2.0 Description of the Action

2.1 Project Area, Project Footprint and Staging

The Project area is defined as the portion of the two host properties outside of the WTQWHA. The Project area covers a total of 31,225 ha plus adjoining road reserves. The Project footprint is the maximum disturbance of the land associated with the elements of the Action as outlined in **Section 2.3** (i.e. the maximum area of disturbance) which is estimated at 1,071.1 ha, including approximately 107.2 ha required for operations and 963.9 ha of temporary disturbance associated with the construction footprint that will be available for post-construction rehabilitation (of which at least 70% - or 674.7 ha – will be rehabilitated). The Project footprint represents a small proportion of the Project area: approximately 3.4 % for construction and 0.3 % for operations. The Project footprint is sufficiently wide to allow the micro-siting of infrastructure to respond to site-specific constraints and opportunities as feasibility studies increase in definition towards construction.

The Project footprint is located outside the WTQWHA and National Heritage Place. An existing high voltage transmission line traverses both the WTQWHA and the Project area with all proposed grid connection infrastructure located outside the WTQWHA.

In order to allow flexibility in procurement, construction and operation, the Project is separated into two separate stages; Stage 1 (Wooroora) and Stage 2 (Glen Gordon).

Key metrics for Stage 1 and Stage 2 are provided in **Table 2-1**.

Table 2-1 Key Metrics for Stage 1 and Stage 2

Project Metric	Stage 1	Stage 2
Project footprint	606.9 ha	464.2 ha
Operational footprint	65.7 ha	41.5 ha
Temporary disturbance	541.2 ha	422.7 ha

2.2 Project Components

The Project layout and main components are illustrated in **Figure 2-1**, with the proposed Stage 1 and Stage 2 also delineated.

Key project components will include:

- 86 wind turbines are proposed, comprising turbines each up to 7 MW with a total potential total nameplate wind farm generating capacity of 602 MW or 1,985 GWh/annum[3]. Turbine towers will be up to 160 m tall and turbine blades may be as long as 90 m (maximum tip height of 250 m). Each turbine will require a handstand area of 1.5 ha to 2 ha to allow for the turbine foundation, laydown of components and area for crane use. This area will also encompass firebreaks around the turbine foundation. Foundations for turbines such as those proposed typically consist of a large, reinforced concrete slab which is shallow-buried. Piles or anchors may also be adopted

[3] It is noted that the EPBC Act Referral for the Project proposed a 95 WTG layout. Since the preparation of the Referral, WTG20 has been removed from the proposed design.

depending on the ground conditions at each turbine location. Final foundation design will depend on the turbines selected and detailed geotechnical assessment of each site.

  - Stage 1 consists of 52 wind turbines
  - Stage 2 consists of 34 wind turbines

- A new Stage 1 Powerlink switching station adjacent to the existing 275 kV Powerlink line in the central portion of the Project area, within Wooroora. Stage 2 also contains a potential Powerlink connection substation within Glen Gordon. There will likely be minor storage of oils for components and electrical spares, and the area will be suitably bunded if required. The substation consists of a large "bench" area with an earth grid buried underneath, and high specification drainage and clearances. All the electrical equipment can be installed on this bench. For the transformer, the heaviest infrastructure on the Project, special foundations are installed to ensure the safety and durability of the substation. These areas will be approximately 2 ha.

- Two separate battery energy storage systems (BESS) are proposed proximal to the Powerlink switching stations. A BESS is used to store advanced battery technology linked to inverters and the wider Project. A BESS is used to manage Project output, provide system support and strength capabilities and allow the Project to participate in Frequency Control Ancillary Services (FCAS) and other market services. Depending on the battery technology used, the BESS and associated infrastructure may be mounted on a concrete pad. Underground cables will connect the BESS to the substation. Suitable security fencing will be installed around both the substation and BESS. Subject to the final connection agreement, additional grid support equipment may be required at the Powerlink connection substation and BESS location. This may be in the form of synchronous condensers or reactive plant (statcom, cap banks, etc.). Such equipment would be contained in housing similar to that shown above for the indicative BESS and substation infrastructure. Collectively, the footprint of these items is expected to be approximately (but not limited to) 2 ha, and included in the broader bench area designated for the switching station and supporting infrastructure.

- Two wind farm collector substations (adjoining the proposed Powerlink switching stations) which will bring together the ≤66 kV powerlines from the surrounding wind turbine locations. Here, main transformers will convert the electricity to high voltage (≤275 kV). For the transformers, the heaviest infrastructure on the Project, special foundations are installed to ensure the safety and durability of the substation.

- Medium-voltage (≤66 kV) overhead and underground powerlines – wind turbines generate at low voltage (approx. 3 kV) and have a transformer to convert into medium voltage (≤66 kV). The turbines are then connected in strings of 4-5 turbines per string, and the string is typically buried alongside wind farm access tracks. In order to reduce electrical losses, and to simplify construction, once a few strings are running in parallel they are converted to overhead and run toward the central collector substation where the power is collected and converted to high voltage (≤275 kV). These ≤66 kV cables are predominantly buried underground next to the wind farm access track alignment.

- High voltage (≤275 kV) overhead powerlines – an approximately 13 km overhead line is proposed to connect the collector substations between Stages 1 and 2. This high voltage powerline corridor is proposed to be 80 m wide, accounting for easement width requirements and incorporating firebreaks around poles (once detailed design is undertaken).

- Permanent wind monitoring masts – up to 5 are expected to be installed. These masts are proposed to be located within the supplied Project footprint and require clearing of approximately 2 ha per mast. The base of each mast will consist of a concrete foundation and will be installed for approximately 30 years (for the operational life of the Project).

