East Pilbara Generation Hub

Proposal Content Document

Table 1: General proposal content description

Proposal title	East Pilbara Generation Hub
Proponent name	Pilbara Energy Generation Pty Ltd
Short description	The Proposal is for the construction and operation of a renewable energy wind generation hub (EPGH), to power the Fortescue mining operations in the Pilbara region. The Proposal comprises the installation of wind turbines and a 220 kV transmission line connecting the hub to Fortescue's Iron Bridge Mine, substations, 220 kV transmission lines between the substations, 33 kV reticulation to collect power from wind turbines, a borefield, associated supporting infrastructure, and linear supporting infrastructure such as roads, pipelines and corridors for overhead electrical reticulation. The Proposal is located approximately 40 km southeast of Marble Bar and 90 km east of Fortescue's Iron Bridge Project in the Shire of East Pilbara and Nyamal Native Title determination area (Figure 1). The Proposal is shown on Figure 2 and includes: • A Development Envelope of 98,772.61 ha: • Clearing of native vegetation up to 2,318.80 ha, including: ○ 1,290.68 ha of permanent clearing ○ 1,028.12 ha of temporary clearing • Linear supporting infrastructure such as roads and corridors for overhead electrical reticulation. • Other ancillary infrastructure such as laydown areas, site offices and workshops and concrete batching. • Topsoil stockpiles • Temporary power supply. • Hydrocarbon and chemical storage. • Waste management.

Table 2: Proposal content elements

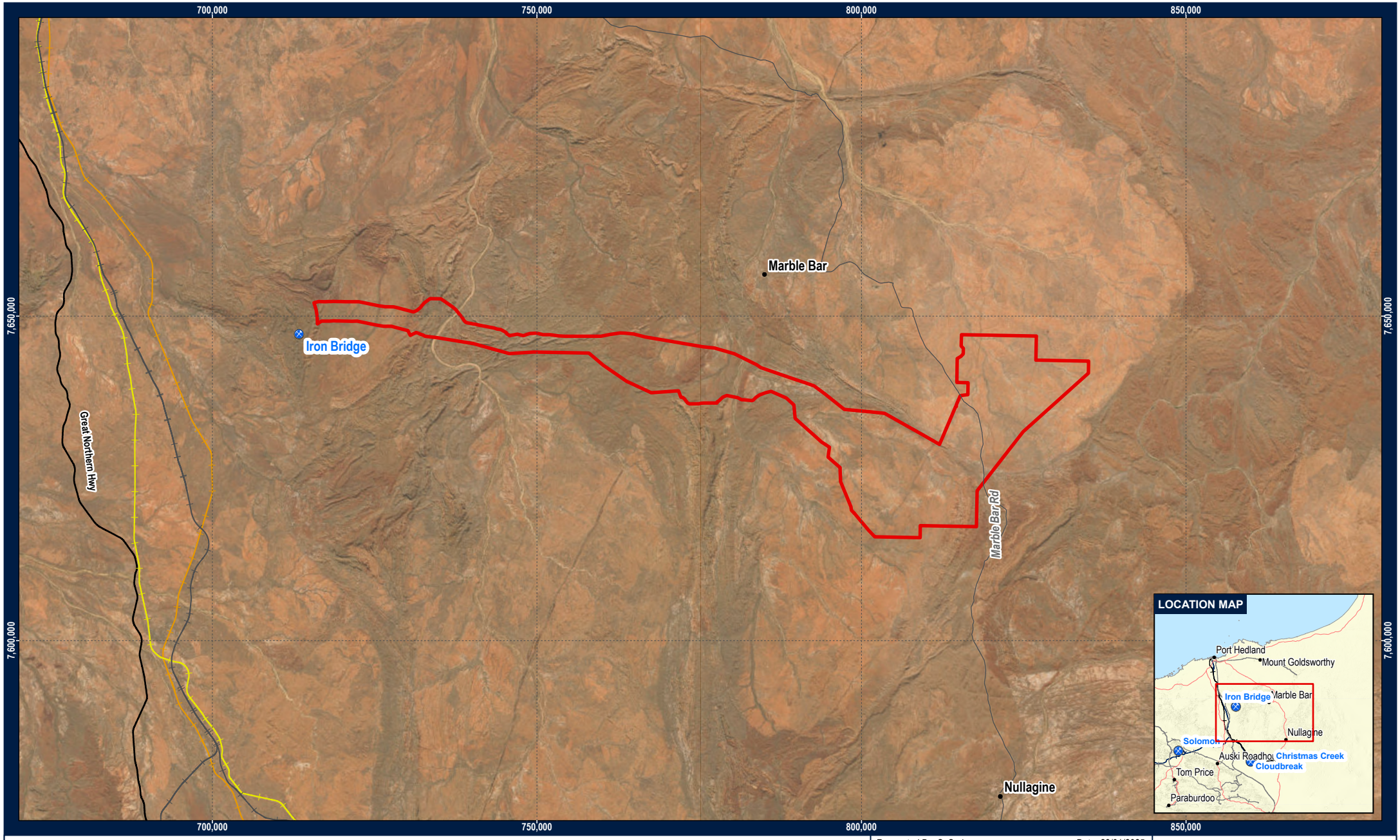
Proposal element	Location / description	Maximum extent, capacity or range
Physical elements		
Wind Farm elements: • Wind turbines and hardstands • Overhead electrical reticulation and transmission lines (220 kV and 33 kV) • Substations and switchyards	Figure 3-2	Development Envelope of 98,772.61 ha. Clearing of native vegetation up to 2,318.80 ha, including: • 1,290.68 ha of permanent clearing • 1,028.12 ha of temporary clearing.
Transmission line elements:	Figure 3-2	

