Westside Mungis Coal Seam Gas Project

Application Number: **02892** Commencement Date: **24/04/2025** Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Westside Mungis Coal Seam Gas Project

1.1.2 Project industry type *

Mining

1.1.3 Project industry sub-type

CSG

1.1.4 Estimated start date *

01/01/2026

1.1.4 Estimated end date *

31/12/2076

1.2 Proposed Action details

1.2.1 Provide an overview of the proposed action, including all proposed activities. *

Westside Corporation Pty Ltd (Westside) proposes the development of Petroleum Lease (PL) 1048 and PL 1049 for a Coal Seam Gas (CSG) well field development (the Project). The Project covers a total area 37,754.6 hectares (ha) and is located to the west and north to northwest of the town Moura, Queensland, in the south-eastern portion of the Bowen Basin and just north of the Surat Basin. Westside is the operator of the Project and the permits are held by; Westside Mungi Pty Ltd, Harcourt (Queensland) LLC and Mitsui E&P Australia Pty Ltd. Westside currently hold an Environmental Authority (EA) (EA0002230) authorising petroleum activities for the Project.

Historic broad scale land clearing from the 1950's and current land use practices being agricultural and coal mining have diminished habitat quality and connectivity value for most of the Project Area both at the local and landscape scale.

The total Project Area is 37,754.6 ha and the potential for disturbance matches the Project Area. However, Westside has committed to a maximum disturbance of 600 ha within (or 1.59% of) the Project Area. Actual ground disturbance locations are subject to design refinement, constraints assessment and land access negotiation and will be determined iteratively during progressive development of the gas field.
The Project is not within the Great Artesian Basin. There are no impacts to springs or groundwater dependent ecosystems predicted due to the proposed Project. There are no direct impacts predicted to surface water.

The Project will include the construction of:

- 401 gas production well heads;
- Ancillary linear infrastructure including gas and water pipelines, access tracks, power lines, laydowns, stockpiles and communication lines;
- Gas compression facilities as required;
- Water management infrastructure as required; and
- Other ancillary activities and facilities to support construction and operations.

Well pads and Gas Gathering

Westside prefers multi-well pads with between 2 and 6 wells per pad, with single-well pads only built if multi-well pads are not feasible. Westside has successfully constructed and operated multi-lateral wells since 2018 and has demonstrated that this well design reduces the surface disturbance significantly compared to conventional CSG developments.

The wells will be designed, constructed, decommissioned and rehabilitated in accordance with applicable State Code of Practice. Well pads will generally be constructed in an area of 1 to 2 ha. Well construction will involve a drill rig and other equipment, processing and storage for water supply, fuel, and chemicals. Whilst multi-wells do create a larger disturbance area than a single well pad (both during construction and operation), over the field development they result in a net reduction of land disturbance as a reduced number of single well pads are required. Multi-well pads can host up to six well heads.

Following drilling of the well, sites will be partially rehabilitated, reducing the permanent impact area to less than 1 ha.
The total aggregate disturbance footprint for well pads required during construction for the life of the Project will be approximately 250 to 350 ha (0.66% to 0.93% of the Project Area). At the completion of the Project, all well pads will be rehabilitated to the condition of the adjoining land. During operation they will occupy approximately 125 to 175 ha (0.33% to 0.46% of the Project Area).

To transport the produced gas and associated water from the production wells to the gas and water facilities, Westside will utilise new and existing gathering infrastructure. The total aggregate disturbance footprint for the gas gathering infrastructure will be approximately 250 to 350 ha.
Construction of new gathering pipelines will be undertaken using a combination of conventional earthmoving equipment and specialist pipeline trenching equipment. During the construction process, topsoil is segregated and reinstated to ensure a stable landform is maintained. Gathering pipelines will be High-Density Poly Ethylene pipe and designed and constructed to comply with relevant standards and codes.
Upon the completion of pipeline construction, the pipeline corridors will be rehabilitated to the condition of the adjoining land for the operational phases.

Gas Compression Facility
Existing gas compression facilities on separate tenure will be utilised for export to domestic and/or international markets. Sales gas from the compression facility would be transported through existing gas pipelines in the area. If necessary, additional gas compression facilities would be constructed.

Water Management
Produced water will be managed in accordance with the Produced Water Management Plan (Attachment G). Produced water from the Project will be stored in on-site temporary water storage tanks (concrete panel tanks or similar) in accordance with EA conditions, prior to being transferred to the neighbouring PL 94.

Ancillary Activities and Facilities
It is expected that the existing PL94 operation's laydown areas, offices, workshops and accommodation would continue to support the Project. Waste will continue to be managed in accordance with the State EA (EA0002230) for the Project Area and waste management requirements of the *Waste Reduction and Recycling Act 2011*.

Prior to Construction and Management
Westside has developed the Field Development and Constraints Protocol (Constraints Protocol) (Attachment B) with a Permit to Disturb (PTD) process in place to manage potential environmental impacts. Prior to construction commencing, Westside documents the environmental constraints along with all other constraints in a PTD document, which from an environmental perspective, formally documents a number of matters including any clearing that contributes to a disturbance limit for any MNES values.

The Project Area is subject to multiple constraints that lend to the uncertainty of the locations of wells and associated infrastructure over the life of the project. To maintain flexibility and minimise impacts to sensitive receivers (landowner, community, environment, and cultural heritage sites). The Constraints Protocol (Attachment B) will ensure the gas field development takes place in accordance with the outlined maximum MNES disturbance limits, and commitments outlined in supporting documentation.

Pre-disturbance field scouts undertaken by Westside are undertaken by a team of Westside representatives, the landowner, and a suitably qualified ecologist to assess the areas identified from desktop studies for the feasibility of construction and siting of the proposed infrastructure. The field scouts will be completed as part of the Assess Phase which is done prior to disturbances in the Project Area. Field scouts are done to reassess the environmental values present prior to disturbance. The field scouts are utilised as a tool to define site conditions and constraints such as MNES values and habitat features. The site scout information is then used to refine the proposed design (where required) to avoid impacts to environmental values.

The methods of ecological surveys are based upon information obtained during the desktop assessment and are presented in the Constraints Protocol (Attachment B). The habitat assessment methodologies are broadly in accordance with the Department's survey guidelines.
A copy of the permit to disturb is included in the Appendix C of the Constraints Protocol (Attachment B).

Drilling Methodology
Before the drill rig is mobilised to the site, the drill site and access tracks are prepared. This includes three main steps.

1. Vegetation is cleared within the well pad and access tracks. Where vegetation is felled, it is stored at the edge of the pad for later rehabilitation use. Recoverable hollow timber, larger rocks, and other features will be stored for later microhabitat rehabilitation.
2. Topsoil is removed using earthmoving equipment. This is stockpiled on one side of the pad and/or access track for use in rehabilitation. Finally, earthmoving equipment is used to prepare the site for use.
3. A small drill rig arrives to install a large diameter conductor pipe. The main drill rig sets up over the conductor pipe.

Once the drill site is prepared a larger drill rig arrives and drills the surface section of the hole. The surface casing is then cemented in place by pumping cement into the casing and circulating it back through the surface wellbore. It is important to note there is no predicted drawdown impact to the shallow groundwater in the overlying Quaternary Alluvium, therefore there will be no predicted impacts to environmental values associated with any shallow groundwater system.

The second stage is to drill the production section of the hole, which is cased and cemented inside the surface casing in the same manner. Above the target formations, the casing is cemented back to the surface, which isolates the formation. The lateral section of the well is then drilled "horizontally" following the coal seam, with a perforated fibreglass liner installed between the production casing and the well's total depth required, well stimulation techniques such as hydraulic fracturing, may be used in vertical wells as part of the completion of a well to improve the gas flow rate. Such stimulation will be undertaken in accordance with the existing State EA (EA0002230) and any associated regulations.

A completion rig installs the remaining downhole components of the well after the drill rig departs.

A Greenhouse Gas (GHG) Emission report has been prepared which is commercial-in-confidence (Attachment C).

Excluded Activities:
Westside conducts and is proposing to conduct exploration activities in the Project Area which do not form part of the Project. Details of these activities are provided in Section 3.1.2

1.2.2 Is the project action part of a staged development or related to other actions or proposals in the region?

Yes

1.2.3 Is the proposed action the first stage of a staged development (or a larger project)?

No

1.2.4 Related referral(s)

EPBC Number	Project Title
2021/9117	Westside Corporation PL94 Coal Seam Gas Project

1.2.5 Provide information about the staged development (or relevant larger project).

The Project is not part of a staged development but is related to other actions in the region. The Project is separate but related to the greater Meridian Seam Gas Project which includes activities being conducted on PL 94. Westside currently operates PL 94 as a CSG well field development.

The matter of this referral is another CSG well field development, within PL1048 and PL1049. The Project is a standalone action. The Project is separate but related to the greater Meridian Seam Gas Project which includes activities being conducted on PL 94. This project became operational in 1996, and Westside took over operation of the Meridian Seam Gas Project in 2010 (Westside 51% interest holder). The existing operation of the Meridian Seam Gas Project is called PL94.

PL94 is a brown field development, and the PL94 development currently includes two stages:

- Stage 1:
  - 250 gas production well heads, constructed from 1996 and continuing to be implemented
  - Ancillary linear infrastructure including gas and water pipelines, access tracks, power lines, and communication lines necessary for the 250 gas production wells
  - Gas compression facilities
  - Water management infrastructure
  - Other ancillary activities and facilities to support construction and operations.
- Stage 2 (EPBC 2021/9117 – PL94 CSG Project):
  - 350 gas production well heads;
  - Ancillary linear infrastructure including gas and water pipelines, access tracks, power lines, and communication lines;
  - Gas compression facilities as required;
  - Water management infrastructure; and
  - Other ancillary activities and facilities to support construction and operations.

The draft Preliminary Documentation for the Stage 2 (EPBC 2021/9117) is currently undergoing adequacy review by DCCEEW.

1.2.6 What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

Petroleum Act 1923* and Petroleum and *Gas (Production and Safety) Act 2004

The *Petroleum Act 1923* and the *Petroleum and Gas (Production and Safety) Act 2004* (P&G Act) are administered by the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development (DNRMMRRD) and are the governing legislation for petroleum development in Queensland. The petroleum authority required prior to the commercial production of gas is a Petroleum Lease (PL), and Westside will carry out the proposed action described in Section 1.2 within the Project Area.

Environmental Protection Act 1994

The Environmental Protection Act 1994 (EP Act), administered by the Department of Environment, Tourism, Science and Innovation (DETSI), is the principal environmental legislation in Queensland governing the environmental management of resource activities. EA EA0002230 authorises existing and future petroleum activities within the Project Area.

Environmental Offsets Act 2014

Under the *Environmental Offsets Act 2014* an environmental offset is defined as an activity undertaken to counterbalance a significant residual impact on a prescribed environmental matter including endangered or of concern regional ecosystems, riparian vegetation, connectivity areas, wetlands and watercourses, and wildlife habitat. Westside will be required to secure offsets for significant residual impacts to these prescribed environmental matters associated with the Project.