- Unsealed access tracks – Unsealed access tracks are required to each turbine and supporting infrastructure such as the substation. Initial road design estimates approximately 122 km of access tracks are required, with

approximately 20 km of these to be established in areas of existing tracks/roads within the Project area. Where practical existing cleared tracks will be used and upgraded where needed to minimise vegetation clearing and fragmentation. New tracks will also be placed in cleared areas where practical and clearing widths minimised. Watercourse crossings may be of bed level, culvert or bridge type design. Due to the steep terrain across the Project area clearing widths will vary based on earthworks required at key locations. For a track width of 5.5 m, the temporary road construction may extend from less than 25 m to over 100 m depending on the complexity of the terrain and ability to safely construct the required earthworks. The width of an access track corridor is determined due to a combination of:

  - the steepness of the terrain requiring a level of cut and fill to optimise the road layout and minimise slopes to 15 % maximum;
  - inclusion of construction space, and space to bury electrical feeders next to the roads (if practical to do so[4]). This minimises clearance for the wider Project, and is undertaken where burying cables does not lead to significant losses;
  - requirement to allow for a large swept path for long components being transported on steep bends;
  - erosion and sediment control infrastructure;
  - paths for construction vehicle movements to achieve safety and operational efficiency;
  - firebreaks beyond above-ground infrastructure; and
  - stockpile areas beyond the working hardstands.

- Areas disturbed for road construction outside of the 5.5 m track width will be rehabilitated following construction in order to ensure a suitably stable profile is maintained. This rehabilitation will include stabilisation of landform, re-spreading of topsoil, and implementation of the Preliminary Rehabilitation Plan (**Appendix K**) which will include hydro-seeding, direct seeding and planting out of tube stock.
- Permanent site entrance – the proposed main access to the Project is from the north off Wooroora Road, south of Ravenshoe, where it enters the Wooroora property. Upgrade works within Wooroora Road are likely to be required; this will be subject to further engagement with Tablelands Regional Council to inform the final design and specification of any required upgrades. Any required upgrades are considered to be minor in the context of the broader action, and will be assessed separately at the detailed design stage for their potential to impact any MNES.
  - An alternative optional site entrance is presently being investigated by Ark Energy for the transport of wind turbine component and potentially some or all construction and operational light vehicles movements. This alternative access is via Innot Hot Springs and is currently being investigated for engineering feasibility associated with the existing bridge structure crossing the Herbert River. This alternative option is being investigated following receipt of feedback from Tablelands Regional Council and other stakeholders concerned with potential impacts to the rural-residential community along Wooroora Road.
- Fencing will be installed including required grids and gates in order to appropriately secure access to the wind farm. All fencing will be designed in consultation with the relevant landholder to minimise impact to the operation of their property where practical, and to provide relevant security to both their landholdings and to the wind farm overall (all such fencing is to be within the nominated Project footprint). The Project will have security appropriate for the infrastructure; the final details of which will be discussed and agreed with Tablelands Regional Council;

[4] In some of the more rugged terrain, cabling presents issues through much larger batter requirements. In such locations, the collector systems are proposed as an overhead alignment.

- Two temporary concrete batching plants are proposed to be established on sites within the Project footprint. These areas will either be rehabilitated post-construction;
- A temporary construction compound/laydown and stockpile area will be located in the north of the Project area near the site entrance in an existing cleared area. This area will be rehabilitated post-construction. Additional laydown is provided for at each turbine location (included in the 1.5 ha-2 ha pad described above). Satellite construction compounds are also proposed in the east, west and south of the Project area to facilitate construction;
- Temporary site offices, workshops, warehouses and amenities (located in the construction compound/laydown areas); and
- Permanent site offices for asset management and operation and maintenance facilities are proposed to be collocated with the northern collector substation and the Powerlink connection substation.

The proposed coordinates for these components are provided in **Table 2-2**. It should be noted that these are subject to feasibility studies and final locations may vary.

ARK ENERGY

Attexo

Chalumbin Wind Farm

Project Layout

Sheet 1 of 4

Figure 2.1

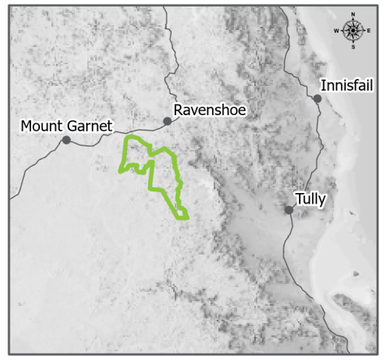
- Project Area Boundary
- Turbine
- Met-mast
- Access Road
- Facilities

Clearance Envelope

- Stage 1
- Stage 2
- Existing HV Transmission Line
- Watercourse
- WTQ Boundary
- WHA Buffer - 500m
- Lot Boundary
- Easement