• 220 kV transmission line • Transmission line power poles and associated hardstands		
Supporting and ancillary infrastructure elements: • Access roads and service corridors • Accommodation camps (construction and permanent) • Wastewater treatment plant and reverse osmosis plant • Laydown areas • Concrete batching • Explosives storage, preparation facilities and hydrocarbon storage • Waste management and landfill • Borrow pits • Meteorological masts • Crushing and screening plant • Airstrip • Topsoil stockpiles • Communication towers • Site offices and workshops • Battery storage	Figure 3-2-1 and 3-2-2	
Construction elements		
Water Supply (borefield, associated water pipelines and turkey's nests)	*TBC*	Up to 700 ML/annum during construction period
Backup Power Supply Diesel Generators Battery Storage	Figure 2	Up to 4 MW (instantaneous load requirement)
Operational elements		
Wind Energy Generation	Figure 3-2	Individual wind turbines generating renewable electricity
Transmission and Energy Storage (220 kV transmission line, substations and associated battery energy storage systems (BESS))	Figure 3-2-1	Up to five substations including BESS
Water Supply (borefield, associated water pipelines and turkey's nests)	*TBC*	Up to 100 ML/annum during operational period
Backup Power Supply • Diesel Generators • Thermal Generators • BESS.	Figure 3-2-1	Up to 4 MW (instantaneous load requirement)

Proposal elements with greenhouse gas emissions		
Construction elements:		
Scope 1 emissions for the construction and installation phase of the Proposal are estimated to be 71,038 tCO2-e		
No Scope 2 emissions are anticipated from the Proposal in construction as all electrical power will be self-generated.		
Emissions during manufacturing and construction of facility and equipment are expected to be less than 1,000,000 tCO2-e per annum.		
Operation elements:		
No significant ongoing Scope 1 emissions.		
No Scope 2 emissions are anticipated from the Proposal in operations as all electrical power will be self-generated		
Scope 3 emissions during operations are expected to be approximately 39,931 tCO2-e per annum.		
Rehabilitation		
Topsoil will be stored in allocated storage areas and used to rehabilitate areas disturbed for temporary facilities following construction. At the completion of the Proposal, any infrastructure no longer required will be removed and disturbed areas rehabilitated consistent with the surrounding landscape. Topsoil from permanent clearing will be spread consistent with the surrounding landscape or stockpiled.		
Commissioning		
The commissioning of the wind farm will commence with the completion and subsequent energisation of the 220 kV transmission line connecting the wind farm via the main substation to the main power transmission network. Groups of wind turbines connected to the substations via the 33kV overhead lines will be commissioned as power from the grid becomes available. Before any operational activity begins, comprehensive system testing will be conducted on all turbines, electrical infrastructure, and grid connections to ensure that all components meet safety, performance, and environmental standards. Performance testing, and noise emission testing will be completed after commissioning if required.		
Decommissioning		
At completion of the operational phase, the decommissioning of the wind farm will involve the removal of all wind turbines, towers, foundations (to a specified depth), transformers, cabling, and other above-ground infrastructure. Underground components, such as cables or foundations below a certain depth, may be left in place if deemed environmentally preferable, in line with regulatory guidelines. All removed materials will be handled responsibly, with recyclable components sent to appropriate facilities and non-recyclable waste disposed of according to local regulations. Works will be planned to minimise environmental impact and restore the site to its pre-development condition as much as feasible and in consultation will all relevant stakeholders. A decommissioning and rehabilitation management plan will be prepared at a minimum of five years prior to the last planned electricity generation activity on the site.		
Other elements which affect extent of effects on the environment		
Proposal time*	Maximum project life	25 – 30 years At the end of life, the site will either be repowered or decommissioned.
	Construction phase	Approximately 42 months.
	Operations phase	Operations across the proposed site will be achieved once commissioning of all stages is complete.