Nature Conservation Act 1992

Permits are required under the *Nature Conservation Act 1992* for interfering with protected animals, listed under the Nature Conservation (Wildlife Management) Regulation 2006, and their habitat requiring DETSIs approval of a species management plan or other mitigation measures. Additional permits are required for clearing protected plants listed under the Nature Conservation (Plants) Regulation 2020 including approval of an impact management plan for the clearing and offsets for the species if required.

Water Act 2000

Section 370 of the *Water Act 2000* requires that an underground water impact report (UWIR) is prepared for approval, detailing predicted groundwater drawdown associated with exercising underground water rights, including proposed groundwater extraction for hydraulic fracturing. Section 376 of the *Water Act 2000* provides the detailed impact assessment requirements for UWIRs, including an assessment of the likely impacts on groundwater and surface water environmental values (including springs, wetlands, and groundwater dependent ecosystems) and groundwater and spring monitoring strategies.

Other State Approvals

The Project may require additional environment and land use related approvals under other Queensland legislation including but not limited to the *Waste Reduction and Recycling Act 2011*, *Regional Planning Interests Act 2014* and *Aboriginal Cultural Heritage Act 2003*, and *Fisheries Act 1994*. Approvals under these Acts will be obtained as required.

1.2.7 Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

Westside has liaised with the local government, the Banana Shire Council (BSC), to understand how best to minimise the community impacts and maximise benefits at a local level from their operations in the region. There have been several teleconferences, face-to-face meetings, phone calls, and emails exchanged, primarily in relation to their other development on PL 94.

Westside has consistently held public information sessions regarding developments associated in the region. Each August, as part of the annual Coal and Country Festival, Westside maintains a strong presence through volunteering and runs a Westside-specific trade stall. This provides an important opportunity for community members to engage directly with Westside personnel. These interactions help foster positive relationships with community members and provide a dedicated team to discuss development in the community.

Other information sessions are attended by a cross-section of Westside personnel from planning and development, land access and approvals, geology, and production engineering so that the engagement is valuable and informative to those attending.
In general, these engagements are positive and provide an opportunity for landholders and interested members of the community to gain an understanding of Westside's activities and connect with staff.

The CSG industry has been present in various forms in the Moura community since the 1970s and an industry in the region since the early 2000s. The mining sector, including CSG exploration and development, is a part of the social fabric of Moura and the surrounding region. Westside actively engages with the community by sponsoring various local initiatives. Recent contributions include donations to the Banana & District Community Association in September 2024 and the Moura Playgroup in April 2024. In total, Westside sponsors and donates to over twenty community-based organisations annually, while also encouraging employees to volunteer their time for charities and fundraising events, such as at the local Returned and Services Leagues club barbecues.

The residents of Moura live near the Dawson Mine, and it is a prominent feature of the community. The mine tragedies in 1975, 1986, and 1994 are defining moments in the community, even today. As such, the community has a pragmatic and well-understood relationship with the historical risks and opportunities of resource development.

Public Consultation - Landholders
Since 2010, Westside has consistently engaged with Moura landholders regarding both approved and planned development activities that directly or indirectly affect their properties and land use. This consultation process includes providing detailed information on proposed well locations, associated gathering systems, and planned drilling operations for individual properties as well as the broader development area.
Westside employs a dedicated Land Access team based in Moura responsible for managing relationships and negotiations with landholders. These employees serve as the primary point of contact, ensuring open and transparent communication regarding Westside's activities, development plans, and proposed timelines. Through this ongoing engagement, the Land Access team has successfully negotiated numerous access agreements with all primary landowners involved in the current development. Engagement with landholders regarding the existing development has been ongoing since 2010 and continues as Westside progresses with its current development activities. The Land Access team have regular meetings with the landholders to provide updates on the field development and discuss any concerns regarding specific landholder issues.

Relating to this Project, the Land Access Team are continuing to communicate with landholders regarding the proposed development. This communication has facilitated land access for surveys undertaken to support this referral. The Land Access Team plan to continue these communications as the Project progresses.

Traditional owners

The traditional owners within the Project Area are the Gaangalu Nation People (GNP). Westside has a long-standing and collaborative relationship with the GNP.

Westside has demonstrated its duty of care under the Aboriginal Cultural Heritage Act 2003 (Qld) by developing voluntary Cultural Heritage Investigation and Management Agreements (CHIMAs) with the GNP for the Project Area, as well as for existing projects. The CHIMAs have been approved as Cultural Heritage Management Plans under the Aboriginal Cultural Heritage Act 2003 (QLD).

Under the CHIMAs, Westside has agreed not to undertake any project activities involving ground disturbance unless a 'Work Program Notice' is issued through the relevant Coordinating Committees that have been appointed to administer the CHIMAs. Nominated GNP personnel then physically inspect any new field areas for Cultural Heritage artefacts along with a Westside Land Access team member.

The CHIMAs provide an efficient and workable means by which the parties to the agreements can protect and manage Aboriginal Cultural Heritage in a culturally appropriate manner while complying with all necessary legislative requirements.

Westside meets with the GNP regularly to discuss ongoing and future activities. Westside continues to engage with the GNP in good faith, sharing development plans with the group and respecting their special role as the custodians and knowledge holders of the land on which it operates.

1.3.1 Identity: Referring party

Privacy Notice:

Personal information means information or an opinion about an identified individual, or an individual who is reasonably identifiable.

By completing and submitting this form, you consent to the collection of all personal information contained in this form. If you are providing the personal information of other individuals in this form, please ensure you have their consent before doing so.

The Department of Climate Change, Energy, the Environment and Water (the department) collects your personal information (as defined by the Privacy Act 1988) through this platform for the purposes of enabling the department to consider your submission and contact you in relation to your submission. If you fail to provide some or all of the personal information requested on this platform (name and email address), the department will be unable to contact you to seek further information (if required) and subsequently may impact the consideration given to your submission.

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Alternatively, email us at privacy@awe.gov.au.

☑ **Confirm that you have read and understand this Privacy Notice ***

1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN	12002773248
Organisation name	ENVIRONMENTAL RESOURCES MANAGEMENT AUSTRALIA PTY LIMITED
Organisation address	2000 NSW

Referring party details

Name	Scott Mainey
Job title	Principal Consultant
Phone	0409159906
Email	scott.mainey@erm.com
Address	Level 9, 260 Queen Street, QLD, 4000

1.3.2 Identity: Person proposing to take the action

1.3.2.1 Are the Person proposing to take the action details the same as the Referring party details? *

No

1.3.2.2 Is Person proposing to take the action an organisation or business? *

Yes

Person proposing to take the action organisation details

ABN/ACN	74117145516
Organisation name	WESTSIDE CORPORATION PTY LTD
Organisation address	4000 QLD

Person proposing to take the action details

Name	Daniel Huff-Hannon
Job title	Chief Operating Officer
Phone	0447 250 988
Email	daniel.huffhannon@westsidecorporation.com
Address	Level 11, 175 Eagle Street, Brisbane, 4000 Queensland Australia

1.3.2.14 Are you proposing the action as part of a Joint Venture? *

No

1.3.2.15 Are you proposing the action as part of a Trust? *

No

1.3.2.17 Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. *

Westside is committed to responsible environmental management. Westside implements a Health, Safety and Environmental Management System which governs all activities and ensures continual improvement in managing environmental risks. Westside sets objectives and targets that promote the efficient use of resources, minimisation of wastes and emissions, and the prevention of pollution.

Westside strives to comply with all environmental regulations and approval conditions, and promptly report any non-compliance to relevant authorities. Westside encourages its staff to report on environmental performance associated with its activities. To increase its understanding and improve its company-wide performance, Westside maintains a register of all environmental incidents, observations, and good practices.

Neither Westside nor any of its executive officers have been subject to court proceedings under a Commonwealth, State, or Territory law for the protection of the environment or the conservation and sustainable use of natural resources.

1.3.2.18 If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

The Westside Health, Safety and Environment Management System Environmental Policy is detailed below:

Environmental Policy
At Westside we recognise our responsibility to meet statutory and community expectations and we are committed to the continuous improvement of our environmental performance.

We also believe that responsibility for the environment is both a management obligation and the responsibility of every employee and contractor.

To achieve our objectives:

- The management team has established and administers a comprehensive environmental risk management framework in line with industry standards and legislative requirements. Westside actively consults with stakeholders in all environmental matters.
- Our environmental performance objectives and goals are established, and performance tracking is completed regularly.
- The analysis of environmental performance, including efficient resource use and minimisation of environmental harm centres on a continuous improvement process to provide and maintain environmentally responsible working conditions.
- We ensure that all employees and contractors receive appropriate training to fulfil their individual environmental responsibilities.
- All personnel share responsibility for the protection of environmental values relevant to work practices throughout all Westside operations.
- All persons are encouraged to actively contribute to Westside's management of environmental risk and ongoing protection by following the prescribed work practices and through the application of each individual's authority to intervene to uphold environmentally safe work practices at all times.
- We require that companies providing goods and services to Westside manage their environmental performance in line with Westside's environmental policy.
- We ensure that we have the resources and skills necessary to achieve our environmental commitments.

This HSEMS is provided as the framework to facilitate the safe management of all activities on Westside controlled sites and to achieve our objectives in the areas of safety and health and, specifically, the effective control of major accident hazards. The plan refers to specific company policies, procedures and practices to provide the processes necessary to allow all tasks and activities to be managed safely.

Environmental Management
Westside's Environmental Management Framework is part of the HSEMS and is in line with relevant State and Federal legislation and is aligned with Australian Standard ISO14001:2015 Environmental Management Systems.

The Environmental Management Framework follows the risk management methodology and continuous improvement program identical to Westside's Health, Safety and Environment Management System (HSEMS).

The key elements of the Environmental Management Framework are:

- Planning;
- Implementation;

- Monitoring programs; and
- Formal review processes.

Westside targets full compliance with legislative and operating permit conditions. The State regulatory authority conducts on-site inspections on average every six to nine months. Westside also undertakes internal and external environmental system and performance audits.

1.3.3 Identity: Proposed designated proponent

1.3.3.1 Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details

ABN/ACN	74117145516
Organisation name	WESTSIDE CORPORATION PTY LTD
Organisation address	4000 QLD

Proposed designated proponent details

Name	Daniel Huff-Hannon
Job title	Chief Operating Officer
Phone	0447 250 988
Email	daniel.huffhannon@westsidecorporation.com
Address	Level 11, 175 Eagle Street, Brisbane, 4000 Queensland Australia

1.3.4 Identity: Summary of allocation

Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

ABN/ACN	12002773248
Organisation name	ENVIRONMENTAL RESOURCES MANAGEMENT AUSTRALIA PTY LIMITED
Organisation address	2000 NSW
Representative's name	Scott Mainey
Representative's job title	Principal Consultant
Phone	0409159906
Email	scott.mainey@erm.com
Address	Level 9, 260 Queen Street, QLD, 4000

Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	74117145516
Organisation name	WESTSIDE CORPORATION PTY LTD
Organisation address	4000 QLD
Representative's name	Daniel Huff-Hannon
Representative's job title	Chief Operating Officer
Phone	0447 250 988
Email	daniel.huffhannon@westsidecorporation.com
Address	Level 11, 175 Eagle Street, Brisbane, 4000 Queensland Australia

Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details: Payment exemption and fee waiver

1.4.1 Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? *

No

1.4.3 Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? *

No

1.4.5 Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A?