Date: 13/10/2022 Author: TOD

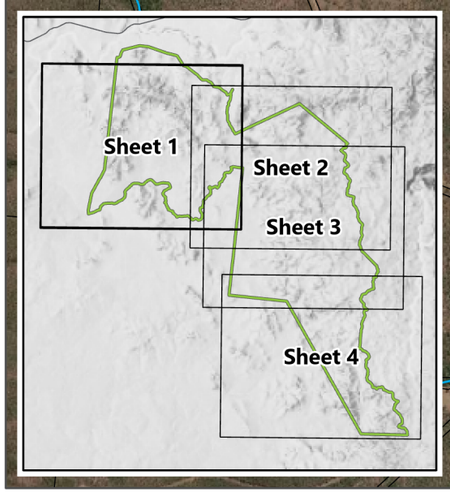
Project: EPU-004 Reviewed: NOD

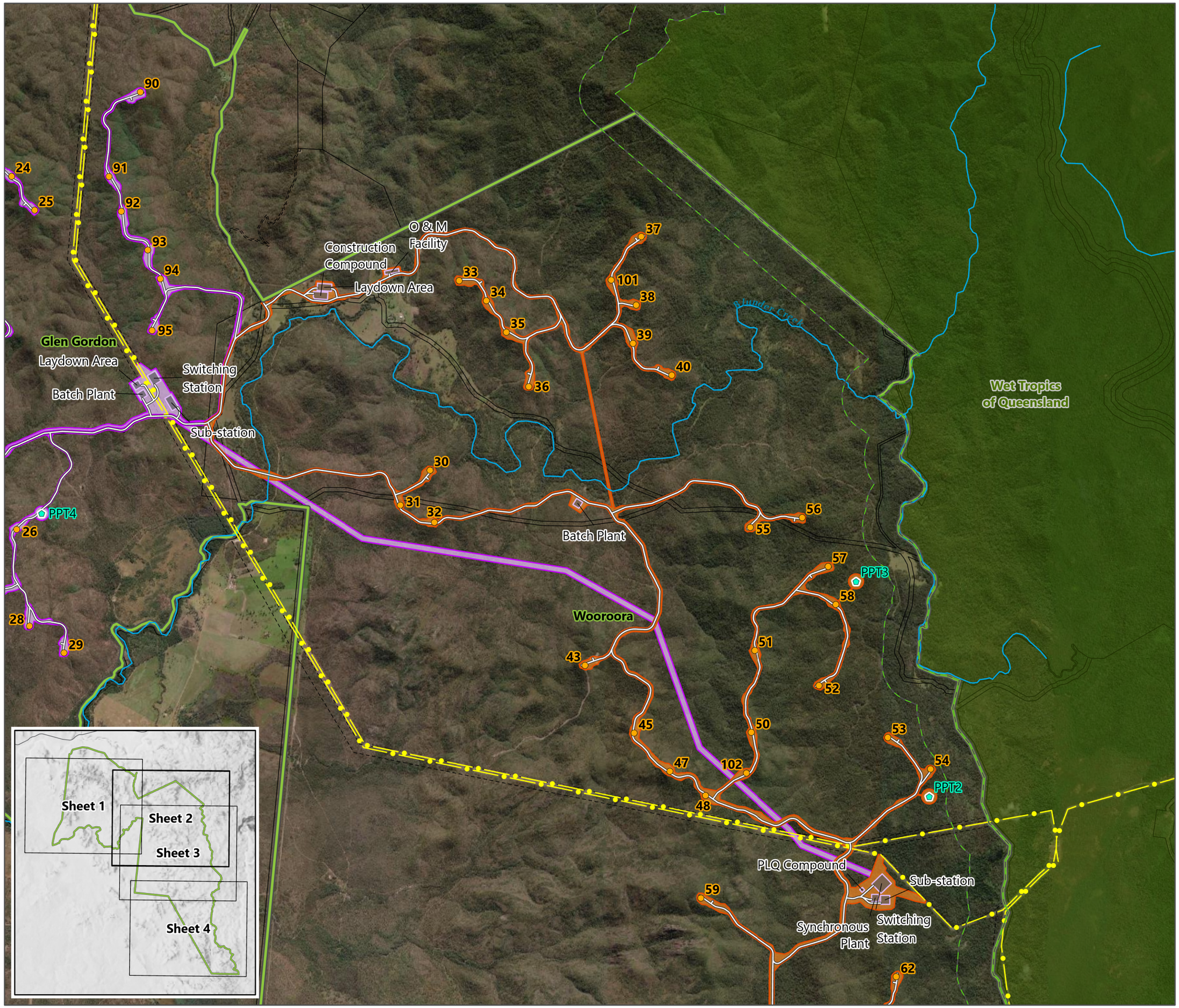


0 0.5 1 1.5 2 Km

Scale: 1:50,000@A3

Data Source(s):
Digital Cadastral Database - Department of Resources (2022)
© State of Queensland (Department of Resources) 2022, Maxar





ARK ENERGY

Attexo

Chalumbin Wind Farm

Project Layout

Sheet 2 of 4

Figure 2.1

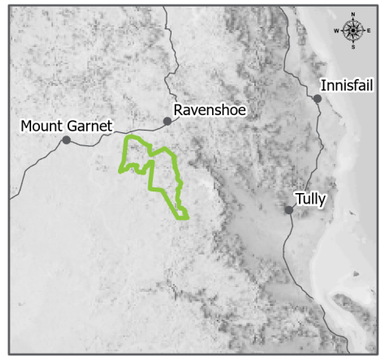
- Project Area Boundary
- Turbine
- Met-mast
- Access Road
- Facilities

Clearance Envelope

- Stage 1
- Stage 2
- Existing HV Transmission Line
- Watercourse
- WTQ Boundary
- WHA Buffer - 500m
- Lot Boundary
- Easement

