PPSCE 15.

All low hazard dams must be monitored for early signs of loss of structural or hydraulic integrity as specified in the initial hazard assessment.

PPSCE 16.

When no longer required all low hazard dams must be decommissioned to no longer accept inflow from the petroleum activities and be either:

- (a) rehabilitated; or
- (b) agreed to in writing by the administering authority and the landholder to remain in situ following the cessation of the petroleum activity(ies) associated with the dam, with the contained water of a quality suitable for the intended ongoing uses(s) by that landholder.

Pipeline reinstatement and revegetation

PPSCE 17.

Pipeline trenches must be backfilled and topsoils reinstated within 3 months after pipe laying.

PPSCE 18.

Reinstatement and revegetation of the pipeline right of way must commence within 6 months after completion of petroleum activities for the purpose of pipeline construction.

PPSCE 19.

Backfilled, reinstated and revegetated pipeline trenches and right of way must be:

- (a) a stable landform
- (b) re-profiled to a level consistent with surrounding soils
- (c) re-profiled to original contours and established drainage lines
- (d) vegetated with groundcover which is not a declared pest species, and which is established and self-sustaining.

Schedule F – Post-construction conditions including operations, maintenance and decommissioning

PPSCF1.

Pipeline operation and maintenance must be in accordance, to the greatest practicable extent, with the relevant section of the APIA *Code of Environmental Practice: Onshore Pipelines* (2009) and/or AS 2885.3:2012.

PPSCF 2.

Written procedures must be developed to ensure operations and maintenance of the pipeline complies with the conditions of the environmental authority.

PPSCF 3.

Flush water may be released to land provided that it meets the requirements of standard condition (PPSCE 8).

Final acceptance criteria for rehabilitation

PPSCF 4.

After decommissioning, all significantly disturbed land caused by the carrying out of the petroleum activity(ies) must be rehabilitated to meet the following final acceptance criteria:

- (a) any contaminated land (e.g. contaminated soils) is remediated and rehabilitated
- (b) rehabilitation is undertaken in a manner such that any actual or potential acid sulfate soils on the area of significant disturbance are treated to prevent or minimise environmental harm in accordance with the *Instructions for the treatment and management of acid sulfate soils* (2001)
- (c) for land that is not being cultivated by the landholder:
 - i. groundcover, that is not a declared pest species is established and self-sustaining
 - ii. vegetation of similar species richness and species diversity to pre-selected analogue sites is established and self-sustaining
- (d) for land that is to be cultivated by the landholder, cover crop is revegetated, unless the landholder will be preparing the site for cropping within 3 months of petroleum activities being completed.

PPSCF 5.

Monitoring of performance indicators must be carried out on rehabilitation activities until final acceptance criteria in standard condition (PPSCF 4) have been met for the rehabilitated area.

Schedule G – Monitoring and reporting conditions

Monitoring

PPSCG 1.

All monitoring must be undertaken by a suitably qualified person.

PPSCG 2.

If requested by the administering authority in relation to investigating a valid complaint, monitoring must be undertaken within 10 business days.

PPSCG 3.

All laboratory analyses and tests must be undertaken by a laboratory that has NATA accreditation for such analyses and tests, except as otherwise authorised in writing by the administering authority.

PPSCG 4.

Notwithstanding standard condition (PPSCG 3), where there are no NATA accredited laboratories available to test for a specific analyte or substance, then duplicate samples must be sent to separate laboratories for independent testing or evaluation.

Sampling**PPSCG 5.**

The methods of surface water sampling must comply with that set out in the Queensland Government's *Monitoring and Sampling Manual 2009 – Environmental Protection (Water) Policy 2009*.

PPSCG 6.

The methods of groundwater sampling must comply with the Australian Government's *Groundwater Sampling and Analysis – A Field Guide* (2009:27 GeoCat #6890.1).

PPSCG 7.

Noise must be measured in accordance with the prescribed standards in the *Environmental Protection Regulation 2008*.

PPSCG 8.

The method of measurement of ambient air quality or point source contaminant releases to air must comply with the *Queensland Air Quality Sampling Manual* and/or Australian Standard 4323.1:1995 *Stationary source emissions method 1: Selection of sampling positions*, whichever is appropriate for the relevant measurement.