No

1.4.7 Has the department issued you with a credit note? *

No

1.4.9 Would you like to add a purchase order number to your invoice? *

No

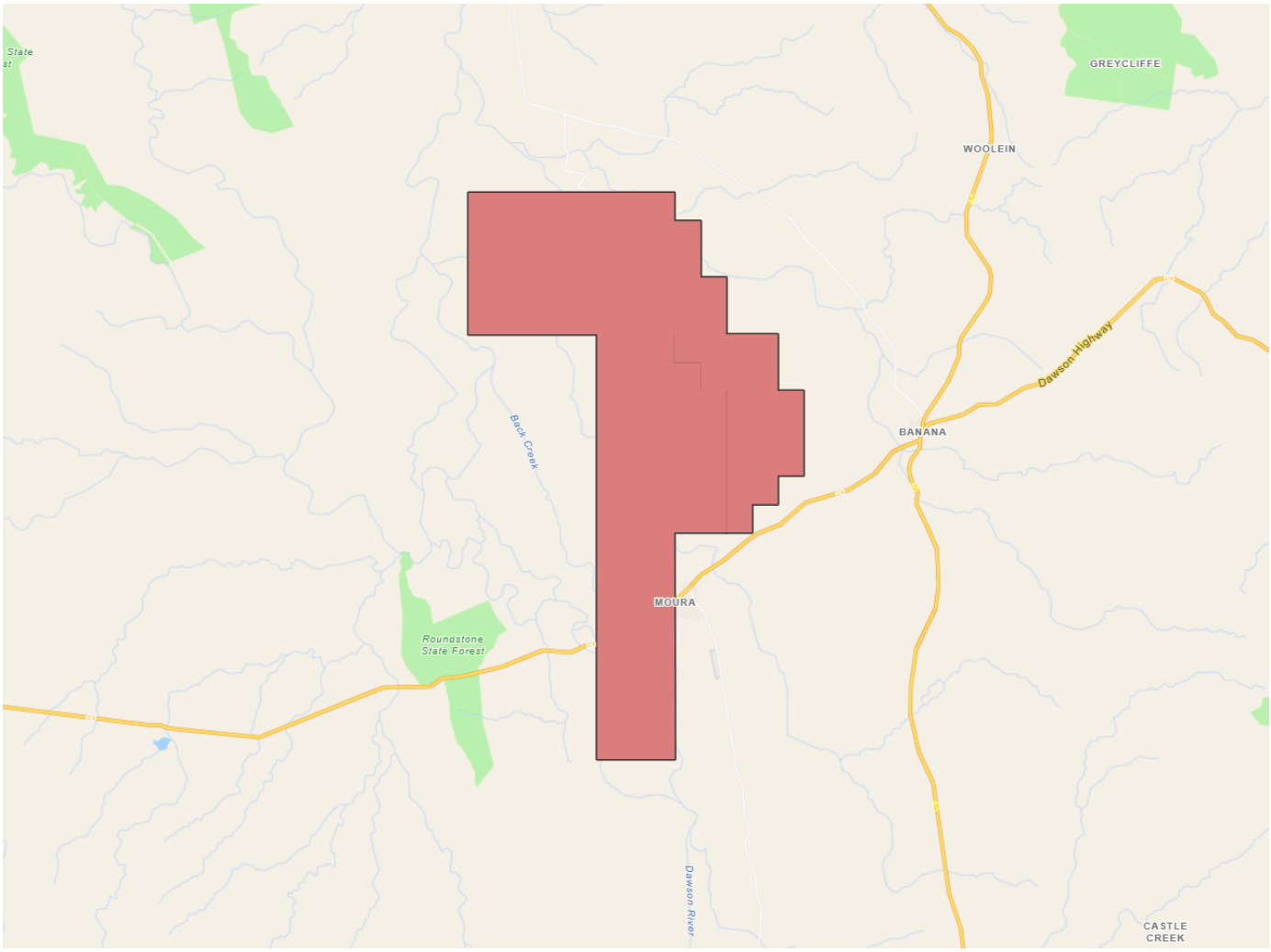
1.4 Payment details: Payment allocation

1.4.11 Who would you like to allocate as the entity responsible for payment? *

Person proposing to take the action

2. Location

2.1 Project footprint



Project Area: 37826.80 Ha **Disturbance Footprint:** 37826.80 Ha

2.2 Footprint details

2.2.1 What is the address of the proposed action? *

Intersection of Moura Baralaba Road and Banana Mungi Road, Moura, QLD, 4718

2.2.2 Where is the primary jurisdiction of the proposed action? *

Queensland

2.2.3 Is there a secondary jurisdiction for this proposed action? *

No

2.2.5 What is the tenure of the action area relevant to the project area? *

Most of the Project Area is privately owned freehold land associated with larger agricultural properties in the area. The limited remainder of the land tenure is a combination of Lands Lease, road reserves, easements, and unallocated state land.

There are 279 lots within the Project Area.

3. Existing environment

3.1 Physical description

3.1.1 Describe the current condition of the project area's environment.

The Project Area is brownfield and highly developed, with the dominant land use agriculture. To facilitate such land use, significant historical land clearing has occurred across the Project Area with many patches of vegetation now surrounded by cleared land or part of loose habitat corridors with frequent gaps.

The Project Area is located within the Dawson River Downs subregion of the Brigalow Belt South bioregion. This bioregion is broadly characterised by mixed eucalypt woodland with areas of brigalow scrub and open Mitchell grassland. Land use is predominately cattle grazing. Regional topography is variable, including undulating to hilly areas with low-lying ridges and valleys, with flat alluvial plains towards the south.

Vegetation within the Project Area includes remnant and regrowth woodland, forest communities, and non-remnant pasture. Several watercourses intersect the Project Area, including the Dawson River, a major system which flows southeast, northeast, and north for approximately 640 km before draining into the Fitzroy River near Duaringa.

Surface geology comprises sediments from the Early Permian to middle Triassic age. The lithological summary associated with this includes mudstone, sandstone, conglomerate, siltstone, oil shale, lignite and basalt. Gilgai formations occur extensively throughout the Project Area, varying in size and depth.

The Project Area will primarily be accessed via the Dawson Highway, Moura Baralaba Road and Moura Bindaree Road, which provide connectivity to regional centres such as Bindaree and Banana. Moura Baralaba Road is the main route to the Project Area, linking to the Dawson highway to provide connection with Banana and Moura. During field development, operation, and decommissioning, materials and equipment transported from other regions will typically use these highways. Additional local access may occur via minor property access roads as well.

3.1.2 Describe any existing or proposed uses for the project area.

The primary land use within the Project Area is cattle grazing for beef production, a practice widely adopted throughout the region. Additionally, the area supports a variety of agricultural activities, including irrigated cropping (centre-pivot systems) and dryland cropping on floodplains. These agricultural uses are complemented by isolated residential properties distributed across the Project Area.

Coal mining activities are also associated with the Project Area. Other existing resource activities include CSG operations in adjacent areas, and the Project Area itself is surrounded by extensive gas field development.

Beyond grazing, mining, and cropping, the region is host to critical infrastructure such as pipelines and high-voltage powerlines, which supply energy to nearby industrial and agricultural facilities. Future plans for renewable energy developments are also notable.

There are no significant industrial, commercial forestry, tourism, or large-scale community facilities currently within the Project Area. However, the surrounding areas benefit from infrastructure that supports Banana Shire's strategic focus on agriculture, energy, and resource industries.

Exploration activities

Separate to the main CSG well field development within PL1048 and PL1049, exploration activities in certain areas of these PLs has occurred and is planned to occur. These exploration activities are distinct from the current Project, meaning they are not directly part of the well field development being referred. The exploration activities to date and proposed to occur involve investigating the geological and environmental characteristics of the areas to assess their potential for future development. This might include activities such as drilling exploratory wells (and installation of associated infrastructure), conducting seismic surveys, and collecting samples. These exploration activities have been and will continue to be conducted under a self-assessment process, which means that the entity responsible for the exploration will evaluate the activities against relevant environmental protection criteria. This self-assessment will ensure that the exploration activities comply with regulations concerning protected matters, such as endangered species, habitats, and other environmental considerations.

3.1.3 Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

The landscape is dominated by rural land uses, with creeks, rivers, reserves, woodland corridors and waterways. There are no state forests.

Most of the Project Area has been extensively disturbed, with approximately 12,036.5 ha cleared of remnant native vegetation, as illustrated in Table 3-1 of the MNES Report (Att A, Section 3, pp. 44-46). Most of this clearing occurred prior to the 1960s. The primary land use within the Project Area is cattle grazing for beef production, with some areas allocated to centre-pivot irrigated cropping and dryland cropping.

There are no outstanding natural features and/or any other important or unique values specific to the Study Area.

3.1.4 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The terrain of the Project Area is predominantly flat, with minor undulations that create gentle rises and depressions across the landscape. These variations in elevation are subtle and consistent with the broader topography of the region. Low-lying floodplain areas are interspersed with slightly elevated sections, which naturally guide surface water flow during rainfall events.

The undulating nature of the terrain results in localised features such as shallow depressions that can temporarily hold water and higher areas that remain well-drained. These natural contours are typical of the central Queensland landscape, where gradual slopes and flat expanses dominate the scenery. Overall, the Project Area’s gradient is best described as gently undulating with broad flat sections.

3.2 Flora and fauna

3.2.1 Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

The Project Area has been classified into nine broad habitat types, defined based on vegetation and structure. Vegetation community identification was carried out with reference to the ground-truthed RE mapping dataset.

A full summary of the native vegetation can be found in Table 3-1 of the MNES Report (Attachment A, Section 3, pp. 44-46). A condensed version of the table is provided below.

The Project area has been classified into the following nine board habitat types:

- Brigalow dominated communities on varying geologies
- Eucalypt woodlands on alluvial plains and terraces
- Eucalypt woodlands on non-alluvial substrates
- Fringing riparian E. tereticornis woodlands
- Mixed brigalow and eucalypt communities
- Cleared pasture and other non-remnant vegetation (without gilgai)
- Cleared pasture and other non-remnant vegetation (with gilgai)
- Farm dams and modified wetlands
- Native grassland

There are eight EPBC Act listed threatened species (three flora and five fauna) that are ‘known’ or ‘likely’ to occur within the Project Area:

- Ornamental snake (*Denisonia maculata*) (known to occur) – Vulnerable;
- *Solanum dissectum* (known to occur) – Endangered;
- *Solanum johnsonianum* (known to occur) – Endangered;
- *Xerothamnella herbacea* (known to occur) – Endangered;
- Fitzroy River turtle (*Rheodytes leukops*) (likely to occur) – Vulnerable;
- Southern snapping turtle (*Elseya albagula*) (likely to occur) – Critically Endangered;
- Latham’s snipe (*Gallinago hardwickii*) (likely to occur) – Vulnerable and Migratory;
- Southern squatter pigeon (*Geophaps scripta scripta*) (likely to occur) – Vulnerable;

There are an additional nine listed threatened species that have the ‘potential’ to occur within the Project Area (Att A, Section 3.3.3.2, pp. 67-74).