Date: 13/10/2022 Author: TOD

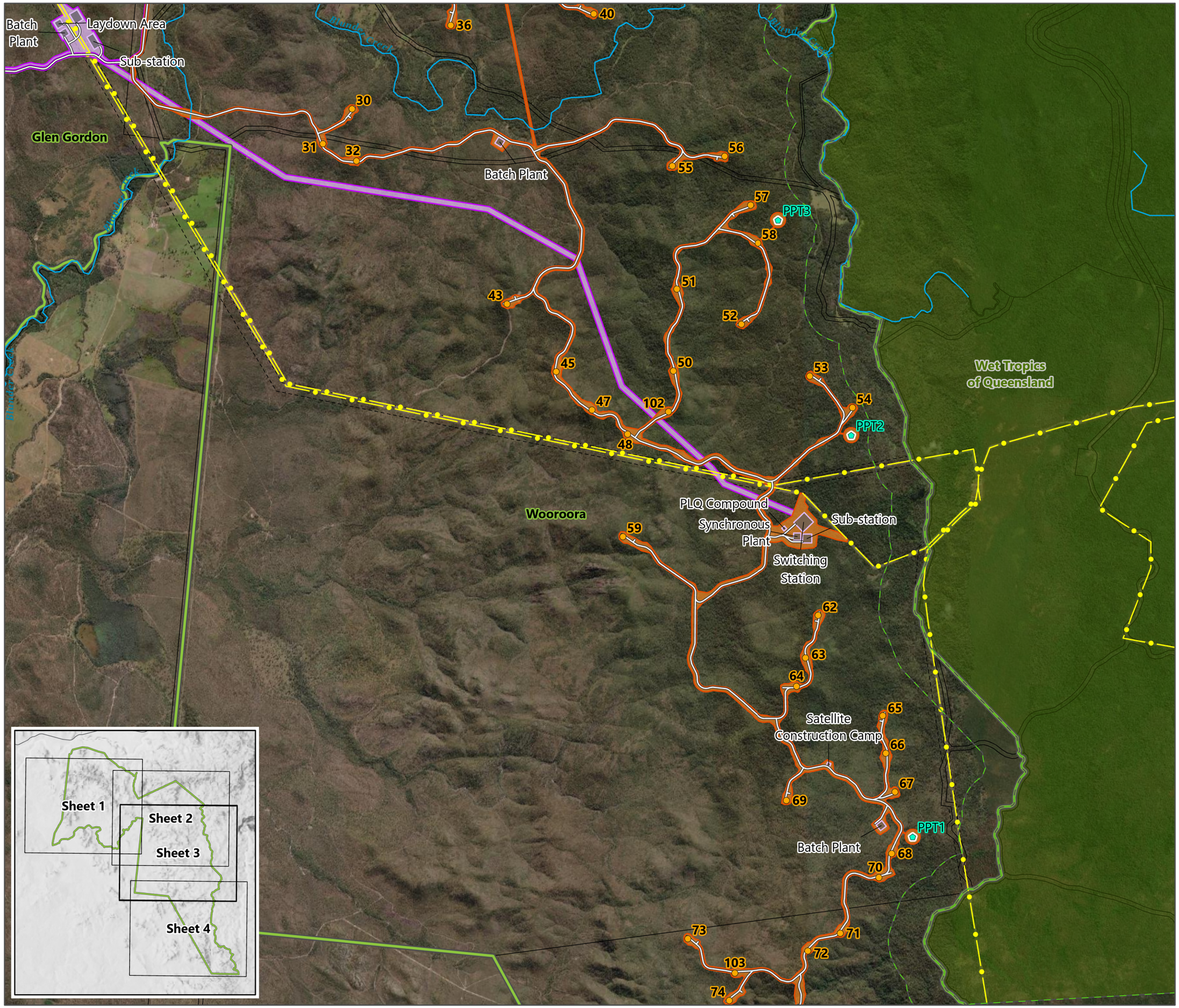
Project: EPU-004 Reviewed: NOD



0 0.5 1 1.5 2 Km

Scale: 1:50,000@A3

Data Source(s):
Digital Cadastral Database - Department of Resources (2022)
© State of Queensland (Department of Resources) 2022, Maxar



ARK ENERGY

Attexo

Chalumbin Wind Farm

Project Layout

Sheet 3 of 4

Figure 2.1

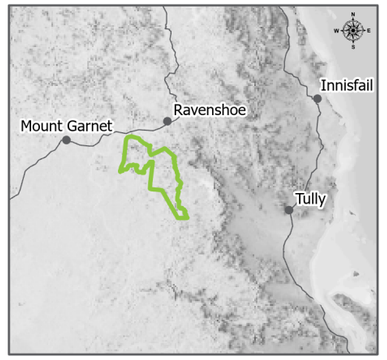
- Project Area Boundary
- Turbine
- Met-mast
- Access Road
- Facilities

Clearance Envelope

- Stage 1
- Stage 2
- Existing HV Transmission Line
- Watercourse
- WTQ Boundary
- WHA Buffer - 500m
- Lot Boundary
- Easement