Notification**PPSCG 9.**

In addition to the requirements under section 320A of the *Environmental Protection Act 1994*, the administering authority must be notified in writing within 5 business days of any event which has resulted in the contingency procedures required by standard conditions (PPSCG 6) and (PPSCG 7) being activated.

Explanatory note: Notification under standard condition (PPSCG 9) should occur using the form, Incident notification for resource activities other than mining (EM706) available from the administering authority's website.

Reporting**PPSCG 10.**

The annual return must include an Update Report detailing activities during the annual return period, demonstrating:

- (a) significant disturbance during the period
- (b) rehabilitation undertaken
- (c) a list of all valid complaints relating to environmental issues made including the date, source, reason for the complaint and a description of investigations undertaken in resolving the complaint
- (d) the results of all monitoring undertaken.

Appendix 1: General obligations under the *Environmental Protection Act 1994*

Responsibilities under the *Environmental Protection Act 1994*

Separate to the requirements of standard conditions, the holder of the environmental authority must also meet their obligations under the *Environmental Protection Act 1994*, and the regulations made under that Act. For example, the holder must be aware of the following provisions of the *Environmental Protection Act 1994*.

General environmental duty

Section 319 of the *Environmental Protection Act 1994* states that we all have a general environmental duty. This means that we are all responsible for the actions we take that affect the environment. We must not carry out any activity that causes or is likely to cause environmental harm unless we take all reasonable and practicable measures to prevent or minimise the harm. To decide what meets your general environmental duty, you need to think about these issues:

- the nature of the harm or potential harm
- the sensitivity of the receiving environment
- the current state of technical knowledge for the activity
- the likelihood of the successful application of the different measures to prevent or minimise environmental harm that might be taken
- the financial implications of the different measures as they would relate to the type of activity.

It is not an offence not to comply with the general environmental duty, however maintaining your general environmental duty is a defence against the following acts:

- (a) an act that causes serious or material environmental harm or an environmental nuisance
- (b) an act that contravenes a noise standard
- (c) a deposit of a contaminant, or release of stormwater run-off, mentioned in section 440ZG.

More information is available on the Department of Environment and Heritage Protection website www.ehp.qld.gov.au.

Duty to notify

Section 320 of the *Environmental Protection Act 1994* explains the duty to notify. The duty to notify applies to all persons and requires a person or company to give notice where serious or material environmental harm is caused or threatened. Notice must be given of the event, its nature and the circumstances in which the event happened. Notification can be verbal, written or by public notice depending on who is notifying and being notified.

The duty to notify arises where:

- a person carries out activities or becomes aware of an act of another person arising from or connected to those activities which causes or threatens serious or material environmental harm
- while carrying out activities a person becomes aware of the happening of one or both of the following events:
 - the activity negatively affects (or is reasonably likely to negatively affect) the water quality of an aquifer
 - the activity has caused the unauthorised connection of 2 or more aquifers.

For more information on the duty to notify requirements refer to the guideline *Duty to notify of environmental harm (EM467)*.

Notifiable activities

It is a requirement under the *Environmental Protection Act 1994* that if an owner or occupier of land becomes aware that a Notifiable Activity (as defined by Schedule 4 of the *Environmental Protection Act 1994*) is being carried out on the land or that the land has been affected by a hazardous contaminant, they must, within 22 business days after becoming so aware, give notice to the administering authority.

Some relevant offences under the *Environmental Protection Act 1994*

Non-compliance with a condition of an environmental authority (section 430)

Section 430 of the *Environmental Protection Act 1994* requires that a person who is the holder of, or is acting under, an environmental authority must not wilfully contravene, or contravene a condition of the authority.

Environmental authority holder responsible for ensuring conditions complied with (section 431)

Section 431 of the *Environmental Protection Act 1994* requires that the holder of an environmental authority must ensure everyone acting under the authority complies with the conditions of the authority. If another person acting under the authority commits an offence against section 430, the holder also commits an offence, namely, the offence of failing to ensure the other person complies with the conditions.

Causing serious or material environmental harm (sections 437–39)

Material environmental harm is environmental harm that is not trivial or negligible in nature. It may be great in extent or context or it may cause actual or potential loss or damage to property. The difference between material and serious harm relates to the costs of damages or the costs required to either prevent or minimise the harm or to rehabilitate the environment. Serious environmental harm may have irreversible or widespread effects or it may be caused in an area of high conservation significance. Serious or material environmental harm excludes environmental nuisance.