Two TECs have been confirmed as ‘known’ within the Project Area:

- Brigalow (*Acacia harpophylla* dominant and co-dominant) TEC
- Poplar Box Grassy Woodland on Alluvial Plains TEC

There is also one TEC that is ‘likely’ to occur within the Project Area:

- Coolibah – Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions TEC

There are three listed migratory species that are regarded as ‘known’ or ‘likely’ to occur within the Project Area:

- Common sandpiper (*Actitis hypoleucos*) (known to occur) – Migratory;
- Glossy ibis (*Plegadis falcinellus*) (known to occur) – Migratory, and
- Fork-tailed swift (*Apus pacificus*) (known to occur) – Migratory.

An additional listed migratory species that has the potential to occur within the Project Area, the pectoral sandpiper (*Calidris melanotos*).

3.2.2 Describe the vegetation (including the status of native vegetation and soil) within the project area.

This bioregion is broadly characterised by mixed eucalypt woodland with areas of brigalow scrub and open Mitchell grassland.

Vegetation within the Project Area includes remnant and regrowth woodland, forest communities, and non-remnant pasture. Several watercourses intersect the Project Area, including the Dawson River, a major system which flows southeast, northeast, and north for approximately 640 km before draining into the Fitzroy River near Duaringa.

The Project area Comprises large areas of land that has been cleared for grazing and cropping. Disturbance to surface soils in these areas was evident (i.e., blade ploughing, tilling). Canopy cover and shrub cover was typically sparse to absent. Grasses typically comprised introduced pasture species such as Cenchrus ciliaris, Urochloa mosambicensis, and Bothriochloa pertusa.

A full summary of the native vegetation can be found in Table 3-1 of the MNES Report (Att A, Section 3.2, pp. 44-47). A condensed version of the table is provided below:

- Brigalow dominated communities on varying geologies (RE 11.3.1, 11.4.9a, 11.9.5a) - 544.1ha
- Eucalypt woodlands on alluvial plains and terraces (RE 11.3.2, 11.3.3, 11.3.4 1) - 141.5 ha
- Eucalypt woodlands on non-alluvial substrates (RE 11.4.2, 11.5.2, 11.9.2) - 121.2 ha
- Fringing riparian Eucalyptus tereticornis woodlands (RE 11.3.25) - 659.4 ha
- Mixed brigalow and eucalypt communities (RE 11.4.8, 11.9.1 2) - 175.0 ha
- Cleared pasture and other non-remnant vegetation (without gilgai) (his habitat type covers a large proportion of the Project Area, particularly within PL1049) - 32,780.0 ha
- Farm dams and modified wetlands - 330.8 ha
- Native grassland (RE 11.3.21) - 2.6 ha
- Cleared pasture and other non-remnant vegetation with gilgai - 20,743.5 ha

3.3 Heritage

3.3.1 Describe any Commonwealth Heritage Places Overseas or other places recognised as having heritage values that apply to the project area.

There are no known heritage places within the Project Area based on a review of the following registers:

- World Heritage List
- Commonwealth Heritage List
- National Heritage Register
- Register of the National Estate (Non-statutory archive)
- Queensland Heritage Register
- Banana Shire Council Cultural Heritage overlay – Local heritage Places.

There is generally a low potential for historic heritage values to exist however, historic heritage in rural landscapes can include government survey scars on trees (early surveyor property demarcation), historic stock routes, evidence of early mining or exploration camps, and some homesteads.

3.3.2 Describe any Indigenous heritage values that apply to the project area.

A Cultural Heritage Database and Register search was conducted for the Project area and no Aboriginal Heritages Places were found. This is included in Attachment H.

Previous surveys within the adjacent PL94 and the wider Moura region have found many links with history such as stone artefact scatters, flakes, grinding stones, shell middens, scarred trees and places of significance, to name a few. It is understood an archaeological survey of PL94 was undertaken in 1995 by Anglo Coal in conjunction with the Traditional Owners. The survey found that there may have been previous losses of artefacts due to land disturbances arising from farming and grazing practices in the area. In accordance with the *Aboriginal Cultural Heritage Act 2003* (ACH Act) Westside undertakes all practicable measures to identify and to avoid or minimise impacts to Aboriginal cultural heritage. Westside has voluntary Cultural Heritage Investigation and Management Agreements (CHIMAs), registered as Cultural Heritage Management Plans (CHMPs) under the ACH Act with the Gangulu People over PL94 and the PL94 Sublease and plans to create new, or extend these CHIMPs to encompass the Project area.

Under the PL94 CHIMAs as an example, Westside has agreed not to undertake any project activities involving ground disturbance unless a ‘Work Program Notice’ is issued through the relevant Coordinating Committees which have been appointed to administer the CHIMAs. The CHIMAs provide the framework through which parties to the agreements can carefully manage and protect items and places of heritage value in a culturally appropriate manner while complying with all necessary legislative requirements.

3.4 Hydrology

3.4.1 Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

A Human Health and Environmental Risk Assessment (Attachment I) and Water Impact Assessment Report (Attachment J) have been prepared to support this referral.

PL1048 and PL1049 are directly underlain by Quaternary alluvium associated with the Dawson River and the broader deposits of Tertiary sediments. Beneath the Quaternary and Tertiary surficial geology, the unconformably underlying Triassic (Moolyamber Formation, Clematis Group, Rewan Group) and Permian (BCM, Kaloola Member, Back Creek Group) sedimentary units. Near the Project area the units are gently dipping towards the west, with the Rewan Group outcropping within and to the west and the BCM outcropping to the east of the Project area, in the vicinity of the Dawson Mining complex.

The mapped alluvium in the Project area is associated predominantly with the Dawson River, Kianga Creek, Banana Creek, and associated contributing watercourses. GWDB ‘stratigraphy table’ data indicates the alluvium associated with these systems is up to ~20 m thick (KCB, 2021).
The major water-bearing units in the Bowen Basin have been described as deep reservoirs of confined and isolated groundwater of generally poor quality. These water-bearing units include:

- Rewan Group Basal Sands;
- Late Permian Coal Measures; and
- Sandstones within the Back Creek Group (KCB, 2021).

The Rewan Group Basal Sands contain porewater of poor quality and are confined by the overlying mudstones of the Rewan Group. There is limited data available on the groundwater conditions within the deeper Permian sediments below the coal measures, such as the Back Creek Group; however, these formations are believed to be fine-grained, cemented and have very limited permeability Water quality is poor with very high salinities in some places (KCB, 2021).

The Rewan Group aquitard (KCB, 2021) is present across the Project area but does not extend east of the tenure due to BCM formation outcropping in that area. The Rewan Group thickness beneath the Project area increases east to west, from ~150 m to ~1000 m in the western portion of PL1048. The BCM also increases in thickness form east to west from ~175 m to 950 m beneath the Project area and individual coal seams within the coal measure are reported to be up to 6 m thick (KCB, 2021).

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

EPBC Act section	Controlling provision	Impacted	Reviewed
S12	World Heritage	No	Yes
S15B	National Heritage	No	Yes
S16	Ramsar Wetland	No	Yes
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	Yes	Yes
S21	Nuclear	No	Yes
S23	Commonwealth Marine Area	No	Yes
S24B	Great Barrier Reef	No	Yes
S24D	Water resource in relation to large coal mining development or coal seam gas	Yes	Yes
S26	Commonwealth Land	No	Yes
S27B	Commonwealth Heritage Places Overseas	No	Yes
S28	Commonwealth or Commonwealth Agency	No	Yes

4.1.1 World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.1.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.1.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There will be no significant impacts to any World Heritage properties as there are no World Heritage properties within the Project Area. The nearest world heritage property is 315 km away (K'gari, Fraser Island). Due to the substantial distance, it is unlikely that the action will have an impact on an island 315 km away.

4.1.2 National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.2.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.2.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no National Heritage Places in the Project Area. The nearest National Heritage Place is the former Dawson Valley Colliery, which is 18.6 km away from the northern boarder of PL1048.

The action is unlikely to have a direct impact on an historic coal mine site that is 18.6 km from the Project Area.

4.1.3 Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.3.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.3.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Project is not located on, near or intersecting Wetlands identified and protected by the Ramsar convention. The nearest Ramsar wetland is located 200 km east of the Project Area, at Shoalwater and Corio Bays. The action is unlikely to have a direct impact on a site which is 200 km east of the Project Area.

4.1.4 Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

Direct impact	Indirect impact	Species	Common name
No	No	Arthraxon hispidus	Hairy-joint Grass
No	No	Cadellia pentastylis	Ooline
Yes	Yes	Calidris acuminata	Sharp-tailed Sandpiper
No	No	Calidris ferruginea	Curlew Sandpiper
No	No	Dasyurus hallucatus	Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu]
No	No	Delma torquata	Adorned Delma, Collared Delma
Yes	Yes	Denisonia maculata	Ornamental Snake
No	No	Dichanthium queenslandicum	King Blue-grass
No	No	Dichanthium setosum	bluegrass
No	No	Egernia rugosa	Yakka Skink
No	Yes	Elseya albagula	Southern Snapping Turtle, White-throated Snapping Turtle
No	No	Erythrotriorchis radiatus	Red Goshawk
No	No	Falco hypoleucos	Grey Falcon
Yes	Yes	Furina dunmalli	Dunmall's Snake
Yes	Yes	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
Yes	Yes	Geophaps scripta scripta	Squatter Pigeon (southern)
Yes	Yes	Grantiella picta	Painted Honeyeater
Yes	Yes	Hemiaspis damelii	Grey Snake
No	Yes	Hirundapus caudacutus	White-throated Needletail
No	No	Macroderma gigas	Ghost Bat
No	No	Neochmia ruficauda ruficauda	Star Finch (eastern), Star Finch (southern)

Direct impact	Indirect impact	Species	Common name
No	No	Nyctophilus corbeni	Corben's Long-eared Bat, South-eastern Long-eared Bat
Yes	Yes	Petauroides volans	Greater Glider (southern and central)
No	No	Petaurus australis australis	Yellow-bellied Glider (south-eastern)
Yes	Yes	Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)	Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)
No	No	Polianthion minutiflorum	
No	No	Pteropus poliocephalus	Grey-headed Flying-fox
No	Yes	Rheodytes leukops	Fitzroy River Turtle, Fitzroy Tortoise, Fitzroy Turtle, White-eyed River Diver
Yes	Yes	Rostratula australis	Australian Painted Snipe
Yes	Yes	Solanum dissectum	
Yes	Yes	Solanum johnsonianum	
Yes	Yes	Stagonopleura guttata	Diamond Firetail
No	No	Turnix melanogaster	Black-breasted Button-quail
No	No	Xerothamnella herbacea	

Ecological communities

Direct impact	Indirect impact	Ecological community
Yes	Yes	Brigalow (Acacia harpophylla dominant and co-dominant)
Yes	Yes	Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions
Yes	Yes	Poplar Box Grassy Woodland on Alluvial Plains
No	No	Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions
No	No	Weeping Myall Woodlands

4.1.4.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.4.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

A Significant Impact Assessment has been conducted. This is attached as Appendix E of Attachment A (MNES Assessment Report). The impact assessment has been undertaken utilising an indicative disturbance footprint that is commercial in confidence. The Constraints Protocol (Attachment B) will be implemented to avoid MNES as much as possible. Below is a summary of the findings:

Brigalow (dominant and co-dominant)

The Project has the potential to directly impact a maximum of 14.2 ha (or 0.5%) of the potential Brigalow TEC within the Project Area. A large amount of potential Brigalow TEC has been identified and avoided through the initial design phase. The removal of 14.2 ha is unlikely to significantly alter species composition, quality, or the survival of the TEC within the Project Area, however it still represents a minor loss of extent and could increase fragmentation. Since the TEC mapping has not been ground-truthed, the exact amount of Brigalow TEC affected by the Project is uncertain. Based on this, the Project has the potential to significantly impact the Brigalow TEC, though the actual impact could be less than initially estimated.