		Infrastructure to be maintained and then replaced at the end of asset life (approximately every 30 years).
	Decommissioning phase	Approximately 24 months.

** Proponents should only provide realistic timeframes to avoid unnecessary change to proposal applications at referral (section 38C), assessment (section 43A) or post assessment (section 45C).*



Legend

- Towns
- FMG Mines
- FMG Rail Alignments
- BHPB Rail
- Roy Hill Rail
- Highway
- Road
- Development Envelope

Data Sources:
Aerial, ESRI
Towns, GA
All other data, Fortescue, 2024

N

0 5 10 15 20 25
Kilometres

Requested By: S. Springer
Drawn By: S. Bowyer
Revised By: scostello
Approved By:
Scale: 1:750,000
Coordinate System: GDA2020 MGA Zone 50
Project Name: 4519OP002_MP_EN_0066
Document Name: 4519OP002_MP_EN_0066.001

Date: 23/01/2025
Size: A4L
Revision: 2
Confidentiality: 0

Figure 1
Proposal Location

Fortescue

Legend

- Development Envelope

Indicative Disturbance Footprint

- Generation Hub
- Transmission Line

Data Sources:
Aerial, ESRI
All other data, Fortescue, 2024

N

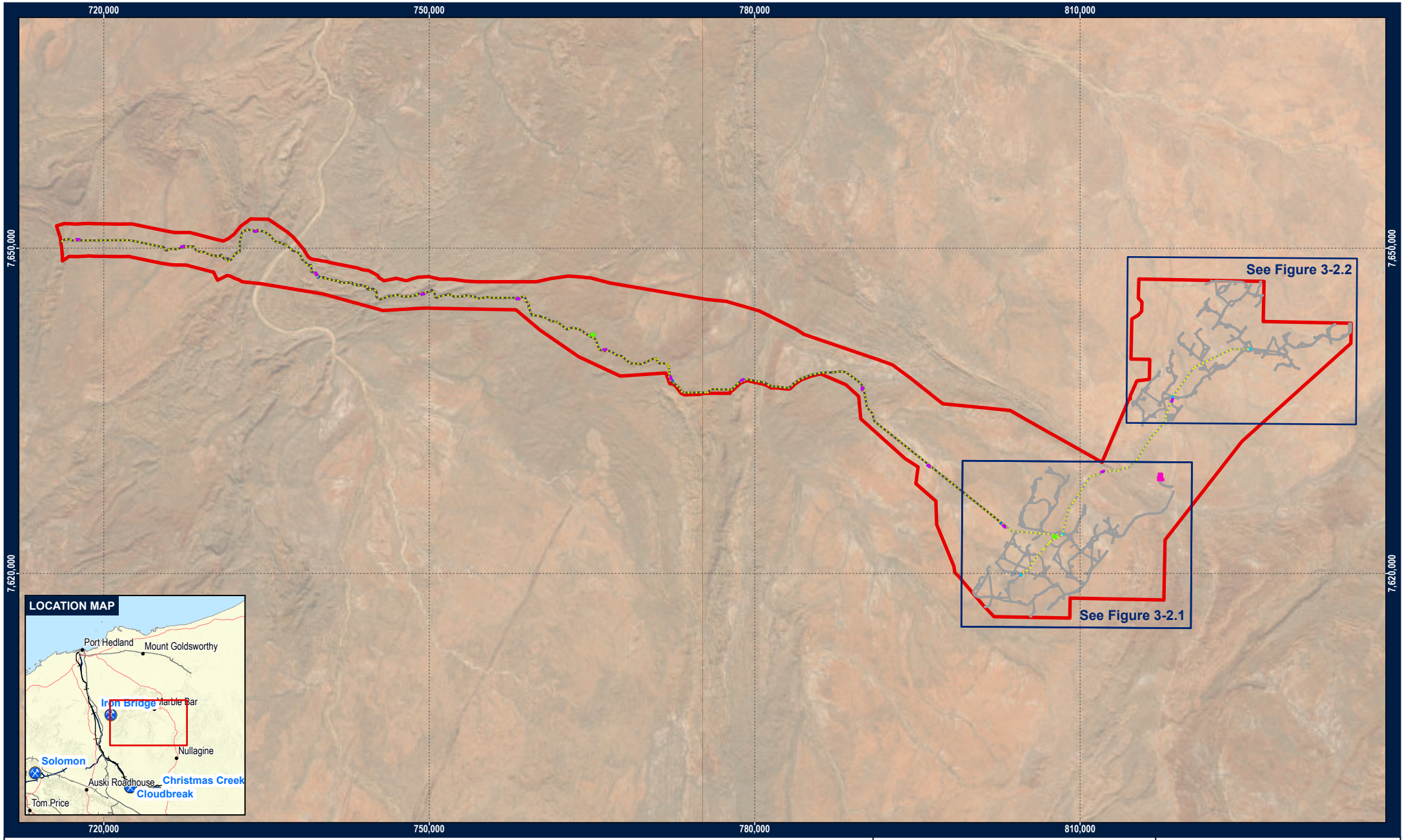
0 5 10 15
Kilometres

Requested By: S. Springer
Drawn By: S. Bowyer
Revised By: scostello
Approved By:
Scale: 1:450,000
Coordinate System: GDA2020 MGA Zone 50
Project Name: 4519OP002_MP_EN_0066
Document Name: 4519OP002_MP_EN_0066.002

