Decommissioning Security Plan

Section 4.14 Planning Guideline and PO31–PO35

Red Hill Renewable Energy Battery Storage Facility

837 Red Hill Road, Bororen (Lot 132 on FD700)

1. Introduction

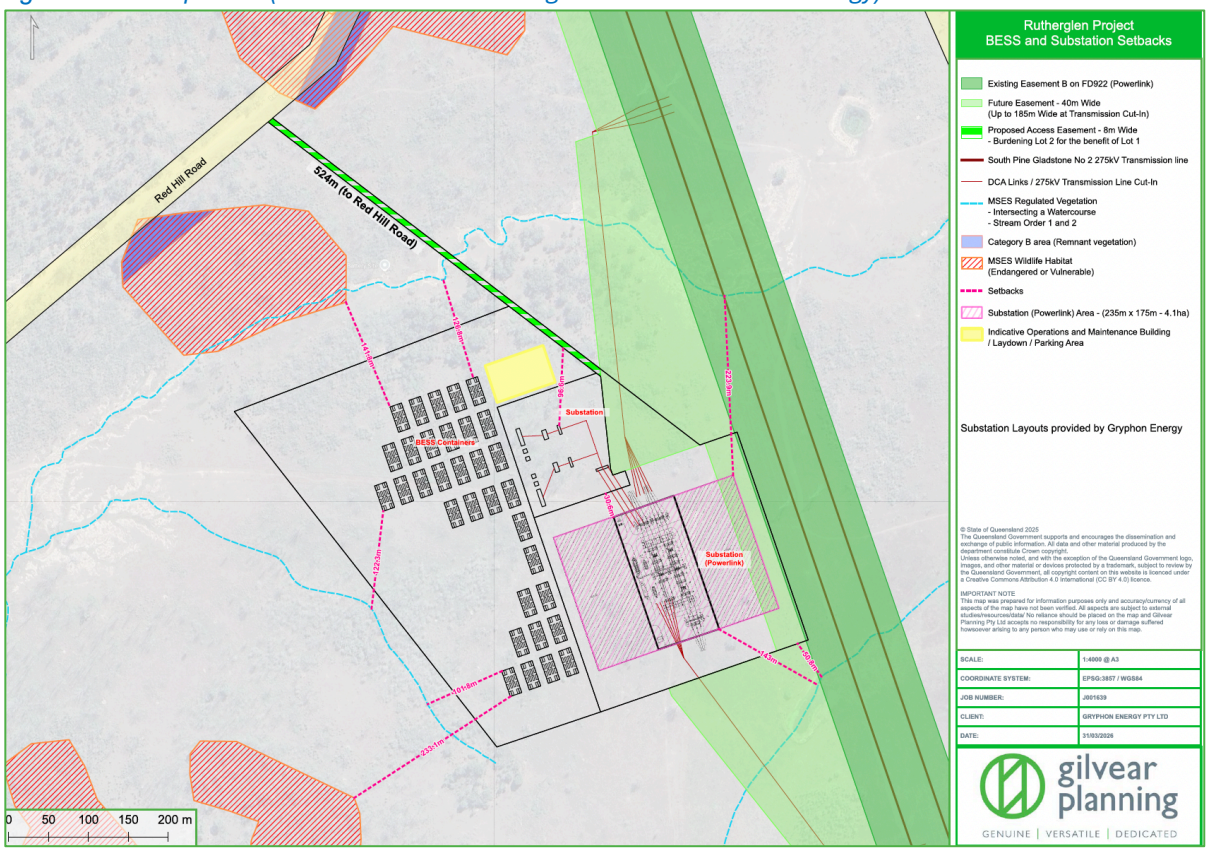
This report has been prepared in support of the proposed Battery Storage Facility (BSF) and associated ancillary infrastructure at 837 Red Hill Road, Bororen. The report addresses the requirements of Section 4.14 of the Planning Guideline: State Code 27 – Battery Storage Facility and demonstrates compliance with Performance Outcomes PO31 to PO35 of State Code 27 relating to decommissioning, rehabilitation and financial assurance.