Poplar Box Grassy Woodland on Alluvial Plains TEC

The Project has the potential to directly impact a maximum of 2.9 (or 0.3%) ha of the potential Poplar Box TEC within the Project Area. A large amount of potential Poplar Box TEC has been avoided through the initial design phase. The Project is unlikely to further fragment the TEC beyond its current state, as it is already present in small, isolated patches. It is concluded that this level in reduction is unlikely to result in a significant impact on the TEC.

Coolibah – Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions TEC

The Project has the potential to directly impact a maximum of 0.5 ha (or 0.5%) of the potential Coolibah – Black Box TEC within the Project Area. This is considered ‘likely’ to be present but has not been identified yet. The Project is unlikely to result in a significant impact on the TEC.

Ornamental Snake

The Project has the potential to directly impact a maximum of 343.7 ha (or 1.8%) of suitable ornamental snake habitat within the Project Area.

It is considered highly likely that the Project Area supports an important population of ornamental snake based on nine individuals being detected during the targeted survey. Furthermore, important habitat (gilgai depressions and mounds) of the ornamental snake is considered to be a surrogate for an important population (DCCEEW, 2023).

Solanum dissectum

The Project has the potential to directly impact a maximum of 14.3 ha of S. dissectum habitat, representing a 0.5% reduction in available habitat for the species. This species is relatively poorly known; however, it is possible that there could be an important population within the Project Area, based on several historic records and observations. The Project is considered unlikely to lead to a significant impact on S. dissectum.

Solanum johnsonianum

The Project has the potential to directly impact a maximum of 14.3 ha of S. johnsonianum habitat, representing a 0.5% reduction in available habitat for the species. This species is poorly known and is believed to have a highly restricted distribution. The Project is considered unlikely to lead to a significant impact on S. johnsonianum based on similar justification for S. dissectum.

Xerothamnella herbacea

The Project has the potential to directly impact a maximum of 14.3 ha of X. herbacea habitat, representing a 0.5% reduction in available habitat for the species. The Project is considered unlikely to lead to a significant impact on X. herbacea based on similar justification for S. dissectum.

Southern squatter pigeon
The Project is estimated to directly impact a maximum of 58.8 ha (1%) of the total suitable habitat for the southern squatter pigeon within the Project Area, this consists of 1.6 ha of foraging habitat, 5.9 ha of breeding habitat, and 51.3 ha of dispersal habitat.
The Project is unlikely to lead to a significant impact on southern squatter pigeon.

Latham's snipe
The Project is estimated to directly impact a maximum of 2.3 ha of Latham's snipe foraging and roosting habitat within the Project Area. The habitat within the Project Area is fragmented and degraded. Although the Project Area likely includes habitat critical to the survival of the species, the estimated impact is minimal and unlikely to adversely affect the overall habitat values and quality.

Fitzroy river turtle
The Dawson River will be avoided entirely, which is likely habitat for the species and is recognised as a 'high constraint area' within the Constraints Protocol (FDCP No.)(Westside, 2025b). The Project is unlikely to lead to a significant impact on the Fitzroy River turtle.

Southern snapping turtle
The Dawson River will be avoided entirely, which is likely habitat for the species and is recognised as a 'high constraint area' within the Constraints Protocol (FDCP No.)(Westside, 2025b). The Project is unlikely to lead to a significant impact on southern snapping turtle.

Painted honeyeater
The Project will directly impact a maximum of 19.8 ha of the total potential foraging habitat for the painted honeyeater within the Project Area. The species has not been identified in the area, and there is no indication that an important population exists. The Project is unlikely to lead to a significant impact on painted honeyeater.

Diamond firetail
The Project will directly impact a maximum of 17.6 ha (0.4%) of the total potential foraging habitat for the diamond firetail within the Project Area.
The species has not been identified in the area, and there is no evidence of an important population being present. The Project is considered unlikely to lead to a significant impact on diamond firetail.

White-throated needletail
The white-throated needletail is an almost-exclusively aerial species, there no ground habitat mapping was undertaken. The Project Area is not considered to support an important population of white-throated needletail and is not considered an important stopover point for a large number of migrating birds. It is considered unlikely that the Project will lead to a significant impact on white-throated needletail based on its aerial nature.

Sharp-tailed sandpiper
The Project will directly impact a maximum of 2.3 ha (0.7%) of the total potential foraging habitat for the sharp-tailed sandpiper within the Project Area. The Project is unlikely to significantly impact the sharp-tailed sandpipe. The Project is considered unlikely to lead to a significant impact.

Australian painted snipe
The Project will impact a maximum of 2.3 ha (0.7%) of the total potential foraging habitat for the Australian painted snipe within the Project Area. The Project is unlikely to lead to a significant impact on the Australian painted snipe.

Greater glider (southern and central).
The Project will result in the maximum disturbance of 0.3 ha of greater glider denning habitat (0.05% of the total denning habitat in the Project Area) and 17.3 ha of foraging and dispersal habitat (0.5% of the total

foraging and dispersal habitat in the Project Area).
The clearing of 17.6 ha of habitat is unlikely to fragment the population or significantly affect the species. It is considered unlikely that the Project will result in a significant impact to greater glider.

Koala
The Project is estimated to disturb a maximum of 3.8 ha of koala breeding and foraging habitat (0.2% of the total amount of this habitat type) and a maximum of 16.0 ha of dispersal habitat (0.5% of the total amount of this habitat type) within the Project Area.
A large portion of suitable habitat has been avoided through the design, and several mitigation measures, including pre-clearance surveys, are in place to further minimise impacts. Given the lack of evidence of koala utilisation in the area and the extent of suitable habitat remaining, the disturbance is unlikely to lead to a long-term decrease in population size.
A proportion of the potential koala habitat within the Project Area could support high ecological value breeding and foraging function, therefore the Project is likely to adversely impact this critical habitat. The disturbance to dispersal habitat is unlikely to be a significant impact as there will be no barrier to movement across the landscape. Based on the above, the Project is considered likely to lead to a significant impact on the koala.

Grey snake
The Project is estimated to disturb a maximum of 19.8 ha of potential grey snake habitat (0.4% of the total habitat within the Project Area). The disturbance of only 0.5% of the total potential habitat is unlikely to disrupt the species' breeding cycle or lead to a population decline. The Project is considered unlikely to lead to a significant impact on grey snake.

Dunmall’s snake
The Project is estimated to disturb a maximum of 19.8 ha of potential Dunmall’s snake habitat (0.4% of the total habitat within the Project Area).
Dunmall’s snake has not been identified within the Project Area, and there is no evidence suggesting the presence of an important population. The Project is considered unlikely to lead to a significant impact on Dunmall’s snake.

Pectoral sandpaper
The Project is estimated to disturb a maximum of 2.3 ha (0.7%) of potential foraging habitat for pectoral sandpiper within the Project Area. The Project is unlikely to lead to a significant impact on the pectoral sandpiper, and the justification for this conclusion is the same as for the common sandpiper, as both species share the same foraging niches.

4.1.4.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

Yes

4.1.4.5 Describe why you consider this to be a Significant Impact. *

Brigalow TEC
The Project may directly impact a maximum of 14.2 ha (or 0.5%) of the potential Brigalow TEC within the Project Area. A large amount of potential Brigalow TEC has been identified and avoided through the initial design phase.

Potential Brigalow TEC is in a highly fragmented state with 246 separate patches scattered across the Project Area. The removal of 14.2 ha is unlikely to significantly alter species composition, quality, or the survival of the TEC within the Project Area, however it would still represent a minor loss of extent and could increase fragmentation.

Since the TEC mapping has not been ground-truthed, the exact amount of Brigalow TEC affected by the Project is uncertain. Based on this, the Project has the potential to significantly impact the Brigalow TEC, though the actual impact could be less than initially estimated.

Ornamental Snake
The Project may directly impact a maximum of 343.7 ha (or 1.8%) of suitable ornamental snake habitat within the Project Area.

It is considered highly likely that the Project Area supports an important population of ornamental snake based on nine individuals being detected during the targeted survey (Umwelt, 2021b). Furthermore, important habitat (gilgai depressions and mounds) of the ornamental snake is considered to be a surrogate for an important population (DCCEEW, 2023). Operating on that assumption, the removal of 343.7 ha of is likely to have a significant impact on the ornamental snake based on the following criteria:

- Habitat critical to the survival of the species is likely to be adversely affected; and
- A long-term decrease in the size of an important population cannot be ruled out.

It should be noted that suitable habitat within the Project Area is highly fragmented and subject to edge effects from surrounding agricultural land use.
Several mitigation measures will be undertaken to minimise and mitigate the Project's impacts on ornamental snake, including micro-siting and pre-clearance surveys.

Koala
The Project is estimated to disturb a maximum of 3.8 ha of koala breeding and foraging habitat (0.2% of the total amount of this habitat type) and a maximum 16.0 ha of dispersal habitat (0.5% of the total amount of this habitat type) within the Project Area.

A large portion of suitable habitat has been avoided through the design, and several mitigation measures, including pre-clearance surveys, are in place to further minimise impacts. Given the lack of evidence of koala utilisation in the area and the extent of suitable habitat remaining, the disturbance is unlikely to lead to a long-term decrease in population size.

A proportion of the potential koala habitat within the Project Area could support high ecological value breeding and foraging function, therefore the Project is likely to adversely impact this critical habitat. The disturbance to dispersal habitat is unlikely to be a significant impact as there will be no barrier to movement across the landscape.

Based on the above, the Project is considered likely to lead to a significant impact on the koala.

4.1.4.7 Do you think your proposed action is a controlled action? *

Yes

4.1.4.8 Please elaborate why you think your proposed action is a controlled action. *

The potential impact on the Ornamental Snake (343.7 ha), Brigalow (14.2 ha) and Koala (19.8 ha) habitat has the potential to result in impacts on MNES threatened species. Direct and Indirect impacts to MNES that are subject to management and mitigation measures are detailed in the MNES report (App A, Section 5, pp. 86).

A precautionary approach has been adopted in suggesting the Project be considered as a controlled action, with listed threatened species as controlling provisions. It is expected that Brigalow, Coolibah Black Box and Poplar Box can be prioritised for avoidance as part of the Constraints Protocol (Attachment B).

4.1.4.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

The overall framework for the avoidance mitigation and management measures is controlled by the Constraints Protocol (Attachment B).
The Project will consist of widely spaced gas wells and associated infrastructure. Due to the large size of the Project Area, and the dispersed nature of the Project, ecological surveys have been conducted throughout the preliminary design phase. This approach was intended to gauge the MNES values as they currently stand and allow for the most appropriate information to be available to foresee future impacts.