Causing environmental nuisance (section 440)

Environmental nuisance is unreasonable interference with an environmental value caused by aerosols, fumes, light, noise, odour, particles or smoke. It may also include an unhealthy, offensive or unsightly condition because of contamination.

Depositing a prescribed water contaminant in waters (section 440ZG)

Prescribed contaminants include a wide variety of contaminants listed in Schedule 9 of the *Environmental Protection Act 1994*.

It is your responsibility to ensure that prescribed contaminants are not left in a place where they may or do enter a waterway, the ocean or a stormwater drain. This includes making sure that stormwater falling on or running across your site does not leave the site contaminated. Where stormwater contamination occurs you must ensure that it is treated to remove contaminants. You should also consider where and how you store material used in your processes onsite to reduce the chance of water contamination.

Placing a contaminant where environmental harm or nuisance may be caused (section 443)

A person must not cause or allow a contaminant to be placed in a position where it could reasonably be expected to cause serious or material environmental harm or environmental nuisance.

Some relevant offences under the *Waste Reduction and Recycling Act 2011*

Littering (section 103)

Litter is any domestic or commercial waste and any material a person might reasonably believe is refuse, debris or rubbish. Litter can be almost any material that is disposed of incorrectly. Litter includes cigarette butts and drink bottles dropped on the ground, fast food wrappers thrown out of the car window, poorly secured material from a trailer or grass clippings swept into the gutter. However, litter does not include any gas, dust, smoke or material emitted or produced during, or because of, the normal operations of a

building, manufacturing, mining or primary industry.

Illegal dumping of waste (section 104)

Illegal dumping is the dumping of large volumes of litter (200L or more) at a place. Illegal dumping can also include abandoned vehicles.

Responsibilities under other legislation

An environmental authority pursuant to the *Environmental Protection Act 1994* does not remove the need to obtain any additional approval for the activity that might be required by other State and/or Commonwealth legislation. Other legislation for which a permit may be required includes but is not limited to the:

- *Aboriginal Cultural Heritage Act 2003*
- contaminated land provisions of the *Environmental Protection Act 1994*
- *Fisheries Act 1994*
- *Forestry Act 1959*
- *Nature Conservation Act 1992*
- *Petroleum and Gas (Production and Safety) Act 2004 / Petroleum Act 1923*
- *Queensland Heritage Act 1992*
- *Sustainable Planning Act 2009*
- *Water Supply (Safety and Reliability) Act 2008*
- *Water Act 2000*

Applicants are advised to check with all relevant statutory authorities and comply with all relevant legislation.

An environmental authority for petroleum activities is not an authority to impact on water levels or pressure heads in groundwater aquifers in or surrounding formations. There are obligations to minimise or mitigate any such impact under other Queensland Government and Commonwealth Government legislation.

Appendix 2: Definitions

Explanatory note: Where a term is not defined in this document, the definition in the Environmental Protection Act 1994, its regulations and environmental protection policies, then the Acts Interpretation Act 1954 then the Macquarie Dictionary should be used in that order.

Term	Definition
acceptable standards for release to land	<p>is defined as:</p> <p>(a) electrical conductivity (EC) not exceeding 3000μS/cm</p> <p>(b) sodium adsorption ratio (SAR) not exceeding 8</p> <p>(c) and for hydrostatic testing water, water from low point drains and flush water, total heavy metals for each element listed meets the respective short term trigger value in Table 4.2.6. – Heavy metals and metalloids in Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC) 2000.</p>
accepted engineering standards	<p>in relation to dams, means those standards of design, construction, operation and maintenance that are broadly accepted within the profession of engineering as being good practice for the purpose and application being considered. In the case of dams, the most relevant documents would be publications of the <i>Australian National Committee on Large Dams</i> (ANCOLD), guidelines published by Queensland government departments and relevant Australian and New Zealand Standards.</p>
acid sulfate soil(s)	<p>means a soil or soil horizon which contains sulfides or an acid soil horizon affected by oxidation of sulfides.</p>
administering authority	<p>has the meaning in Schedule 4 of the <i>Environmental Protection Act 1994</i>.</p>
alternative arrangement	<p>means a written agreement about the way in which a particular nuisance impact will be dealt with at a sensitive place, and may include an agreed period of time for which the arrangement is in place. An alternative arrangement may include, but is not limited to, a range of nuisance abatement measures to be installed at the sensitive place, or provision of alternative accommodation for the duration of the relevant nuisance impact.</p>
analogue site(s)	<p>means an area of land which contains values and characteristics representative of an area to be rehabilitated prior to disturbance. Such values must encompass land use, topographic, soil, vegetation and other ecological characteristics. Analogue sites can be the pre-disturbed site of interest where significant surveying effort has been undertaken to establish benchmark parameters.</p>
analyte(s)	<p>means a chemical parameter determined by either physical measurement in the field or by laboratory analysis.</p>
annual return period	<p>means the most current 12-month period between 2 anniversary dates.</p>
aquifer	<p>means an identifiable stratigraphic formation that has the potential to produce useful flows of water.</p>

