

Mount Rawdon Pumped Hydro Project

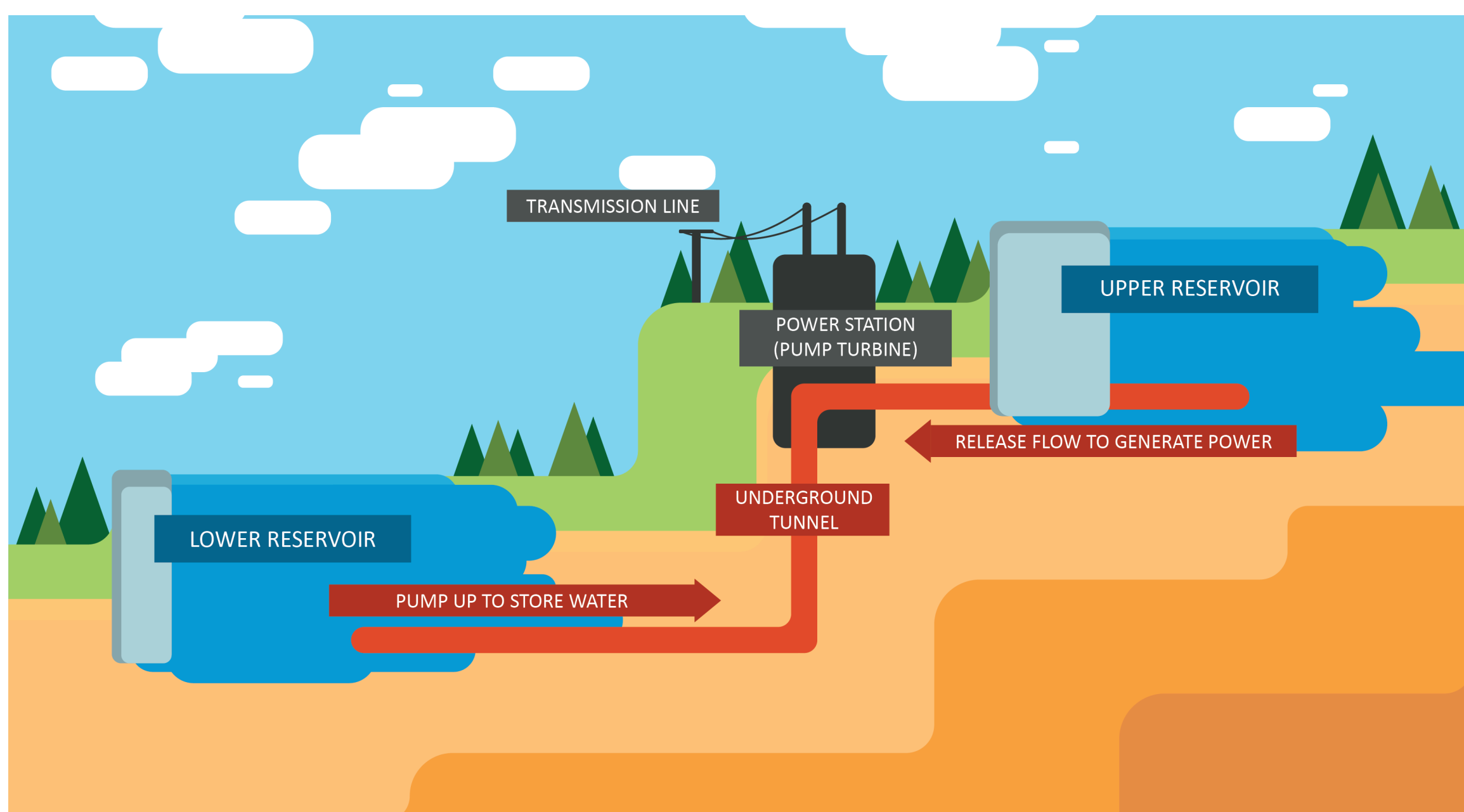
Newsletter 3 – October 2022

What is the MRPH Project?

The Mt Rawdon Pumped Hydro (MRPH) Project (the Project) proposes to repurpose the existing Mt Rawdon Gold Mine to create a pumped hydro electricity generation and storage facility. The Project's purpose is to provide Queensland with low cost, large scale renewable energy storage, and to support a more reliable energy system, reducing the risk of blackouts and electricity price volatility.

The Project is being developed by a joint venture comprising Mt Rawdon Operations Pty Ltd (a subsidiary of Evolution Mining), the owners and operators of the Mt Rawdon Gold Mine, and an investor group managed by ICA Partners. The joint venture is currently undertaking a feasibility study into the potential for a pumped hydro facility. The Project will store energy for use during peak morning and evening hours. The Project is located within, and adjacent to, the Mt Rawdon Gold Mine, and will comprise the following components:

- A purpose-built upper water reservoir created on land adjacent to the existing gold mine, capable of storing water required to generate 20,000 MWh of electricity.
- A lower water reservoir created by repurposing the Mt Rawdon Gold Mine open cut pit, once mining of the pit is complete.
- Waterway tunnels connecting the upper and lower reservoirs.
- An underground powerhouse that contains the hydro generation units.