Westside's Constraints Protocol (Attachment B) will ensure that during the development of the Project Area, Westside will plan and design project infrastructure to avoid, minimise and mitigate impacts to the MNES values identified within the Project Area. The Constraints Protocol will be the key process for the avoidance, minimisation, and mitigation of any impacts to these MNES.

Westside has several additional Management Plans that are used to ensure that the risks to MNES are managed during the Construction, Operation, and Decommissioning these include:

- Environmental Management Plan (Attachment D)
- Produced Water Management Plan (Attachment E)
- Significant Species Management Plan (Attachment F)
- Rehabilitation Management Plan (Attachment G)

These management plans will be presented as final plans to be approved and conditioned for implementation with construction. Three other Management Plans will be produced prior to commencement of the Project:

- Biosecurity Management Plan
- Fauna Management Plan
- Vegetation Management Plan

To ensure the goal of reducing and minimising impact is achieved through the design and construction process, Westside is adopting the hierarchy of management principles for the design, planning and implementation of the petroleum activities within the Project area, specifically for activities which may result in land disturbance. The Hierarchy is described in Table 5-1 of the MNES report (Att A, Section 5, pp. 87). The principles described are:

- Avoid
- Minimise
- Mitigate
- Rehabilitate
- Offset

The Constraints Protocol (Attachment B) will be implemented via the Westside Project Execution Process. This process, comprised of four key phases, provides a thorough assessment of all the relevant constraints, risks and opportunities from the inception to the execution of Project activities. Westside describes hold points or 'gates' as analogies to explain check-points that occur at the end of each phase, allowing for re-assessment of risks and opportunities as well as compliance before the next phase in the process can begin.

The Management and Mitigation Measures are described in Table 5-2 of the MNES report (Att A, Section 5, pp. 88-92).

These include but are not limited to the following:

- Areas of threatened flora and fauna habitat will be avoided where possible at design stages.
- Where required, a qualified fauna spotter-catcher will conduct a search immediately prior to clearing of vegetation for the presence of fauna species. Where fauna (or important nesting sites for listed threatened fauna) are detected, the spotter catcher will assess and implement the most appropriate

method to avoid or minimise impacts from clearing. To prevent unnecessary land and vegetation disturbance, vehicles and equipment will be retained within the approved work zone.
- Workers will be aware of management requirements during inductions and through regular checks during construction.
- A Vegetation Management Plan (VMP) will be prepared to ensure that clearing is undertaken in accordance with legislative standards and requirements.
- Techniques utilised for construction will minimise or remove impacts on vegetation and TECs. Where feasible, underground cabling will avoid clearing of trees above ground and rehabilitation of these areas will retain ground cover connectivity between patches.
- Any understory and groundcover vegetation within an RE or TEC removed for the construction will undergo restoration plantings following the completion of the construction

4.1.4.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

Where significant impacts to MNES cannot be avoided, the Proponent is aware of the potential need to develop an Offset Management Strategy, that specifically outlines the requirements to deliver and manage appropriate land-based offsets, in accordance with the conditions of approvals. The Project will also offset the “actual” area of habitat impacted that will be further defined at the detailed design phase. This incentivises the minimisation of impacts to habitats to reduce the offset requirement and reduce impacts to MNES.

Once an offset area has been selected, and adequate surveys undertaken to confirm species habitat and habitat quality, an Offset Management Plan will be prepared for the implementation and ongoing management of the selected offset areas.

4.1.5 Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Species	Common name
No	Yes	Actitis hypoleucos	Common Sandpiper
No	Yes	Apus pacificus	Fork-tailed Swift
Yes	No	Calidris acuminata	Sharp-tailed Sandpiper
No	No	Calidris ferruginea	Curlew Sandpiper
Yes	Yes	Calidris melanotos	Pectoral Sandpiper
No	No	Crocodylus porosus	Salt-water Crocodile, Estuarine Crocodile
No	No	Cuculus optatus	Oriental Cuckoo, Horsfield's Cuckoo
Yes	Yes	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
No	Yes	Hirundapus caudacutus	White-throated Needletail
No	No	Motacilla flava	Yellow Wagtail

4.1.5.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.5.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

Fork Tailed Swift

The fork-tailed swift is a non-breeding migratory species that is almost exclusively aerial. The threshold for a significant population of more than 100 individuals has not been met, and no fork-tailed swifts were observed during the field surveys.

Common Sandpiper

Common sandpiper is a non-breeding species and is believed to be widespread along the Australian coastline and in many inland areas. There are thought to be few critical habitats within Australia (Bamford et al., 2008).

The Project is estimated to impact 2.3 ha of available foraging habitat (at maximum), representing a minor loss (0.7%). Food resources are expected to remain abundant, and invasive species are not anticipated to worsen beyond current levels due to the Project.

Glossy Ibis

There have been no indications during field surveys that an important population (or any number) of glossy ibis frequently utilise the Project Area.
The Project is estimated to directly impact 2.3 ha of available foraging habitat for the glossy ibis at maximum.

Latham's snipe

The Project is estimated to disturb a maximum of 2.3 ha of Latham's snipe foraging and roosting habitat within the Project Area. The habitat within the Project Area is fragmented and degraded.

Given the minimal disturbance and the retention of abundant resources (e.g., farm dams, wetlands, waterways) that have been avoided through design, the Project is unlikely to lead to a long-term decrease in the species' population.

White-throated needletail

The white-throated needletail is an almost-exclusively aerial species, there no ground habitat mapping was undertaken.
The Project Area is not considered to support an important population of white-throated needletail and is not considered an important stopover point for a large number of migrating birds.

Sharp-tailed sandpiper

The Project will directly impact a maximum of 2.3 ha (0.7%) of the total potential foraging habitat for the sharp-tailed sandpiper within the Project Area.

Sharp-tailed sandpiper is a non-breeding migratory species and only occasionally use inland sites for foraging.

Australian painted snipe

The Project will impact a maximum of 2.3 ha (0.7%) of the total potential foraging habitat for the Australian painted snipe within the Project Area.
It is considered unlikely that a significant population of Australian painted snipe utilise the Project Area.

Pectoral sandpaper

The Project is estimated to disturb a maximum of 2.3 ha (0.7%) of potential foraging habitat for pectoral sandpiper within the Project Area.

4.1.5.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.5.6 Describe why you do not consider this to be a Significant Impact. *

Fork Tailed Swift

The fork-tailed swift is a non-breeding migratory species that is almost exclusively aerial. The threshold for a significant population of more than 100 individuals has not been met, and no fork-tailed swifts were observed during the field surveys.

Given their aerial nature, the lack of disturbance to airspace, and their likely status as occasional transient visitors rather than residents, the Project is unlikely to have a significant impact on the species.

Common Sandpiper

Common sandpiper is a non-breeding species and is believed to be widespread along the Australian coastline and in many inland areas. There are thought to be few critical habitats within Australia (Bamford et al., 2008).

Based on the above, it is unlikely that the Project Area supports critical habitat for the sandpiper, especially given there has been only one historic record of the species and no recent observations during the field surveys.

The Project is estimated to impact 2.3 ha of available foraging habitat (at maximum), representing a minor loss (0.7%). Food resources are expected to remain abundant, and invasive species are not anticipated to worsen beyond current levels due to the Project. Therefore, the Project is unlikely to result in a significant impact on the common sandpiper.

Glossy Ibis

There have been no indications during field surveys that an important population (or any number) of glossy ibis frequently utilise the Project Area.
The Project is estimated to directly impact 2.3 ha of available foraging habitat for the glossy ibis at maximum. The Project is unlikely to lead to a significant impact on the glossy ibis, and the justification for this conclusion is the same as for the common sandpiper, as both species share the same foraging niches.

Latham's snipe

The Project is estimated to disturb a maximum of 2.3 ha of Latham's snipe foraging and roosting habitat within the Project Area. The habitat within the Project Area is fragmented and degraded.

Given the minimal disturbance and the retention of abundant resources (e.g., farm dams, wetlands, waterways) that have been avoided through design, the Project is unlikely to lead to a long-term decrease in the species' population.

Although the Project Area likely includes habitat critical to the survival of the species, the estimated impact is minimal and unlikely to adversely affect the overall habitat values and quality.

Based on the above, the Project is unlikely to lead to a significant impact on Latham's snipe.

White-throated needletail

The white-throated needletail is an almost-exclusively aerial species, there no ground habitat mapping was undertaken.
The Project Area is not considered to support an important population of white-throated needletail and is not considered an important stopover point for a large number of migrating birds.

It is considered unlikely that the Project will lead to a significant impact on white-throated needletail based on its aerial nature.Sh

Sharp-tailed sandpiper

The Project will directly impact a maximum of 2.3 ha (0.7%) of the total potential foraging habitat for the sharp-tailed sandpiper within the Project Area.
Sharp-tailed sandpiper is a non-breeding migratory species and only occasionally use inland sites for foraging.

The Project is unlikely to significantly impact the sharp-tailed sandpiper. The disturbance is minimal and does not lead to further fragmentation of the habitat, which is already modified. Suitable foraging habitat will remain undisturbed, and abundant food resources will continue to be available for the species. Additionally, management plans will address any potential indirect impacts.

Australian painted snipe

The Project will impact a maximum of 2.3 ha (0.7%) of the total potential foraging habitat for the Australian painted snipe within the Project Area.
It is considered unlikely that a significant population of Australian painted snipe utilise the Project Area. Furthermore, the disturbance from the Project is minimal in comparison to the overall available habitat. As a result, the Australian painted snipe is expected to continue foraging, breeding, and completing other lifecycle functions without significant disruption after construction.

Based on the above, the Project is unlikely to lead to a significant impact on the Australian painted snipe.

Pectoral sandpaper

The Project is estimated to disturb a maximum of 2.3 ha (0.7%) of potential foraging habitat for pectoral sandpiper within the Project Area.
If pectoral sandpiper does utilise the Project Area, it is likely only for transient visits in search of food resource as they generally prefer coastal environment not typical of the Project Area.

The Project is unlikely to lead to a significant impact on the pectoral sandpiper, and the justification for this conclusion is the same as for the common sandpiper, as both species share the same foraging niches

4.1.5.7 Do you think your proposed action is a controlled action? *

No

4.1.5.9 Please elaborate why you do not think your proposed action is a controlled action. *

Based on the determination that the potential impact to migratory species will total 2.3 ha of habitat to the Pectoral sandpiper, Australian Painted snipe, Latham's snipe, common sandpiper and Glossy ibis. We believe that it is unlikely 2.3 ha of direct impact will justify a controlled action on migratory species.

4.1.5.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

Avoidance and management measures are provided in Section 4.1.4.10.

Westside's Project employs a Constraints Protocol (Attachment B) as the overarching framework to avoid, minimise, and mitigate impacts to Matters of National Environmental Significance (MNES). Given the large and dispersed Project Area, ecological surveys were undertaken during the preliminary design to inform planning.

- Key measures include:
- Hierarchy of Management Principles: Avoid, Minimise, Mitigate, Rehabilitate, Offset – guiding all land-disturbing activities.
- Project Execution Process: Structured in four phases with decision 'gates' to reassess risks and ensure compliance before progressing.
- Management Plans: A suite of final and upcoming plans will guide construction and operational activities. These include:
    - Environmental, Produced Water, Significant Species, and Rehabilitation Management Plans (Attachments D–G)
    - Upcoming plans: Biosecurity, Fauna, and Vegetation Management Plans

Specific mitigation strategies (from MNES Report Tables 5-1 and 5-2) include:

- Micro-siting to avoid MNES habitat where possible.
- Fauna spotter-catchers during vegetation clearing.
- Strict vehicle/equipment access controls.
- Worker induction and ongoing compliance monitoring.
- Rehabilitation of cleared areas, including remnant and groundcover vegetation, as per landholder agreements and standards.