Date: 13/10/2022 Author: TOD

Project: EPU-004 Reviewed: NOD

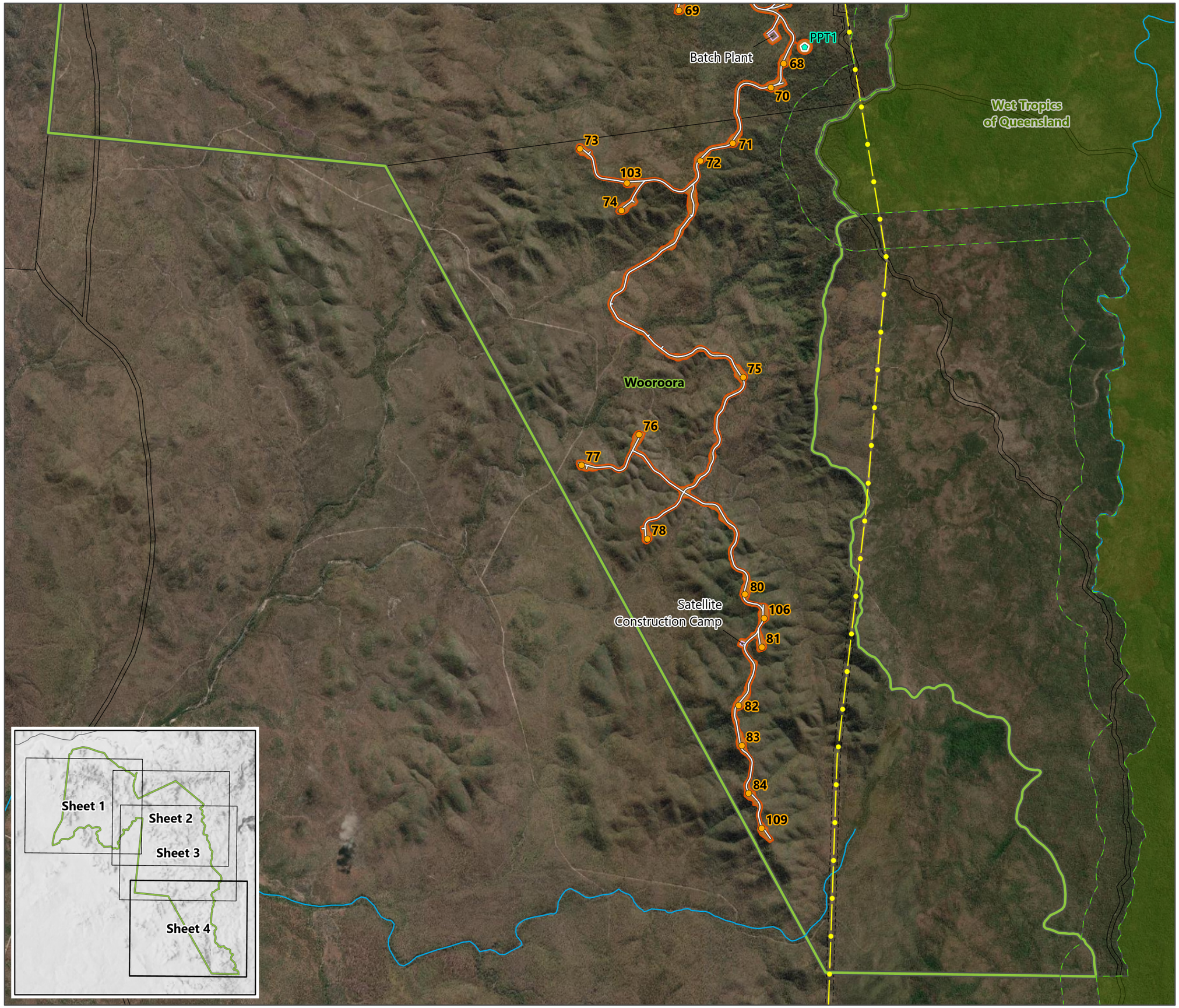


0 0.5 1 1.5 2 Km

Scale: 1:50,000@A3

Data Source(s):
Digital Cadastral Database - Department of Resources (2022)
© State of Queensland (Department of Resources) 2022, Maxar

Path: C:\Users\Tim ODonnell\Attexo Group\Attexo - Documents\Projects\Epuron\EPU-004 - Chalumbin\GIS\4.3 Cartography\11_PER_Submission\11_PER_Submission.aprx



ARK ENERGY

Attexo

Chalumbin Wind Farm

Project Layout

Sheet 4 of 4

Figure 2.1

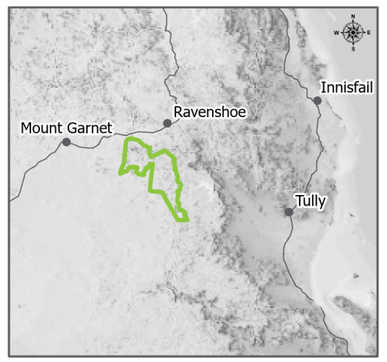
- Project Area Boundary
- Turbine
- Met-mast
- Access Road
- Facilities

Clearance Envelope

- Stage 1
- Stage 2
- Existing HV Transmission Line
- Watercourse
- WTQ Boundary
- WHA Buffer - 500m
- Lot Boundary
- Easement

Date: 13/10/2022 Author: TOD

Project: EPU-004 Reviewed: NOD



0 0.5 1 1.5 2 Km

Scale: 1:50,000@A3

Data Source(s):
Digital Cadastral Database - Department of Resources (2022)
© State of Queensland (Department of Resources) 2022, Maxar

Path: C:\Users\Tim ODonnell\Attexo Group\Attexo - Documents\Projects\Epuron\EPU-004 - Chalumbin\GIS\4.3 Cartography\11_PER_Submission.aprx

Table 2-2 Coordinates of Project Components[5]

Project Component	Longitude (GDA2020)	Latitude (GDA2020)
Wind Turbines		
Stage 1		
WTG 30	145.4444	-17.75221
WTG 31	145.4405	-17.75658
WTG 32	145.4449	-17.75878
WTG 33	145.4485	-17.72829
WTG 34	145.452	-17.73084
WTG 35	145.4546	-17.73485
WTG 36	145.4575	-17.74175
WTG 37	145.4725	-17.72292
WTG 38	145.4718	-17.73156
WTG 39	145.4713	-17.73639
WTG 40	145.4764	-17.74045
WTG 43	145.4646	-17.777
WTG 45	145.471	-17.78559
WTG 47	145.4757	-17.79046
WTG 48	145.4804	-17.79355
WTG 50	145.4865	-17.78562
WTG 51	145.487	-17.77529
WTG 52	145.4955	-17.77979
WTG 53	145.5045	-17.78642
WTG 54	145.5101	-17.79044
WTG 55	145.4866	-17.75974
WTG 56	145.4935	-17.75857
WTG 57	145.4969	-17.76476

[5] WTG numbering is from 1 to 109. This is due to various WTGs being removed from the proposed action prior to preparation of this PER. There are 86 proposed WTGs associated with the Project.