Term	Definition
Australian Standard 2187	means Australian Standard 2187.0:1998 Explosives—Storage, transport and use, Part 0, Australian Standard 2187.1:1998 Explosives—Storage, transport and use Part 1 and Australian Standard 2187.2:2006 Explosives—Storage and use, Part 2 or any updated versions that becomes available from time to time.
Australian Standard 2885	means Australian Standard 2885.0:2008 Pipelines – Gas and Liquid Petroleum General Requirements, Australian Standard 2885.0-2008/Amdt 1-2012 Pipelines - Gas and Liquid Petroleum General Requirements, Australian Standard 2885.1:2012 Pipelines – Gas and Liquid Petroleum Design and Construction and Australian Standard 2885.3:2012 Pipelines – Gas and Liquid Petroleum Operation and Maintenance, or any updated versions that become available from time to time.
bed	of any waters, has the meaning in Schedule 12 Part 2 of the Environmental Protection Regulation 2008.
business day	has the meaning in section 36 of the <i>Acts Interpretation Act 1954</i> .
Category A ESA	means any area listed in Schedule 12, Section 1 of the Environmental Protection Regulation 2008.
Category B ESA	means any area listed in Schedule 12, Section 2 of the Environmental Protection Regulation 2008.
Category C ESA	<p>means any of the following areas:</p> <ul style="list-style-type: none"> • nature refuges as defined in the conservation agreement for that refuge under the <i>Nature Conservation Act 1992</i> • State forests or timber reserves as defined under the <i>Forestry Act 1959</i> • resources reserves under the <i>Nature Conservation Act 1992</i> • an area validated as 'essential habitat' or 'essential regrowth habitat' from ground-truthing surveys in accordance with the <i>Vegetation Management Act 1999</i> for a species of wildlife listed as endangered, vulnerable, rare or near threatened under the <i>Nature Conservation Act 1992</i> • 'of concern regional ecosystems' identified in the database called 'RE description database' containing regional ecosystem numbers and descriptions • threshold regional ecosystems as defined and listed in Appendix 6 of the <i>Queensland Biodiversity Offsets Policy</i> • critically limited regional ecosystems as defined and listed in Appendix 5 of the <i>Queensland Biodiversity Offsets Policy</i>.

Term	Definition
certified	<p>in relation to any matter other than a design plan, 'as constructed' drawings or an annual report regarding dams means, a Statutory Declaration by a suitably qualified person or suitably qualified third party accompanying the written document stating:</p> <ul style="list-style-type: none"> • the person's qualifications and experience relevant to the function • that the person has not knowingly included false, misleading or incomplete information in the document • that the person has not knowingly failed to reveal any relevant information or document to the administering authority • that the document addresses the relevant matters for the function and is factually correct; and • that the opinions expressed in the document are honestly and reasonably held.
clearing	has the meaning in the dictionary of the <i>Vegetation Management Act 2000</i> .
cultivated	means used for cropping or gardening.
coastal waters	has the meaning in section 440ZH of the <i>Environmental Protection Act 1994</i> and means the coastal waters of the state, and includes other waters within the limits of the state that are subject to the ebb and flow of the tide.
dam(s)	means a land-based structure or a void that is designed to contain, divert or control flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works. A dam does not mean a fabricated or manufactured tank or container, designed and constructed to an Australian Standard that deals with strength and structural integrity of that tank or container.
daily peak design capacity	for sewage treatment works, has the meaning in Schedule 2, section 63(4) of the Environmental Protection Regulation 2008 as the higher equivalent person (EP) for the works calculated using each of the formulae found in the definition for EP.
declared pest species	has the meaning in the Land Protection (Pest and Stock Route Management) Regulation 2003 and is a live animal or plant declared to be a declared pest under section 36 (Declaring Pests by Regulation) or section 37(2) (Declaring Pest under Emergency Pest Notice) of that Act and includes reproductive material of the animal or plant.
decommissioning	in relation to pipelines means the actions undertaken in accordance with the requirements of Australian Standard 2885, as amended from time to time, to prepare the pipeline and peripheral facilities for pending suspension or abandonment.