4.1.5.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

Refer to response to Section 4.1.4.11.

Where significant impacts to MNES cannot be avoided, the Proponent is aware of the potential need to develop an Offset Management Strategy, that specifically outlines the requirements to deliver and manage appropriate land-based offsets, in accordance with the conditions of approvals.

The Project will also offset the "actual" area of habitat impacted that will be further defined at the detailed design phase. This incentivises the minimisation of impacts to habitats to reduce the offset requirement and reduce impacts to MNES.

Once an offset area has been selected, and adequate surveys undertaken to confirm species habitat and habitat quality, an Offset Management Plan will be prepared for the implementation and ongoing management of the selected offset areas.

4.1.6 Nuclear

4.1.6.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.6.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Action is not a Nuclear Action and is not likely to have an impact on Nuclear Actions as there are no active Nuclear actions in Queensland and the nearest closed nuclear action (Uranium mine) is Mary Kathleen which is 1,000 km from the Project Area.

The Project is unlikely to have a direct impact on a closed uranium mine 1,000 km away

4.1.7 Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.7.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.7.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The proposed development is not within, nor does it impact on, a Commonwealth Marine Area. The nearest Commonwealth Marine Area is off the coast, (Same location as the related and named Temperate East Marine Region) and is 195 km from the Project Area.

The Project is not likely to have a direct impact on a Marine Area 195 km away. While the Project is a Coal Seam Gas Project, any impact on Commonwealth Marine Areas will not be a direct impact. The CSG project is designed not to impact on waterways, groundwater or water supply, and monitoring will be implemented as part of the Project to ensure that impacts on water are controlled and monitored.

4.1.8 Great Barrier Reef

4.1.8.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.8.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The proposed development will not result in any direct or indirect impacts to the Great Barrier Reef. The nearest national heritage place (Great Barrier Reef) is location 220 km east of the Project Area.

4.1.9 Water resource in relation to large coal mining development or coal seam gas

4.1.9.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

Yes

4.1.9.2 Briefly describe why your action has a direct and/or indirect impact on this protected matter. *

The Project has the potential to result in both direct and indirect impacts on protected matters, as detailed in the Human Health and Environmental Risk Assessment Report (Attachment I) and Water Impact Assessment Report (Attachment J). Below is a summary of the primary direct and indirect impacts.

Chemical Use in Drilling and Stimulation Activities:

The use of drilling fluids, stimulation fluids and their potential release into the environment can directly affect soil and water quality. This is detailed in the Human Health and Environmental Risk Assessment Report (Att I, Section 3.2.1, pp. 45-67). Specifically, the Human Health and Environmental Risk Assessment report discusses the preparation, use, and management of drilling fluids, including the potential for accidental releases and their impacts on soil and water quality (Att I, Section 3.2.1, pp. 45-67). The potential for chemicals to migrate and affect the environment is assessed.

Proper management and mitigation strategies, such as designated storage areas and secondary containment structures, are essential to minimise the risk of chemical release and protect soil and water quality.

The potential release of chemicals into surface water bodies can directly affect aquatic flora and fauna. The Human Health and Environmental Risk Assessment Report (Att I, Section 4.1.2, pp. 89-102) provides detailed information on the potential impacts on aquatic ecosystems. This section includes the assessment of toxicity reference values (TRVs) for aquatic organisms and the predicted no effect concentrations (PNECs) for water (Att I, Section 4.1.2, pp. 89-102). Chemicals such as tetrakis (hydroxymethyl) phosphonium sulfate and tributyl tetradecyl phosphonium chloride are identified as highly toxic to aquatic organisms. Implementing spill containment procedures and monitoring water quality are crucial to protect aquatic ecosystems from chemical exposure.

The use of chemicals in drilling and their potential release into the soil can affect terrestrial flora and fauna (Att I, Section 4.1.3, pp. 103-109). The report discusses the potential impacts on soil-dwelling organisms and the calculation of PNECs for soil (Att I, Section 4.1.3, pp. 103-109). Chemicals such as potassium chloride and diethanolamine can impact soil quality and terrestrial organisms. Proper management of drilling residuals and land application techniques are necessary to minimize soil contamination and protect terrestrial ecosystems. No significant impact is expected if proper management techniques are implemented.

Cumulative Effects on Groundwater:

The cumulative effects of chemical use on groundwater quality can indirectly impact groundwater-dependent ecosystems (GDEs). This is discussed in the Human Health and Environmental Risk Assessment Report (Att I, Section 3.6, pp. 19-24). The report details the hydrogeological setting of the project area, including the connectivity of aquifers and the potential for chemicals to migrate through groundwater systems (Att I, Section 2.6, pp. 19-30). The report identifies the Rewan Group aquitard as a significant barrier to vertical flow, which can limit the migration of chemicals. Continuous monitoring of groundwater quality and implementing measures to prevent chemical migration are essential to protect GDEs. No significant impact is expected.

Impact on Threatened Species:

The potential for chemical exposure to affect threatened species indirectly through the food chain is detailed in the Human Health and Environmental Risk Assessment Report (Att I, Section 2.7.1, pp. 31-34). This section includes a list of threatened species and ecological communities that may be affected by the project activities (Att I, Section 2.7.1, pp. 31-34). Species such as the Northern Quoll and Cattle Egret are identified as potentially vulnerable to chemical exposure. Implementing habitat protection measures and monitoring chemical levels in the environment are necessary to safeguard threatened species. Potentially significant impact if chemicals affect the food chain.

Impact on Land Use and Vegetation:

The alteration of land use and vegetation due to drilling activities can indirectly affect the habitat of protected species (see Human Health and Environmental Risk Assessment Report (Att I, Section 2.1, pp. 8-11) for more information). The report provides an overview of the current land use in the project area and the potential impacts of project activities on land use and vegetation. The report identifies grazing and cropping as the dominant land uses, which can be affected by drilling activities. Implementing land use management strategies like those identified in the Environmental Management Plan and Produced Water Management Plan and rehabilitating disturbed areas are essential to minimise the impact on vegetation and habitat. No significant impact is expected.

Impact on Water Resources:

The project is located within the Lower Dawson River sub-catchment, which includes key watercourses such as Dawson River, Banana Creek, and Kianga Creek. The Lower Dawson catchment is bounded by the Shotover Ranges, approximately 120 km northwest of the project. The catchment consists of an extensive network of watercourses that are ephemeral. The Dawson River is a perennial watercourse due to inflow from groundwater springs throughout the year (Att J, Section 6.1, pp. 37-38). Water Production is authorised under the Petroleum and Gas (Productions and Safety) Act 2004.

Aquifers of the Bowen Basin are a source of water used for public water, agricultural, stock, and domestic supply, with most of the use in the vicinity of the project for stock and domestic purposes. Potential impacts due to water production may include:

- Decline in groundwater level/pressure at water bores, reducing water availability and potentially impacting groundwater EVs;
- Reduction in groundwater head resulting in reduction of groundwater discharge at spring complexes, potentially causing degradation of GDEs; and
- Reduction of baseflow to watercourses, potentially resulting in reduced availability of water to GDEs and reduced water availability to potential users downstream.

Numerical modelling results indicate drawdown is restricted to the Tertiary, Rewan Group, Baralaba Coal Measures, and Undivided Basement. There is no predicted drawdown impact to the shallow groundwater in the overlying Quaternary Alluvium, therefore there will be no predicted impacts to environmental values associated with the shallow groundwater system (Att J, Section 8.2, pp. 99-104).

There are no impacts to springs or GDEs predicted due to the proposed Project (Att J, Section 12.1, pp. 137). No material impacts to surface water environmental values are anticipated, including to aquatic ecosystems and cultural and spiritual values, due to development of the Project (Att J, Section 10.2.1, pp. 120). There are no direct impacts predicted to surface water (Att J, Section 12.1, pp. 137).

The report includes a subsidence assessment based on groundwater pressure changes, predicting subsidence between 0.002 m and 0.57 m. The maximum change in ground slope from CSG-induced subsidence is expected to be less than 0.57% (57 cm over a km). The impacts to farming and infrastructure are considered low. Subsidence is predicted between 0.3 m and 0.5 m in the vicinity of Kianga Creek.

4.1.9.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.9.6 Describe why you do not consider this to be a Significant Impact. *

Based on the comprehensive assessments and findings detailed in the Human Health and Environmental Risk Assessment and Water Resource Impact Assessment reports, we do not consider the proposed actions to have a significant impact on this protected matter. The Project lies within the Fitzroy Basin surface water catchment, importantly noting the Project is not within the Great Artesian Basin. There are no impacts to springs or groundwater dependent ecosystems predicted as a result of the proposed Project. There are no direct impacts predicted to surface water. Here are the key reasons.

Chemical Use in Drilling and Stimulation Activities:

The use of drilling fluids is managed with stringent controls to prevent accidental releases. The identified chemicals, such as potassium chloride and diethanolamine, are managed through designated storage areas and secondary containment structures. The potential for these chemicals to migrate and affect soil and water quality is minimal with these measures in place, see the Human Health and Environmental Risk Assessment Report (Att I, Section 3.2.1, pp. 45-67).

The injection of stimulation fluids and subsequent flowback are managed to prevent contamination of groundwater and surface water. Chemicals like acetic acid and ethylene glycol are handled with effective storage and handling strategies, ensuring no significant impact on water quality (Att I, Section 3.2.2, pp. 68-77).

Impact on Aquatic and Terrestrial Ecosystems:

The potential release of chemicals into surface water bodies is mitigated through spill containment procedures and water quality monitoring. The identified toxic chemicals are managed to prevent significant impacts on aquatic flora and fauna (Att I, Section 4.1.2, pp. 89-102).

Proper management of drilling residuals and land application techniques ensures that chemicals like potassium chloride and diethanolamine do not significantly impact soil quality and terrestrial organisms (Att I, Section 4.1.3, pp. 103-109).

Cumulative Effects on Groundwater:

The Rewan Group aquitard acts as a significant barrier to vertical flow, limiting the migration of chemicals and protecting groundwater-dependent ecosystems (Att I, Section 2.6, pp. 19-30). Continuous monitoring and preventive measures ensure no significant impact on groundwater quality.
Impact on Threatened Species:

Habitat protection measures and monitoring of chemical levels in the environment safeguard threatened species like the Northern Quoll and Cattle Egret from potential chemical exposure (Att I, Section 2.7.1, pp. 31-34).

Impact on Land Use and Vegetation:

Implementing land use management strategies and rehabilitating disturbed areas minimize the impact on vegetation and habitat. The dominant land uses, such as grazing and cropping, are not significantly affected by the project activities (Att I, Section 2.1, pp. 8-11).

Impact on Water Resources:

The project is located within the Lower Dawson River sub-catchment, which includes key watercourses such as Dawson River, Banana Creek, and Kianga Creek. The project does not involve any abstraction or discharge from/to watercourses, ensuring no significant impact on surface water flow regimes (Att J, Section 6.1, pp. 37-38).