Project Component	Longitude (GDA2020)	Latitude (GDA2020)
WTG 58	145.4978	-17.76957
WTG 59	145.4797	-17.8065
WTG 62	145.5054	-17.81662
WTG 63	145.5036	-17.82199
WTG 64	145.5024	-17.82557
WTG 65	145.5138	-17.82937
WTG 66	145.5141	-17.83411
WTG 67	145.5153	-17.839
WTG 68	145.5148	-17.84679
WTG 69	145.501	-17.83997
WTG 70	145.5131	-17.8498
WTG 71	145.5079	-17.85679
WTG 72	145.5037	-17.85899
WTG 73	145.4878	-17.85733
WTG 74	145.4932	-17.86517
WTG 75	145.5091	-17.88635
WTG 76	145.4953	-17.89349
WTG 77	145.4877	-17.89729
WTG 78	145.4963	-17.90667
WTG 80	145.5091	-17.91375
WTG 81	145.5113	-17.92045
WTG 82	145.5081	-17.92779
WTG 83	145.5085	-17.93285
WTG 84	145.5094	-17.93888
WTG 101	145.4685	-17.72836
WTG 102	145.4858	-17.79077
WTG 103	145.494	-17.86172
WTG 106	145.5116	-17.9168

Project Component	Longitude (GDA2020)	Latitude (GDA2020)
WTG 109	145.5111	-17.94332
Stage 2		
WTG 1	145.345	-17.68522
WTG 2	145.3482	-17.69257
WTG 3	145.3533	-17.70073
WTG 4	145.3607	-17.70291
WTG 5	145.3636	-17.69572
WTG 6	145.3675	-17.70483
WTG 7	145.3749	-17.71238
WTG 8	145.3816	-17.7227
WTG 9	145.3495	-17.71083
WTG 10	145.34	-17.71687
WTG 11	145.3324	-17.72518
WTG 12	145.3268	-17.72895
WTG 13	145.3259	-17.73558
WTG 14	145.325	-17.73924
WTG 15	145.3391	-17.74304
WTG 16	145.3303	-17.74721
WTG 17	145.3268	-17.75182
WTG 18	145.3377	-17.75115
WTG 19	145.3392	-17.7566
WTG 21	145.3832	-17.68445
WTG 22	145.3814	-17.69219
WTG 23	145.3873	-17.71134
WTG 24	145.3895	-17.71465
WTG 25	145.3925	-17.71894
WTG 26	145.3898	-17.75923
WTG 27	145.3872	-17.76703

Project Component	Longitude (GDA2020)	Latitude (GDA2020)
WTG 28	145.3914	-17.77144
WTG 29	145.3959	-17.77487
WTG 90	145.4066	-17.70414
WTG 91	145.4024	-17.71478
WTG 92	145.404	-17.71918
WTG 93	145.4074	-17.72409
WTG 94	145.409	-17.72774
WTG 95	145.4079	-17.73426
Meteorological Monitoring Masts		
Stage 1		
MM 1	145.5176	-17.84468
MM 2	145.5099	-17.79391
MM 3	145.5005	-17.76667
Stage 2		
MM 4	145.3931	-17.75722
MM 5	145.3867	-17.68647
Additional Site Facilities		
Stage 1		
Batch Plant	145.4639	-17.75654
Batch Plant	145.5135	-17.84325
Construction Compound	145.4301	-17.73001
Laydown Area	145.4306	-17.72899
O & M Facility	145.4396	-17.72708
PLQ Compound	145.501	-17.80563
Satellite Construction Camp	145.5066	-17.83548
Satellite Construction Camp	145.5087	-17.91997
Sub-station	145.504	-17.80692
Switching Station	145.5036	-17.80486

Project Component	Longitude (GDA2020)	Latitude (GDA2020)
Synchronous Plant	145.5027	-17.80666
Stage 2		
Batch Plant	145.4065	-17.74231
Laydown Area	145.4058	-17.74114
Sub-station	145.4104	-17.74341
Switching Station	145.4081	-17.74029

2.3 Project Development Stages

The activities associated with each key Project development stage are summarised in the following sections.

2.3.1 Construction

Construction activities associated with the Project will broadly consist of:

- site establishment and preparation, including access tracks and internal electrical reticulation;
- turbine installation using cranes;
- permanent meteorological mast installation;
- medium voltage underground cabling interconnecting wind turbine sites;
- construction of substation and control room and BESS;
- construction of overhead powerlines for reticulation;
- construction of the operations and maintenance facility;
- connection of the wind farm to the existing 275 kV overhead powerline; and
- testing and commissioning of the wind farm.

Due to global supply constraints and significant increases in the cost per installed megawatt, the Project is likely to be staged with development (Stage 1) of the Wooroora property first (including 52 wind turbine generators (WTGs), switching station and supporting infrastructure) followed by development (Stage 2) of the Glen Gordon property (including 34 WTGs, switching station and supporting infrastructure). A final investment decision (FID) for Stage 1 (circa A$1B) is anticipated in December 2022 with construction to commence as soon as approval under the EPBC Act has been obtained, once pre-construction approval conditions are met, and outside of the peak wet season months of January to March. A FID for Stage 2 is expected in December 2023.

Construction is expected to commence in mid-2023, subject to the timing of approvals, feasibility studies and FID. The construction phase is expected to last for a period of approximately 24-30 months (for both Project stages sequentially) with commissioning anticipated for Stage 1 in 2025 and Stage 2 in 2026, subject to FID.

Construction is expected to commence in Quarter 2 or Quarter 3 2023, subject to the timing of approvals, feasibility studies and FID. The construction phase is expected to last for a period of approximately 24-30 months, with approximately 250 to 350 staff employed during the peak construction period. Construction personnel of approximately 250 to 350 staff employed during the peak construction period are proposed to stay in local accommodation, most likely at Ravenshoe, Millstream or Innot Hot Springs.