The proposed development comprises:

- A 400MW / 1,600MWh Battery Storage Facility (BESS) comprising up to 396 battery and 132 inverter containers that will be founded on drained bunded concrete slabs with high level footings;
- Ancillary infrastructure including a 33/275kV/33kV DCA substation and a 275kV HV switchyard ('substation') that will be designed and owned by Powerlink;
- approx. 90,000m3 of cut to fill earthworks to created flat benched areas. Deepest cut of 1.99m with average cut to fill of 0.67m depth
- a 2.8m high x 20m wide grassed earth berm, constructed with excess cut material, approx. 900m long to provide acoustic attenuation to southern and western residents, a visual barrier of the BESS from Red Hill Road, and most importantly the containment of rain water and firefighting effluent from a combined extreme rainfall event and BESS fire should these 2 individually rare events occur at the same time
- detention and bio-retention ponds (2No.) of approx. 20,200kL capacity within the catchment of the grassed earth berm (sized per Rutherglen Stormwater Containment report V1)

- bunded concrete slabs to support and contain any (extremely unlikely) spillage associated with the battery and inverter containers, connected by drainage systems with valves controlled by a central BMS system to manage overland flow and firefighting effluent events.
- Internal transmission, cabling, and inverters.
- Operation and maintenance facility and laydown area.
- Utilities such as on-site sewer and water, including water tanks for fire and on-site detention.
- A 6m wide all-weather access road (part of Lot 2) that provides direct access to all development from an intersection with Red Hill Road that permits good visibility and sightlines for turning vehicles
- Security and perimeter fencing.

Figure 1: Concept Plan (Source: Gilvear Planning/Red Hill Renewable Energy)



As well as Reconfiguring a Lot (1 into 4 lots including access easement), the details being:

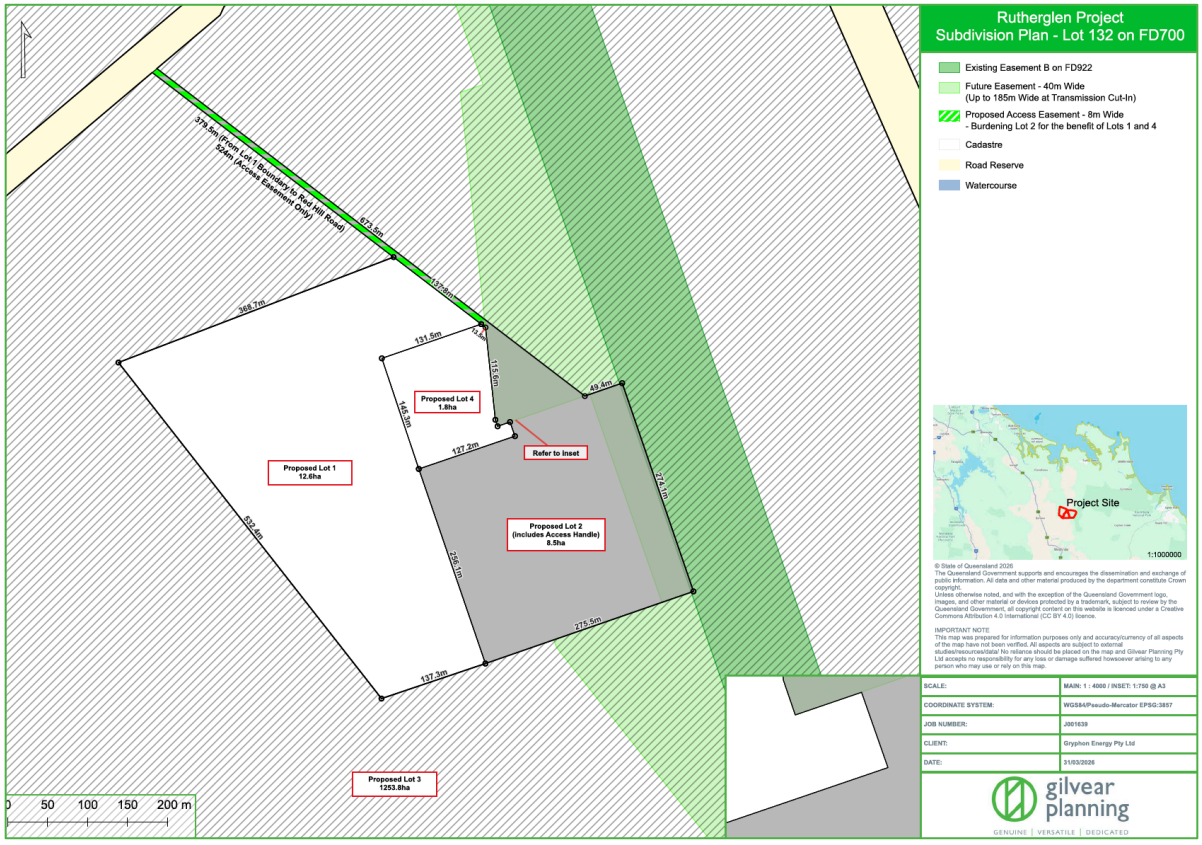
a) Proposed **Lot 1**, having an area of approximately 12.6ha and will accommodate the Battery Storage Facility, accessed via the shared easement within Proposed Lot 2.