Date: 17/01/2025
Size: A4L
Revision: 3
Confidentiality: 0

Figure 2
Indicative Disturbance Footprint

Fortescue



Legend

- Development Envelope

Infrastructure

- Borrow Pit
- Camp
- Laydown
- Powerpole
- Substation
- Turkey Nest

Indicative Disturbance Footprint

- Generation Hub
- Transmission Line

Data Sources:
Aerial, ESRI
All other data, Fortescue, 2024

N

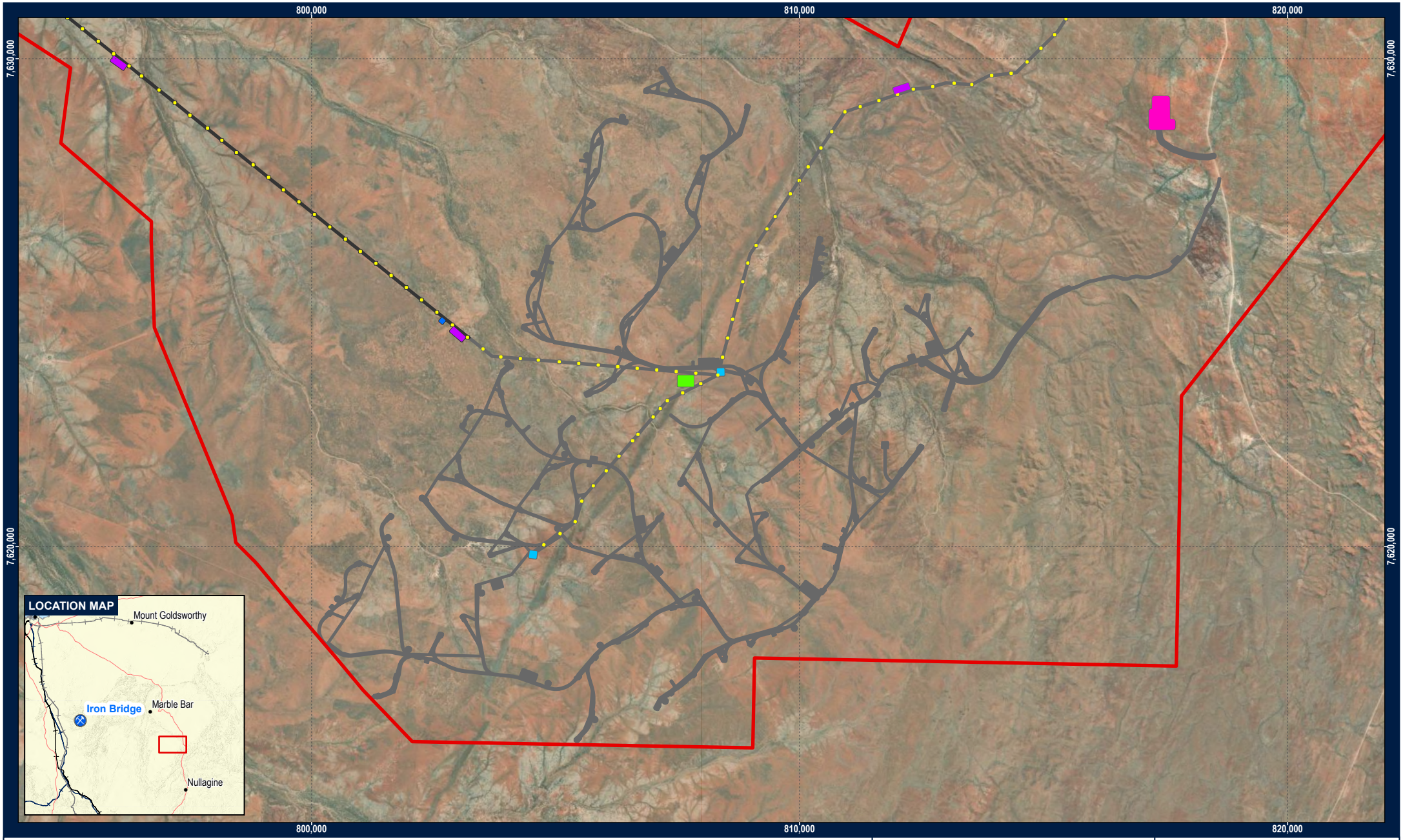
0 5 10 15
Kilometres

Requested By: S. Springer
Drawn By: S. Bowyer
Revised By: scostello
Approved By:
Scale: 1:450,000
Coordinate System: GDA2020 MGA Zone 50
Project Name: 4519OP002_MP_EN_0066
Document Name: 4519OP002_MP_EN_0066.003

Date: 17/01/2025
Size: A4L
Revision: 2
Confidentiality: 0

Figure 3-2
Supporting Infrastructure of the Proposal

Fortescue



Legend

- Development Envelope
- **Indicative Disturbance Footprint**
  - Generation Hub
  - Transmission Line
- **Infrastructure**
  - Borrow Pit
  - Camp
  - Laydown
  - Powerpole
  - Substation
  - Turkey Nest