However, Ark Energy is currently investigating the feasibility of an alternative accommodation option close to the Project area following feedback from Tablelands Regional Council, local residents and other stakeholders on the stressed accommodation market in the broader region and the potential to further reduce construction related impacts on nearby residents. Any accommodation facility would be subject to its own approvals and would be located in such a way that it does not have a significant impact on Matters of National Environmental Significance.

Prior to the commencement of the "Action", minor and preliminary activities within the Project area may be undertaken by CWF including preliminary geotechnical surveys, cultural heritage surveys and cadastral surveys. These activities (and any establishment of necessary access into the Project footprint) will be undertaken in such a way that they will avoid significant residual impacts to MNES.

Activities during the early stages of construction consist primarily of site establishment, contractor engagement, vegetation clearing, commencement of building compounds and laydown areas, and construction of internal site roads. During this time, detailed design of foundations and any remaining geotechnical work will be undertaken. Wind turbine components will typically arrive on site around six to nine months into construction. The main focus up until this time is the construction of access tracks, reticulation and building the substation. Depending on specific geotechnical conditions, some rock blasting may be necessary to support construction activities.

Wind turbine installation begins with construction of the foundation (typically a reinforced gravity foundation of approximately 800 m^3 of concrete). Once the concrete has cured, the tower is installed in sections which are lifted on top of one another. The nacelle (which weighs up to 400 t, including the drive train, generator and gearbox) is then lifted into position.

After this point, the blades are mounted on the hub (alternatively they are arranged at ground level and lifted as a single unit). Once the wind farm has been fully constructed and tested and registered as a generator on the National Electricity Market, it can be connected to the transmission network. Powerlink will be coordinated with for the establishment of a connection switchyard, cutting into the existing 275 kV transmission line and creating a configuration to allow the wind farm to connect through.

The wind farm contractor will then connect the final reticulation into the switchyard. At energisation, the wind farm is subject to testing. Once its performance is confirmed by the Australian Energy Market Operator (AEMO) and Powerlink, a number of hold point tests are undertaken at increasing output. The wind farm must prove its ability to meet the agreed performance standards under its connection agreement before it can move to the next hold point and increase its output.

During the construction phase, works are likely to occur for six days during each week, 12 hours per day (6:30 am to 6:30 pm), in line with the noise standard for building work in Queensland under section 440R of the *Environmental Protection Act 1994*. It is expected that some work will necessarily occur outside these times (e.g. activities such as foundations pours and turbine installation during favourable weather conditions). A process for mitigating the impacts of construction works outside these hours will be incorporated into the CEMP as more is understood about the construction methodology and schedule; consultation with the local Council and surrounding landholders will be key in determining this process.

Water will be used during construction for a number of activities including dust suppression and bulk earthworks as necessary. In addition, the workforce will require potable water for drinking and amenities. The construction water supply can be sourced from a range of options including the construction of bores or dams subject to consultation with regulatory authorities and landowners. Potable water will likely be provided though the provision of rainwater

tanks or through transactions with the local government and associated water reticulation network. Construction water supply options will be determined during the detailed design of the Project and confirmed with State and local authorities prior to construction. The decisions made regarding construction water supply sources will involve ongoing discourse with landowners and relevant stakeholders.

2.3.2 Operation

The operational life of the wind farm is expected to be 30 years. Approximately 15 to 30 full-time jobs will be generated during operation, typically 10 to 20 technicians along with a Project Manager, administration and other support roles. This will include environmental roles on an as-needed basis to assist in operational monitoring.

2.3.3 Decommissioning

Infrastructure may be repowered with new equipment for a further 30-year operating life, or decommissioned, with the site rehabilitated to facilitate continuation of the current land use (agriculture) or alternative land use. If decommissioned, most above-ground infrastructure apart from roads (which are left to benefit the landholders) will be removed (e.g., all turbines, transmission lines, etc.) with concrete foundations buried in-situ. The land will then be rehabilitated in line with development permit conditions and specific landowner agreements. Some infrastructure may remain in-situ depending on landowner preferences.