b) Proposed **Lot 2**, having an area of approximately 8.5 ha and will accommodate the proposed HV Substation. This lot also includes a shared access road to Red Hill Road benefitting Lot 2, and Lots 1 and 4 via an access easement.

c) Proposed **Lot 3**, having an area of approximately 1,254.1 ha, being the balance area which will continue to be used for agricultural purposes

d) Proposed **Lot 4**, which will accommodate the DCA Substation and is approximately 1.8ha in size, accessed via the shared easement within Proposed Lot 2.

Figure 2: Concept Subdivision Plan (Source: Gilvear Planning/Red Hill Renewable Energy)



The development footprint occupies a total of approximately 23 hectares within the 1,277-hectare rural property currently used for cattle grazing.

2. Project Context

The project has been deliberately consolidated into a relatively small area adjacent to existing Powerlink transmission infrastructure located centrally within the property. The remainder of the land will continue to be available for rural purposes and grazing activities.

The development has been supported by extensive technical investigations including ecological, bushfire, flood, traffic, agricultural, visual amenity, geotechnical and social impact assessments to the requirements of Code 27. A Social Impact Assessment and corresponding Community Benefit Agreement has also been executed with Gladstone Regional Council.

This plan details what broad decommissioning activities will occur, generally how and, , why. This provides a high level of confidence that the necessary activities will occur at points in the future.

The detailed management plans for the 'how' of post-construction and cessation of operation decommissioning will be generated by the developer and their selected Balance of Works General Contractor to satisfy the requirements of any development approval conditions and Council requirements. This will be included along with the usual suite of management plans for:

- Traffic management
- Construction management
- Environmental, water quality, noise management, safety planning and control
- Sediment & Erosion Control for earthworks activities
- Biosecurity control (noxious weed species management); etc.

Council works requirements for construction and/or cessation of operations decommissioning can be enforced via the conditions of the granted development approval and/or via the terms of the executed Community Benefit Agreement that the project company has with Gladstone Regional Council.

3. Response to PO31 – Timely & Efficient Decommissioning

Performance Outcome Required:

"Relevant components of development, both after completion of construction and at cessation of operations, are decommissioned in a timely and efficient manner"

Compliance Response – at Completion of Construction

High voltage electrical installations such as Rutherglen BESS are required to maintain 40m and 50m buffers to the site perimeter and security fence. This creates a great deal of space for equipment laydown and the management of construction activities.

The disturbance area for the project construction will be contained within the 23ha development area, which will be managed as a single work area prior to energization of transformers and switchyard works. Cut to fill earthworks will be the first activity of construction, and within this activity the initial cut will be used to construct and seed the earth berm so that this acts as a run-off and sedimentation control structure for the overall construction phase.

To prevent erosion, all cut and fill areas will be treated with either:

- Planting of native Kangaroo Grass – considered the gold standard for soil stability and indigenous selection; or
- 200mm deep crushed stone, underlaid with geotextile to prevent erosion and allow drainage paths to remain per original topography; or
- Bunded, sealed, reinforced concrete slabs with capacity to retain and spillage or effluent due to incidents. The automated valve drainage system for bunded areas will manage drainage of rainfall captured (open) and incident effluent (closed) to the required Australian Standards and regulatory requirements (EP Act et al)

The secure perimeter fence and access control will be constructed in tandem with the earthworks activities to manage cattle and human intrusion to the work site.