Term	Definition
designated precinct	<p>has the meaning in Part 5 section 15(3) of the Regional Planning Interests Regulation 2014:</p> <ul style="list-style-type: none"> • for a strategic environmental area mentioned in section 4(1)—the area identified as a designated precinct on the strategic environmental area map for the strategic environmental area; or • for a strategic environmental area is shown on a map in a regional plan – the area identified on the map as a designated precinct for the strategic environmental area.
documents	has the meaning in section 36 of the <i>Acts Interpretation Act 1954</i> .
ecological connectivity	is a measure of ecological condition and means the flow or connection of organisms and ecological processes across landscapes at multiple scales. Ecological connectivity has a positive relationship with landscape connectivity and habitat connectivity and effects vary between species. It includes connectivity by stepping stone or contiguous bioregional/local corridor networks.
ecosystem functioning	means the interactions between and within living and nonliving components of an ecosystem and generally correlates with the size, shape and location of the vegetation community.
eligibility criteria	for an environmentally relevant activity, has the meaning in section 112 of the <i>Environmental Protection Act 1994</i> .
environmental attribute	has the meaning in section 11(2) of the <i>Regional Planning Interests Act 2014</i>
environmental harm	has the meaning in section 14 of the <i>Environmental Protection Act 1994</i> .
environmental value(s)	has the meaning in section 9 of the <i>Environmental Protection Act 1994</i> .
environmental nuisance	has the meaning in section 15 of the <i>Environmental Protection Act 1994</i> .
equivalent person or EP	<p>has the meaning under section 3 of the Planning Guidelines For Water Supply and Sewerage, 2005, published by the Queensland Government. It is calculated in accordance with Schedule 2, Section 63(4) of the Environmental Protection Regulation 2008 where:</p> <ul style="list-style-type: none"> • $EP = V/200$ where V is the volume, in litres, of the average dry weather flow of sewage that can be treated at the works in a day; or • $EP = M/2.5$ where M is the mass, in grams, of phosphorus in the influent that the works are designed to treat as the inlet load in a day.
environmentally relevant activity or ERA	has the meaning in section 18 of the <i>Environmental Protection Act 1994</i> .
financial assurance	for an environmental authority, means financial assurance given for the authority under Chapter 5, part 12, division 2 of the <i>Environmental Protection Act 1994</i> .
green waste	means waste that is grass cuttings, trees, bushes, shrubs, material lopped from trees, untreated timber or other waste that is similar in nature but does not include declared pest species.

Term	Definition
greywater	means wastewater generated from domestic activities such as laundry, dishwashing, and bathing. Greywater does not include sewage.
hazard category	means a category, either low, significant or high, into which a dam is assessed as a result of the application of tables and other criteria in <i>Manual for Assessing Hazard Categories and Hydraulic Performance of Dams</i> , published by the Queensland Government, as amended from time to time.
high ecological value waters	means Queensland waters that are scheduled waters under the Environmental Protection (Water) Policy 2009 as high value ecological waters.
lake	means: <ul style="list-style-type: none"> • a lagoon, swamp or other natural collection of water, whether permanent or intermittent; and • the bed and banks and any other element confining or containing the water.
levee	means an embankment that only provides for the containment and diversion of stormwater or flood flows from a contributing catchment, or containment and diversion of flowable materials resulting from releases from other works, during the progress of those stormwater or flood flows or those releases; and does not store any significant volume of water or flowable substances at any other times.
linear infrastructure	means powerlines, pipelines, roads and access tracks.
low hazard dam	means any dam that is not classified as high or significant as assessed using the <i>Manual for Assessing Hazard Categories and Hydraulic Performance of Dams</i> , published by the Queensland Government and which contains contaminants in concentrations which exceed or will exceed, during the dam's operational life, the values or range shown in Table 3 of the manual.
low impact petroleum activities	means petroleum activities which do not result in the clearing of native vegetation, cause disruption to soil profiles through earthworks or excavation or result in significant disturbance to land which cannot be rehabilitated immediately using hand tools after the activity is completed. Examples of such activities include but are not necessarily limited to soil surveys (excluding test pits), topographic surveys, cadastral surveys and ecological surveys, may include installation of monitoring equipment provided that it is within the meaning of low impact and traversing land by car or foot via existing access tracks or routes or in such a way that does not result in permanent damage to vegetation.
month	has the meaning in section 36 of the <i>Acts Interpretation Act 1954</i> .
NATA accreditation	means accreditation by the National Association of Testing Authorities Australia.