The target coal seam for the project is the Baralaba Coal Measures within the Bowen Basin. Numerical modelling indicates that drawdown is restricted to the Tertiary, Rewan Group, Baralaba Coal Measures, and Undivided Basement, with no predicted drawdown impact on the shallow groundwater in the overlying

Quaternary Alluvium (Att J, Section 8.2, pp. 99-104).

Subsidence:
The subsidence assessment predicts minimal subsidence (between 0.002 m and 0.57 m) due to groundwater pressure changes. The impacts on farming and infrastructure are considered low, and subsidence monitoring will be conducted to ensure no significant impact on watercourses like Kianga Creek and Dawson River (Att J, Section 10.6, pp. 124-128).

4.1.9.7 Do you think your proposed action is a controlled action? *

No

4.1.9.9 Please elaborate why you do not think your proposed action is a controlled action. *

There is no predicted drawdown impact to the shallow groundwater in the overlying Quaternary Alluvium, therefore there will be no predicted impacts to environmental values associated with the shallow groundwater system (Att J, Section 8.2, pp. 99-104).

The Project includes comprehensive management plans and strategies to mitigate the potential impacts of chemical use on the environment. These strategies, such as designated storage areas, construction of dams, and waste management plans, ensure that environmental risks are minimised.

The comprehensive management, mitigation, and monitoring strategies outlined in the reports ensure that the potential impacts on protected matters are minimised. The Project adheres to stringent environmental standards and guidelines, ensuring that any potential impacts are not significant. Therefore, we do not consider this project to have a significant impact on this protected matter.

4.1.9.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

The implementation of management and mitigation strategies to reduce the risk of chemical exposure can indirectly benefit protected matters. This is covered in the "Risk Management" section of the Human Health and Environmental Risk Assessment report (Att I, Section 6, pp. 146-149). The report outlines the key management plans and strategies to mitigate the potential impacts of chemical use on the environment (Att I Section 6, pp. 146-149). The report highlights the importance of designated storage areas, construction of dams, and waste management plans. Adhering to these management strategies is crucial to minimize environmental risks and protect sensitive receptors.

Management, mitigation and monitoring measures are provided in Section 11 of the Water Impact Assessment Report (Att J, Section 11, pp. 132). This includes measures such as:

CSG wells will be designed, constructed and decommissioned in accordance with the “Code of Practice for constructing and abandoning coal seam gas wells and associated bores in Queensland”

Drilling fluids and additives used during drilling activities will be water-based, appropriate for the well design and local geological conditions, and will be used in accordance with the mandatory requirements and good practice guidelines outlined in the Code of Practice (DNRM 2017).

All applicable materials will be stored and handled in accordance with the relevant legislative requirements and Australian Standards.
Groundwater monitoring will act as a key mechanism for the early identification of the response to CSG water production, within the Baralaba Coal Measures and other formations where groundwater receptors exist. Westside have installed a site-specific monitoring bore network in the Project, which consists of three sites with monitoring bores screened in the Tertiary sediments and underlying Rewan Formation. These bores are used for monitoring water level and quality in each of the associated hydrostratigraphic units. Additional groundwater quality monitoring is conducted at three gas well locations screened in the Baralaba Coal Measures. Quarterly groundwater monitoring is conducted and results are reported annually (Att J, Section 11.4, pp. 133-134).

Additional measures including subsidence monitoring and infrastructure location planning are included in the Water Impact Assessment Report (Attachment J). Monitoring, management and mitigation practices associated with the above activities are outlined in Attachment G, Attachment I and Attachment J.

4.1.9.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

No offsets required for this protected matter.

4.1.10 Commonwealth Land

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.10.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.10.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The proposed development is not located on Commonwealth land and it is unlikely to result in any direct or indirect impact to Commonwealth land.

4.1.11 Commonwealth Heritage Places Overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.11.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.11.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The proposed development will not impact any Commonwealth heritage places overseas.

4.1.12 Commonwealth or Commonwealth Agency

4.1.12.1 Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

- Threatened Species and Ecological Communities (S18)

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Ramsar Wetland (S16)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)
- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

4.3.1 Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

No

4.3.8 Describe why alternatives for your proposed action were not possible. *

An alternative activity for the Project was not considered feasible, as the proposed action is specifically designed to extract natural gas from within Petroleum Leases (PL) 1048 and 1049, granted under the Petroleum and Gas (Production and Safety) Act 2004. These leases were awarded based on the subsurface resource potential and the strength of the proponent's development plan, and any deviation from the intended activity would not achieve the Project's commercial or energy security objectives.

The Project is confined to extracting petroleum resources from within these tenures, and taking no action would be inconsistent with the obligations associated with holding petroleum leases under the Petroleum and Gas (Production and Safety) Act 2004. Further, Australia continues to face a projected shortfall in domestic gas supply on the east coast. The proposed activity contributes to addressing this shortfall, thereby supporting energy security, the local and regional economy, and broader community needs.

Within the constraints of PL1048 and PL1049, alternative approaches—such as different well layouts, infrastructure configurations, or access routes, will continue in attempt to avoid and minimise environmental disturbance, particularly in relation to MNES. This refinement process will help reduce impacts to threatened species, ecological communities, and remnant vegetation, while still ensuring viable resource development.
The selected activity aligns with existing land uses and infrastructure corridors and is proposed within an area that has been previously disturbed, maximising co-existence with ongoing agricultural and regional development activities.

Given these factors, including tenure limitations, regulatory obligations, energy supply demands, environmental considerations, and economic viability, no appropriate or practical alternative activity has been identified that would meet the purpose and objectives of the Project without introducing additional risks or impacts.

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment A - MNES Report.pdf MNES Report	24/04/2025	No	High
#2.	Document	Attachment B - Constrains Protocol.pdf Constraints Protocol	24/04/2025	No	High
#3.	Document	Attachment C - Greenhouse Gas Emission Report.pdf Greenhouse Gas Report	24/04/2025	Yes	High
#4.	Document	Attachment G - Produced Water Management Plan .pdf Produced Water Plan	23/04/2025		High

3.1.3 Natural features, important or unique values that applies to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment A - MNES Report.pdf MNES Report	23/04/2025	No	High

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment A - MNES Report.pdf MNES Report	23/04/2025	No	High

3.2.2 Vegetation within the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment A - MNES Report.pdf MNES Report	23/04/2025	No	High

3.3.2 Indigenous heritage values that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment H - Cultural Heritage Searches.pdf Cultural Heritage Searches	24/04/2025	Yes	High

3.4.1 Hydrology characteristics that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment I - HHERA.pdf Human Health and Environmental Risk Assessment	24/04/2025	No	High
#2.	Document				

Attachment J - Water Impact Assessment Report.pdf Water Impact Assessment Report	24/04/2025	No	High

4.1.4.2 (Threatened Species and Ecological Communities) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment A - MNES Report.pdf MNES Report	23/04/2025	No	High

4.1.4.5 (Threatened Species and Ecological Communities) Why you consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment A - MNES Report.pdf MNES Report	23/04/2025	No	High
#2.	Document	Attachment A - MNES Report.pdf MNES Report	23/04/2025	No	High

4.1.4.8 (Threatened Species and Ecological Communities) Why you think your proposed action is a controlled action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment A - MNES Report.pdf MNES Report	23/04/2025	No	High

4.1.4.10 (Threatened Species and Ecological Communities) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment A - MNES Report.pdf MNES Report	23/04/2025	No	High
#2.	Document	Attachment D - Environmental Management Plan.pdf EMP for project	24/04/2025	No	High
#3.	Document	Attachment E - Rehabilitation Management Plan.pdf Rehabilitation Plan	24/04/2025	No	High
#4.	Document	Attachment F - Significant Species Management Plan.pdf Significant Species Management Plan	24/04/2025	No	High
#5.	Document	Attachment G - Produced Water Management Plan .pdf Produced Water Plan	24/04/2025	No	High

4.1.5.2 (Migratory Species) Why your action has a direct and/or indirect impact on the identified protected matters

Type	Name	Date	Sensitivity	Confidence
#1. Document	Attachment A - MNES Report.pdf MNES Report		23/04/2025	High

4.1.5.6 (Migratory Species) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment A - MNES Report.pdf MNES Report	23/04/2025	No	High

4.1.5.10 (Migratory Species) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment A - MNES Report.pdf MNES Report	23/04/2025	No	High
#2.	Document	Attachment B - Constrains Protocol.pdf Constraints Protocol	23/04/2025	No	High

4.1.9.2 (Water resource in relation to large coal mining development or coal seam gas) Why your action has a direct and/or indirect impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment I - HHERA.pdf Human Health and Environmental Risk Assessment	23/04/2025	Yes	High
#2.	Document	Attachment J - Water Impact Assessment Report.pdf Water Impact Assessment Report	23/04/2025	No	High

4.1.9.6 (Water resource in relation to large coal mining development or coal seam gas) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment I - HHERA.pdf Human Health and Environmental Risk Assessment	23/04/2025	No	High
#2.	Document	Attachment J - Water Impact Assessment Report.pdf Water Impact Assessment Report	23/04/2025		High

4.1.9.9 (Water resource in relation to large coal mining development or coal seam gas) Why you do not think your proposed action is a controlled action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment J - Water Impact Assessment Report.pdf Water Impact Assessment Report	23/04/2025	No	High

4.1.9.10 (Water resource in relation to large coal mining development or coal seam gas) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment D - Environmental Management Plan.pdf EMP for project	23/04/2025		High
#2.	Document	Attachment E - Rehabilitation Management Plan.pdf Rehabilitation Plan	23/04/2025	No	High
#3.	Document	Attachment F - Significant Species Management Plan.pdf Significant Species Management Plan	23/04/2025	No	High
#4.	Document	Attachment G - Produced Water Management Plan .pdf Produced Water Plan	23/04/2025	No	High
#5.	Document	Attachment J - Water Impact Assessment Report.pdf Water Impact Assessment Report	23/04/2025	No	High

5.2 Declarations

Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

ABN/ACN	12002773248
Organisation name	ENVIRONMENTAL RESOURCES MANAGEMENT AUSTRALIA PTY LIMITED
Organisation address	2000 NSW
Representative's name	Scott Mainey
Representative's job title	Principal Consultant
Phone	0409159906
Email	scott.mainey@erm.com
Address	Level 9, 260 Queen Street, QLD, 4000

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ By checking this box, I, **Scott Mainey of ENVIRONMENTAL RESOURCES MANAGEMENT AUSTRALIA PTY LIMITED**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	74117145516
Organisation name	WESTSIDE CORPORATION PTY LTD
Organisation address	4000 QLD
Representative's name	Daniel Huff-Hannon

Representative's job title	Chief Operating Officer
Phone	0447 250 988
Email	daniel.huffhannon@westsidecorporation.com
Address	Level 11, 175 Eagle Street, Brisbane, 4000 Queensland Australia

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Daniel Huff-Hannon of WESTSIDE CORPORATION PTY LTD**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

✔ Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Daniel Huff-Hannon of WESTSIDE CORPORATION PTY LTD**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

☐ I would like to receive notifications and track the referral progress through the EPBC portal. *