A period of (typically) 3 months is needed to undertake witnessed acceptance testing of the electrical works and during this time the site will be cleared of construction equipment and materials to the satisfaction of Powerlink standards, and pre-operation conditions imposed by SARA and/or Council.

Section XX outlines the securities that will be provided by the BoW Contractor and held by the developer to ensure completion of decommissioning obligations.

Compliance Response – at Cessation of Operations

The proposed facility has been designed as a modular development comprising battery containers, inverters, transformers, switchgear, substations and associated electrical infrastructure. These components are manufactured assets that can be disconnected, removed and recycled or reused at the end of operations. Operational life is expected to be a minimum of 30 years with a refurbishment of the LFP battery cells after 15 years. The LFP

cells are made in a ‘cassette’ style where they can be electrically isolated, removed and replaced in a simple and safe manner.

The project occupies a limited footprint of approximately 23 hectares within a significantly larger rural holding of 1,277 hectares. Consequently, decommissioning activities can be undertaken without compromising the ongoing viability of the broader rural landholding.

The facility layout is accessible via dedicated 3m and 10m wide internal access roads and easements, enabling the removal of battery modules, transformers, switchgear and associated infrastructure using conventional heavy mobile craneage and vehicle transport methods.

Any concrete slabs (including footings), inground service ducts and cables, and associated materials will be broken up and removed from site. The high value and huge extent of copper cabling in ground provides a positive return on effort for decommissioning operations.

Accordingly, the development is capable of being fully decommissioned and removed at the end of its operational life.

4. Response to PO32 – material removal, disposal and reuse / recycling

Performance Outcome Required:

“Development decommissioning ensures that:

- *_materials removed from site are minimised;*
- *_materials that are removed from the site are disposed of at approved disposal facilities capable of receiving the materials; and*
- *_opportunities to reuse, recycle and/or repurpose the materials are deployed to the greatest extent feasible “*

Compliance Response – during Construction

The principal ‘materials’ used to create the development will be:

1. cut-to-fill earthworks using onsite material
2. aggregate and concrete to create bunded and all-weather trafficable areas
3. PVC or similar conduit and copper based electrical cabling.

The cut-to-fill works are designed to be balanced – creating the flat benched area required for equipment placement and the grassed earth berm as the balancing ‘fill’ amount. As such no material will leave site unless it is found to be contaminated or otherwise unsuitable for agricultural purposes.

Compliance Response – at Cessation of Operations

The project has been located within predominantly cleared grazing land and avoids all significant environmental constraints, except for the access road crossing the mapped watercourse for which an appropriately minimal and protective design is proposed.

At cessation of operations:

- Battery containers, transformers, switchgear and associated infrastructure will be removed.
- Internal roads not required for ongoing rural use may be removed or retained at the landowner's discretion.
- Concrete and stone filled areas will be broken up and removed for offsite recycling, and the cut to fill earthworks will be regraded, planted with grass and stabilised where necessary to prevent erosion
- Disturbed areas will be revegetated using suitable pasture of native vegetation species.
- Erosion and sediment control measures will be maintained until rehabilitation is established.
- Any temporary construction infrastructure will be removed.

The rehabilitation objective is to return the site to a condition consistent with the surrounding grazing land uses and ensure the land remains safe, stable and productive.

LFP battery recycling is an evolving industry with 10 – 15% of (mostly smaller non-utility scale) batteries being recycled as of 2025. As the world's finite supply of lithium is used recycling will become more economically viable and necessary. Institutions in the USA and Australia (CSIRO, the University of Queensland, UNSW, and Deakon University) are leading research into more energy efficient and cost-effective methods of recycling LFP materials.

5. Response to PO33 – restoration of disturbance footprint, waterways and drainage.

Performance Outcome Required:

"Decommissioning at end of operations ensures disturbance footprints are rehabilitated, and waterways and drainage patterns are reinstated"

The outcome is applicable to cessation of operations only.

Compliance Response

The subject land is currently used for cattle grazing and only a small portion of the overall property will be occupied by the proposed battery storage facility.

The development footprint represents approximately 23 hectares within a 1,277-hectare landholding, resulting in minimal long-term impact on agricultural productivity.