Term	Definition
non-linear infrastructure	<p>means infrastructure that is other than a powerline, a pipeline, a road, an access track and includes only the following:</p> <ul style="list-style-type: none"> • workers camps • maintenance facilities • no-release sewage treatment plants • laydown areas • structures (i.e. dams or levees) • tanks • sediment and erosion control measures • above ground containers and chemical / fuel storages • water pumps and generators • stockpiles.
outer bank	has the meaning in section 5A of the <i>Water Act 2000</i> .
performance indicator(s)	means a quantitative measure against which success can be assessed and audited in a consistent, objective and repeatable manner.
primary protection zone	means an area within 200 metres from the boundary of any Category A, B or C environmentally sensitive area.
regulated dam(s)	means any dam in the significant or high hazard category as assessed using the <i>Manual for Assessing Hazard Categories and Hydraulic Performance of Dams</i> , published by the Queensland Government, as amended from time to time.
rehabilitation or rehabilitated	means the process of reshaping and revegetating land to restore it to a stable landform and in accordance with acceptance criteria and, where relevant, includes remediation of contaminated land. For the purposes of pipeline rehabilitation, rehabilitation includes reinstatement, revegetation and restoration.
reinstated or reinstatement	means the process of bulk earth works and structural replacement of pre-existing conditions of a site (i.e. soil surface topography, watercourses, culverts, fences and gates and other landscape(d) features) and is detailed in the <i>APIA Code of Environmental Practice: Onshore Pipelines</i> (2009).
release, releases , released	has the meaning in Schedule 4 of the <i>Environmental Protection Act 1994</i> .
restoration	means the replacement of structural habitat complexity, ecosystem processes, services and function from a disturbed or degraded site to that of a pre-determined or analogue state. For the purposes of pipelines, restoration applies to final rehabilitation after pipeline decommissioning.

Term	Definition
revegetation or revegetating or revegetate	means to actively re-establish vegetation through seeding or planting techniques in accordance with site specific management plans.
right of way	means the linear construction footprint required to install pipelines.
secondary protection zone	in relation to a Category A or Category B environmentally sensitive area means an area within 100 metres from the boundary of the primary protection zone.
secondary treated class B standards	<p>means treated sewage effluent or greywater which meets the following standards:</p> <ul style="list-style-type: none"> • total phosphorous as P, maximum 20mg/L • total nitrogen as N, maximum 30mg/L • 5-day biochemical oxygen demand (inhibited) (e.g. release pipe from sewage treatment plant), maximum 20mg/L • suspended solids, maximum 30mg/L • pH, range 6.0 to 8.5 • e-coli, 80th percentile based on at least 5 samples with not less than 30 minutes between samples, 1000cfu per 100mL, maximum 10000cfu per 100mL.
secondary treated class C standards	<p>means treated sewage effluent or greywater which meets the following standards:</p> <ul style="list-style-type: none"> • total Phosphorous as P, maximum 20mg/L • total Nitrogen as N, maximum 30mg/L • 5-day Biochemical oxygen demand (inhibited) (e.g. Release pipe from sewage treatment plant), maximum 20mg/L • suspended solids, maximum 30mg/L • pH, range 6.0 to 8.5 • e-Coli, 80th percentile based on at least 5 samples with not less than 30 minutes between samples, 10000cfu per 100mL, maximum 100000cfu per 100mL.