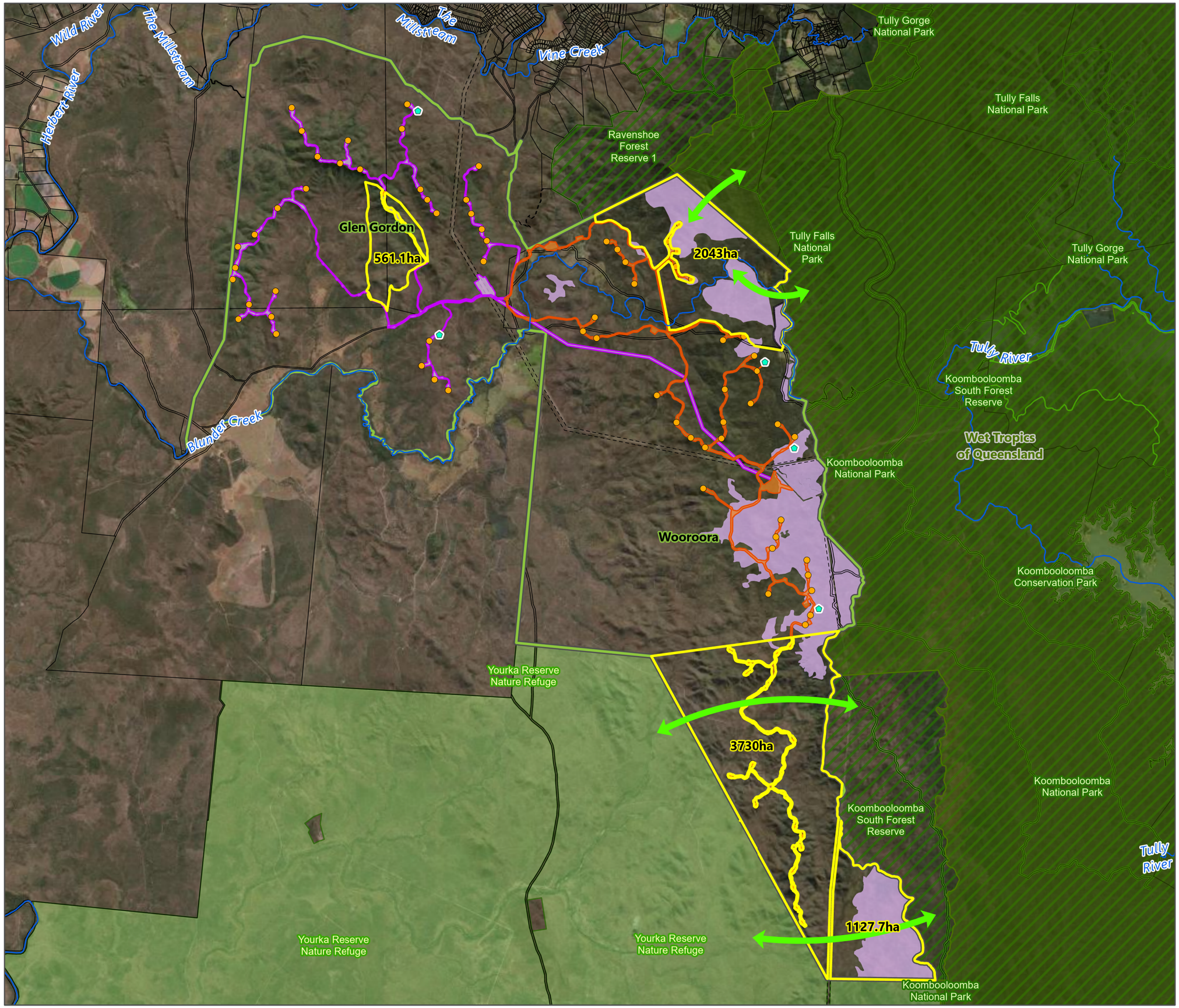
2.4 Project Changes Since EPBC Act Referral

Since the referral of the Project under the EPBC Act in July 2021, the Project has undergone some design refinement. Most notably, this includes:

- Reduction in proposed wind turbines from 95 to 86, including removal of the southernmost string of wind turbines and associated infrastructure, and rationalisation of the remaining Project layout;
- Reduction in access tracks by 27 km and relocation of the southern substation, which reduces the internal overhead transmission line by 4 km.;
- Reduction in the Project footprint from 1,250 ha to 1,071.1 ha, with a commitment to rehabilitate 70% of the construction areas not required for operational purposes;
- Commitment to avoid ground-disturbing construction activities in the three highest rainfall months (January, February, March);
- Further design work to efficiently co-locate access tracks and electrical cables to demonstrate that the Project has avoided and minimised impacts where practicable under s22A of the *Vegetation Management Act 1999* (to obtain relevant purpose determination from the Department of Resources);
- Rationalisation of the access tracks proposed through the Project area, including avoidance of a mapped wetland on the Glen Gordon property;
- Investigation of a secondary alternative site access through Innot Hot Springs;
- Establishment of two separate Project stages (Stage 1 – Wooroora, Stage 2 – Glen Gordon);
- Reduction in the number of proposed permanent met masts from 8 to 5;

- Redesign of the proposed connection point for the Project to the grid (one connection location per Stage) and reorientation to avoid and minimise impacts to wet sclerophyll forest vegetation;
- Reduction in impacts to wet sclerophyll forest vegetation by 31%; and
- Extensive indicative offsets located on the host properties. The indicative offsets include three significant areas totalling more than 7,400 ha, primarily located immediately adjacent to the WTQWHA, including the largest patch of intact wet sclerophyll forest adjacent to the Tully Falls National Park, and the creation of formal connectivity between Koombooloomba National Park and Yourka Reserve Nature Refuge (see **Figure 2-2**).

Further design changes in response to specific constraints (both before and following EPBC Act referral) are described in **Section 6.0**.



ARK ENERGY

Attexo

Chalumbin Wind Farm

Indicative Offset Management Areas

Figure 2.2

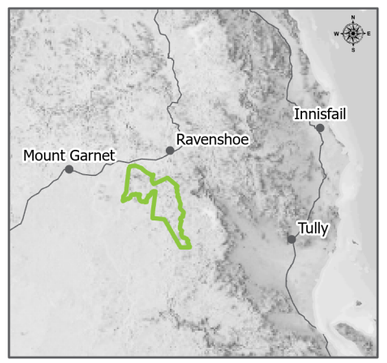
- Project Area Boundary
- Turbine
- Met-mast

Clearance Envelope

- Stage 1
- Stage 2
- Indicative Offset Area
- Connectivity Route
- Protected Area Estate
- Nature Refuge
- Wet Sclerophyll Forest
- WTQ Boundary
- Lot Boundary
- Easement

Date: 17/10/2022 Author: TOD

Project: EPU-004 Reviewed: NOD



0 1 2 3 4 5 Km

Scale: 1:125,000@A3

Data Source(s):
Digital Cadastral Database - Department of Resources (2022)
Earthstar Geographics, © State of Queensland (Department of Resources) 2022

Path: C:\Users\Tim ODonnell\Attexo Group\Attexo - Documents\Projects\Epuron\EPU-004 - Chalumbin\GIS\4.3 Cartography\11_PER_Submission.aprx