Following decommissioning of the BSF and DCA Substation components:

- Infrastructure will be removed.
- Disturbed land will be rehabilitated.
- Grazing activities can recommence across rehabilitated areas.
- Existing rural access arrangements can be retained where beneficial to future agricultural operations.

The proposal therefore enables restoration of the site's productive rural capacity following the completion of the facility's operational life.

6. Response to PO34 – design for decommissioning, recycling, recovery

Performance Outcome Required

"Decommissioning incorporates design features that enable reuse, recycling, and recovery of battery components and associated infrastructure at end-of-life"

Compliance Response

The modular format of battery and inverter units lend them to be efficiently disconnected and removed from site.

The high value and huge amount of shallow trenched copper cabling inground services provides a positive financial incentive and ease of removal on cessation of operation.

Recycling of copper is a high value and established industry already, and the cassette style of LFP battery cells, and the finite limit on naturally occurring lithium, will drive the development of recycling over the next 15 – 30 years as so many utility scale batteries need refurbishment and replacement across the world in response to the global reconfiguration of energy production and storage.

Existing industries and regulation governing the recycling of concrete, aggregates, PVC pipe and the like provide the framework and economic incentive for recycling of these materials.

7. Response to PO35 – decommissioning financial guarantees & security

Performance Outcome Required

"Decommissioning plans are secured by bonds or financial guarantees or other mechanism/s to safeguard compliance"

This performance outcome has been further informed by the late June 2026 issue of the document *"SDAP Supplementary Guidance Fact Sheet – Financial security for decommissioning renewables and energy storage"* to project proponents by the Queensland Government via SARA.

Compliance Response – "Decommissioning Financial Security Framework"

A detailed Decommissioning and Rehabilitation Plan will be prepared prior to commencement of construction and again prior to commencement of operation and will include:

- Inventory of infrastructure requiring removal;
- Removal methodology and staging;
- Waste management and recycling procedures;
- Rehabilitation objectives and performance criteria;
- Erosion and sediment control requirements;
- Revegetation and land stabilisation measures;
- Monitoring and reporting requirements;
- Timeframes for implementation.

The plan will be reviewed periodically throughout the operational life of the facility to reflect technological, regulatory and market changes.

This approach ensures that decommissioning can be implemented efficiently and effectively when required.

Quantification of Security

The 4 principal activities involved in decommissioning, and a high-level cost estimate for these to provide a sense of scale, are:

1. Removal of up to 520 battery and inverter containers to Gladstone Port for recycling or reuse @ $4,000/container
2. The removal of approx. 26,000m2 of concrete slabs @ $100/m2
3. Removal of inground conduits and copper cabling – self funded via copper salvage value; and
4. Rehabilitation of earthworks form and grass cover of the disturbed area of site – 100,000m2 @ $20/m2

This scope sums to $7m in 2026 costs and provides a sense of scale for security required.

Mechanism for Provision of Security

It is proposed to use a sinking fund structure as security for decommissioning costs.

A sinking fund will ensure site rehabilitation by progressively building up financial reserves over the operational life of the battery storage facility. It will guarantee that sufficient capital is available to safely remove hazardous materials, recycle components, and restore the land once the facility's 20+year lifespan concludes.

The sinking fund structure will be applied to decommissioning through a distinct set of operational and financial metrics:

1.Cost estimation and independent Valuation

- **Baseline Calculation**: the total net cost of decommissioning will be determined before construction begins. This is calculated using the formula:

  Net Commissioning Cost = Total Dismantling & Transport Costs - Salvage/ Recycling Value

- **Component Nuance**: Decommissioning will require de-energizing, dismantling and transporting BSF componentry. Lithium -ion recycling fees currently range from $10 to $15m per kilogram, offset by salvage values. These costs and values are likely to change considerably over the lifespan of the BSF as new technologies are developed.

- **Independent review**: The estimate will be produced by an independent valuer with appropriate knowledge and experience in the sector.

2. Phase Funding and Escrow Contributions

- **Phased Contributions**: Rather than tying up substantial capital upfront, it is intended that the owner of the BSF will make regular, periodic deposits to a dedicated sinking fund account commencing in Year 10 of operation. This will allow the BSF to first generate stable merchant or tolling revenue and then have the financial burden of decommissioning spread over the remaining operational life of the BSF. As the proponent will own (not lease) the land, it is unnecessary to protect the interests of a third-party landowner and the phased contributions structure will ensure the project remains ‘bankable’.