Term	Definition
sensitive place	<p>means:</p> <ul style="list-style-type: none"> • a dwelling (including residential allotment, mobile home or caravan park, residential marina or other residential premises, motel, hotel or hostel) • a library, childcare centre, kindergarten, school, university or other educational institution • a medical centre, surgery or hospital • a protected area • a public park or garden that is open to the public (whether or not on payment of money) for use other than for sport or organised entertainment • a work place used as an office or for business or commercial purposes, which is not part of the petroleum activity(ies) and does not include employees accommodation or public roads • for noise, a place defined as a sensitive receptor for the purposes of the Environmental Protection (Noise) Policy 2008.
significantly disturbed or significant disturbance or significant disturbance to land or areas	means disturbance to land as defined in Schedule 12, section 4 of the Environmental Protection Regulation 2008.
species richness	means the number of different species in a given area.
species diversity	means the diversity within an ecological community that incorporates both species richness and the evenness of species' abundances.
spring(s)	has the meaning in Schedule 4 of the <i>Water Act 2000</i>
stable	in relation to land, means landform dimensions are or will be stable within tolerable limits now and in the foreseeable future. Stability includes consideration of geotechnical stability, settlement and consolidation allowances, bearing capacity (trafficability), erosion resistance and geochemical stability with respect to seepage, leachate and related contaminant generation.
strategic environmental area	has the meaning in section 11(2) of the <i>Regional Planning Interests Act 2014</i>
structure	means a dam or levee.
suitably qualified person	means a person who has qualifications, training, skills and experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis to performance relative to the subject matter using the relevant protocols, standards, methods or literature.
top soil	means the surface (top) layer of a soil profile, which is more fertile, darker in colour, better structured and supports greater biological activity than underlying layers. The surface layer may vary in depth depending on soil forming factors, including parent material, location and slope, but generally is not greater than about 300mm in depth from the natural surface.

Term	Definition
trench spoil	means soil from the pipeline trench.
valid complaint	means a complaint that is not considered by the administering authority or holder of the environmental authority to be frivolous, vexatious or based on mistaken belief.
waste and resource management hierarchy	has the meaning provided in section 9 of the <i>Waste Reduction and Recycling Act 2011</i> .
waste and resource management principles	has the meaning provided in section 4(2)(b) of the <i>Waste Reduction and Recycling Act 2011</i> .
waters	means all or any part of a creek, river, stream, lake, lagoon, swamp, wetland, spring, unconfined surface water, unconfined water in natural or artificial watercourses, bed and bank of any waters, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and underground water.
watercourse	has the meaning provided in Schedule 4 of the <i>Environmental Protection Act 1994</i> .

Term	Definition
wetland	<p>means a wetland as defined under the Queensland Wetlands Program and are areas of permanent or periodic/intermittent inundation, with water that is static or flowing fresh, brackish or salt, including areas of marine water, the depth of which at low tide does not exceed 6 metres. To be classified as a wetland, the area must have one or more of the following attributes:</p> <ul style="list-style-type: none"> • at least periodically, the land supports plants or animals that are adapted to and dependent on living in wet conditions for at least part of their life cycle; or • the substratum is predominantly undrained soils that are saturated, flooded or ponded long enough to develop anaerobic conditions in the upper layers; or • the substratum is not soil and is saturated with water, or covered by water at some time. <p>For the purposes of petroleum activities, wetlands do not include springs and watercourses and those wetlands that are defined in the <i>Wetland Mapping and Classification Methodology</i> (2005) published by the Queensland Government as:</p> <ul style="list-style-type: none"> • H2M1 Riverine or ex-riverine (lacustrine) water bodies associated with dams and weirs located in a channel • H2M3p Ponded pastures • H2M5 Palustrine/lacustrine water bodies where ecological character has changed due to gross mechanical disturbance (e.g. cropping) • H2M6 Palustrine/lacustrine water bodies that have been converted, completely or mostly, to a ring tank or other controlled storage • H2M7 Riverine water bodies that have been converted mostly to canals or irrigation channels • H3C1 Artificial stand-alone water storages not within a natural water body or channel; or • H3C2 Artificial Channel drain/canal – bore drains, swales, bores and irrigation channel overflows/ponding. <p><i>Explanatory note:</i> This definition has been amended from the Queensland Wetlands Program definition so that low value wetlands and man-made water bodies are excluded.</p>
year(s)	has the meaning in s36 of the <i>Acts Interpretation Act 1954</i> .

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ATTACHMENT 5 – GIS FILES

Refer to attached zip file