

Chapter 24

Infrastructure

Oct-2021

Genex Kidston Connection Project - Ministerial Infrastructure Designation Assessment Report

24.0 Infrastructure

24.1 Existing Environment

24.1.1 Road networks

The Preferred Alignment crosses a number State-controlled roads (managed by the Department of Transport and Main Roads) (Table 24-1) and local government roads (managed by Hinchinbrook Shire Council, Charters Tower Regional Council and Etheridge Shire Council) (Table 24-2) (Figure 18-1, Chapter 18 Traffic and Transport).

Table 24-1 State-controlled Roads within the Project area

State-Controlled Road Number	State-Controlled Road Name	Description
98C	Gregory Developmental Road (State-controlled road)	Two lane partly-sealed
99B	Kennedy Developmental Road (State-controlled road)	Two lane sealed

Table 24-2 Local Roads within the Project area

Road Name	Description
Unnamed Road	Undeveloped road reserve
Kallanda Road	Unsealed, no designated road reserve
Kangaroo Hills Road	Unsealed
Lava Plains Mount Fox Road	Unsealed
Gadara Road	Unsealed
Craiglee Road (crosses five times)	Unsealed
Greenvale Valley Road	Formed, unsealed
Rycon Road	Formed, unsealed
Gilberton Road	Formed, unsealed

Powerlink Queensland will seek approval under the *Electricity Act 1994* from the relevant road authority prior to constructing the transmission line over the road.

24.1.2 Rail network

There is no operational rail infrastructure corridor affected by the Preferred Alignment. Where the Preferred Alignment passes Greenvale, a decommissioned railway exists to the south of the alignment. The railway was decommissioned in 1993, and the tracks were removed in the mid-2000s; however, the lease and some infrastructure still exists.

This decommissioned rail is identified as “future rail” on the State Planning Policy mapping system. The Project is not anticipated to impact on the construction or operation of the rail line, should this go ahead.

24.1.3 Airports and air strips

The Preferred Alignment does not intersect with existing air transport infrastructure. The nearest aerodromes are situated at Greenvale and Kidston. Small private landing strips are located within the vicinity of the Project.

24.1.4 Electricity infrastructure

Existing electricity infrastructure within the area includes an Ergon 66 kV sub-transmission line that runs 90 km west from Mount Fox to Greenvale and another Ergon 132 kV transmission line that runs from Ross to Kidston. Co-location with this existing infrastructure is achieved between Mount Fox and Greenvale, and from the vicinity of Conjuboy to Kidston.

24.1.5 Water and sewer infrastructure

The Project area has limited access to reticulated water and sewer. The local population mainly relies on the use of bores and private dams for water supply and septic systems for sewer. The Project does not directly traverse any registered groundwater bores; however several are within the general Project area.

24.1.6 Private infrastructure

As the Preferred Alignment traverses through a number of agricultural properties, there is the potential for unmapped private infrastructure to be present. Private infrastructure may include access tracks, dams, fencing and landing strips.

The westernmost extent of the Preferred Alignment contains the Kidston Renewable Energy Hub. The 50 megawatt (MW) Kidston Solar Project (Stage One) has completed construction and is operational. The 250 MW Kidston Pumped Storage Hydro Project is currently under construction.

24.1.7 Defence Land

The Department of Defence have acquired land at Greenvale to establish a new advanced training area for the Australian-Singapore Military Training Institute (DoD, 2021). The location of the acquired land is located on the southern side of the Greenvale township and the Gregory Highway (Chapter 13 Land Use). The Preferred Alignment is located approximately 3.5 km to the north of the Greenvale Training Area.

24.2 Potential Impacts

No relocation of existing public infrastructure is required to facilitate the Project. During construction, the road network may be impacted through an increase in traffic associated with light vehicle movements, equipment haulage, and machinery movements. The Project may also require additional access points from the existing road network. Minimal access is anticipated during the operational phase and will be limited to maintenance requirements. Potential impacts associated with the road network are addressed in Chapter 18 Transport and Traffic.

The Preferred Alignment is sufficiently removed from the Greenvale and Kidston aerodromes and no impacts are anticipated on this infrastructure. However private airstrips along the alignment will be considered during design to minimise impacts.

No impacts will occur to Ergon Energy infrastructure from construction and operation of the Project. The proposed transmission line is co-located with Ergon's lines, and will be separated by a minimum 40m to allow for safe and efficient construction and operation of the electrical infrastructure.

It is understood that the Department of Defence proposed training area at Greenvale is currently in early stages of design, and no information is available on-site infrastructure or activities. Given the separation distances from the proposed training area, impacts are not anticipated. Further consultation will be undertaken with Defence as the Project progresses.

The Preferred Alignment will directly traverse the Kidston Renewable Energy to connect into the Kidston substation. Impacts to the existing and proposed infrastructure on site is not anticipated. Powerlink are working closely with Genex to connect into the substation.

24.3 Mitigation and Management Measures

Construction and operation of the project will be managed in accordance with Powerlink's Standard Environmental Controls, provided in Appendix B Environmental Management Plan. The following additional mitigation measures are proposed to minimise potential impacts to the limited infrastructure in close proximity to the Preferred Alignment.

- Prior to construction a Traffic Management Plan will be prepared to minimise potential impacts. Refer to Chapter 18 Transport and Traffic for further details.
- Access to the site during construction and operation will be undertaken in accordance with Powerlink's Land Access Protocol. This Protocol identifies Powerlink Queensland's standards and commitments when accessing and using land.

- The Project will be designed to ensure sufficient separation distance between the proposed and existing transmission / sub transmission lines.
- Powerlink will assess the potential for induced charge in proximal conductive objects, and propose mitigation measures for any objects in or near the easement that may be affected. Refer to Chapter 21 Electric and Magnetic Fields.
- The Project will be designed to consider the requirements of private infrastructure within the Project area. This may include the installation of visual marker balls on the transmission line near landing airstrips, where deemed necessary for safety.