Data Sources:
Aerial, ESRI
All other data, Fortescue, 2024

N

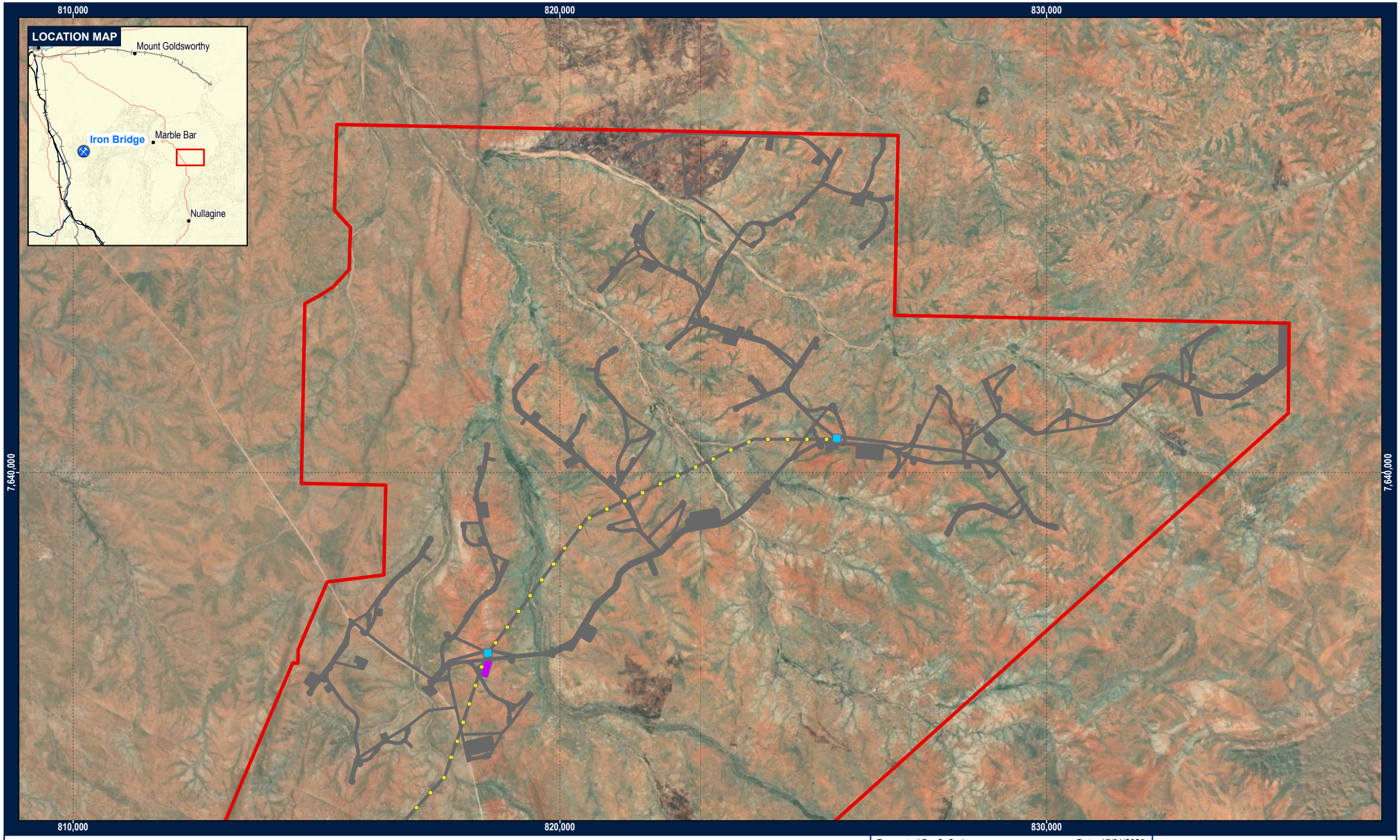
0 1 2 3
Kilometres

Requested By: S. Springer
Drawn By: S. Bowyer
Revised By: scostello
Approved By:
Scale: 1:100,000
Coordinate System: GDA2020 MGA Zone 50
Project Name: 4519OP002_MP_EN_0066
Document Name: 4519OP002_MP_EN_0066.003.2

Date: 17/01/2025
Size: A4L
Revision: 1
Confidentiality: 0

Figure 3-2.1
Supporting Infrastructure of the Proposal

Fortescue



Legend

- Development Envelope
- **Infrastructure**
  - Borrow Pit
  - Powerpole
  - Substation
- **Indicative Disturbance Footprint**
  - Generation Hub

Data Sources:
Aerial, ESRI
All other data, Fortescue, 2024

N

0 1 2 3
Kilometres

Requested By: S. Springer
Drawn By: S. Bowyer
Revised By: scostello
Approved By:
Scale: 1:100,000
Coordinate System: GDA2020 MGA Zone 50
Project Name: 4519OP002_MP_EN_0066
Document Name: 4519OP002_MP_EN_0066.003.3

Date: 17/01/2025
Size: A4L
Revision: 1
Confidentiality: 0

Figure 3-2.2
Supporting Infrastructure of the Proposal

Fortescue