- **Ring-fenced Accounts:** Sinking fund contributions will be deposited into a ring-fenced escrow account or a dedicated trust fund to ensure it cannot be accessed by creditors if the owner/operator faces insolvency.

3. Independent Custodianship



- To prevent conflicts of interest and ensure accountability, a licensed corporate trustee (like Equity Trustees or Australian Unity Trustees) will be appointed to manage the sinking fund. The trustee will hold the funds under a strictly drafted Decommissioning Trust Deed.

- The trustee structure will provide the following protections:
  Ring Fencing- The capital contributed to the sinking fund is legally separated from the BSF's operating entities. If the developer or operator becomes insolvent during the 20+ year lifespan of the BSF, the decommissioning funds remain protected in trust for their sole intended purpose.
  Fiduciary Administration: The trustee ensures that the funds are only invested in permitted, low risk defensive asset classes (eg high-grade cash equivalents or government bonds) to preserve capital
  Strict Draw Down Rules: The developer/operator cannot tap into the sinking fund for operational fixes or capacity upgrades (repowering/augmentation). The trustee will only release the funds at verified milestones to cover specific decommissioning activities and costs (eg removal of equipment, battery recycling, removal of in-ground structures, site revegetation etc)..
- **Access to funds:** If the developer/operator fails to decommission the BSF in accordance with relevant development approval conditions, the funds will be able to be accessed by a third-party landowner or government authority to carry out the relevant decommissioning works. The draw down mechanisms will be set out in the Decommissioning Trust Deed.

4. Scheduled Reassessments and Security Top-Ups

- **5-year Reviews**: Cost estimates will be reviewed every 5 years to account for fluctuations in recycling technologies, labour rates, and volatile material recovery rates.

- **Adjusting Contributions**: If the fund's balance falls short of updated liability projections, contribution rates will be increased, or a top-up security (such as a bank guarantee or surety bond) will be provided. Conversely, if the net cost of decommissioning reduces because estimated salvage values increase because of new or improved battery recycling technologies and /or increases in metal recovery values (lithium, copper, cobalt), a reduction in sinking fund contributions will be made.

5. Legally Enforceable Commitment

- **Deed of Covenant**: It is proposed that the developer will execute a legally enforceable deed of covenant in favour of the State agreeing to establish, contribute to, and maintain a sinking fund as security for decommissioning costs as

described above. The deed will be prepared by the developer's solicitors at the developer's cost and be on terms satisfactory to the State. The deed will be executed before commencement of construction.

- **Binding on successors**: if the developer sells or transfers the BSF before or after operational commencement, the developer must have the new owner enter into a new deed of covenant in favour of the State agreeing to continue to make contributions to the sinking fund as if it were the original developer.

5. Alternative Security

   As an alternative to building a sinking fund via a trustee and depending on the availability and cost of financial security instruments, the Proponent may instead provide a bank guarantee or letter of credit as security for decommissioning costs. The bank guarantee would be from a trading bank that is an approved security provider under the Queensland Financial and Performance Management Standard, 2009 and would contain an unconditional, irrevocable promise to pay the secured amount on demand. The landowner (if different from the Proponent) or a government authority would be able to call on the bank guarantee to pay the decommissioning costs if the proponent/operator defaults on its decommissioning obligations.

7. Conclusion

The proposed Red Hill Renewable Energy Battery Storage Facility has been designed to enable complete decommissioning and rehabilitation at the end of its operational life.

The development:

- Occupies a relatively small footprint within a large rural holding;
- Consists primarily of removable modular infrastructure;
- Can be rehabilitated to a safe, stable and productive landform;
- Allows restoration of grazing activities following decommissioning;
- Will be supported by a detailed Decommissioning and Rehabilitation Plan; and
- Will provide appropriate financial security through a Decommissioning Security Report to ensure all obligations can be met without cost to government or landowners.

Accordingly, the proposal is consistent with Section 4.14 of the Planning Guideline and satisfies the intent of Performance Outcomes PO31 to PO35 of State Code 27.