Schematic of how pumped hydro works.

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Mount Rawdon Pumped Hydro Project

Newsletter 3 – October 2022

'Coordinated Project' Status

The Mt Rawdon Pumped Hydro Project has been successful in securing coordinated project status under the *State Development and Public Works Organisation Act 1971 (QLD)*. Coordinated project status is a significant milestone, which recognises the strategic significance of the Project and the complexity of its approval requirements.

Coordinated project status also establishes the environmental approvals process for the project, which will include an Environmental Impact Statement (EIS) and a formal Cultural Heritage Management Plan.

The Coordinator-General will set the Terms of Reference which establishes the scope of the EIS. Following assessment and a public consultation period, the Coordinator-General will ultimately prepare a report evaluating the EIS. That report will assess the environmental, economic and social impacts of the Project and include input from the community and the various government agencies that have a role in regulating the construction and operation of the project.

The proponents have commenced the studies necessary to prepare an EIS and will be undertaking further studies in the coming months, including assessments of impacts on flora, fauna and aquatic ecosystems, surface and groundwater, traffic, heritage, noise and vibration, greenhouse gas and air quality. The EIS will also include an assessment of the social and economic impacts of the Project. The community and other interested stakeholders will have the opportunity to provide formal input on the project during the EIS process.

The announcement that the Project has received coordinated project status follows closely upon the Queensland Government's announcement that it will raise its renewable energy target from 50% by 2030 to 70% by 2032 and 80% by 2035 – a target that the Project is well placed to contribute to by providing up to 20 GWh of energy storage. The Project is also an opportunity to show-case excellence in mine closure by utilising the pit of the Mt Rawdon Gold Mine to create an economically productive use which will continue to provide both construction and ongoing jobs in regional Queensland. The repurposing of the pit will create an economical use which is expected to extend to at least 2070 which is greater than the expected 27 years that the Mt Rawdon mine will operate.

'Controlled Action' under the EPBC Act

The *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* (known as the 'EPBC Act') makes provision for the protection of a number of matters in which the Federal Government has a particular interest, including matters protected under international treaties and conventions (such as world heritage properties and migratory birds) and certain threatened species and ecological communities.

Those protections include a requirement that approval be obtained for projects which will, or are likely to, have a significant impact on those protected matters. Such projects are known as 'controlled actions'.

The Project proponents submitted two referrals for the Project (one for the pumped hydro component and one for the transmission line), to obtain a determination from the Minister about whether approval will be required under the EPBC Act. While there has not yet been a decision on both referrals, it is likely that the Project will be a controlled action for which approval under the EPBC Act is required.

The potential impacts of the Project on matters protected under the EPBC Act will be assessed through the EIS process conducted at the state level. During that process, the type and scale of such impacts will be assessed, and the proponents will consider opportunities to avoid, minimise or offset such impacts.

Mount Rawdon Pumped Hydro Project

Newsletter 3 – October 2022

Activities on-site and Outcomes

A number of specialist consultants have undertaken fieldwork over the last few months to obtain data on wet and dry season biodiversity within the Project area. Flora and fauna surveys have occurred recently as well as the collection of surface water quality data from the Mt Rawdon Gold Mine site and surrounding area. Data obtained during the surveys will be used to inform the detailed design as the Project progresses.

These surveys have identified some plant and animal species that are listed as threatened under the *Commonwealth EPBC Act* or the *State Nature Conservation Act 1992*. The final design of the project will seek to locate Project infrastructure so that impacts on these plants are avoided or minimised.

The fieldwork component of the baseline assessment of the watercourses within the Project area was recently completed. Water quality measurements such as temperature, salinity, dissolved oxygen, and pH were taken during the dry season as well as the wet season. The baseline data will be used to assess, and if possible avoid or minimise, impacts on watercourses and other surface water. An understanding of the current baseline conditions will also allow the proponents to monitor conditions in certain watercourses to understand if the construction or operation of the Project is causing any changes.

An initial program of geotechnical drilling has now been completed at both the proposed upper storage site and the locations of the underground waterway tunnels and powerhouse. This program included the drilling of 19 holes and over 2,800 m of diamond drilling. The drilling provided information on the underlying rock permeability, the rock type, slope stability and suitability of the rock for construction purposes. While some testing remains ongoing, the results have so far confirmed the suitability of the site for the proposed pumped hydro facility.

Surveys to date have focused on the Project areas within the Mt Rawdon Gold Mine site and in the coming months will focus on the transmission line corridor.



Mt Rawdon view from S1 upper reservoir location.



Mt Rawdon mine pit (proposed lower reservoir location).

Mount Rawdon Pumped Hydro Project

Newsletter 3 – October 2022

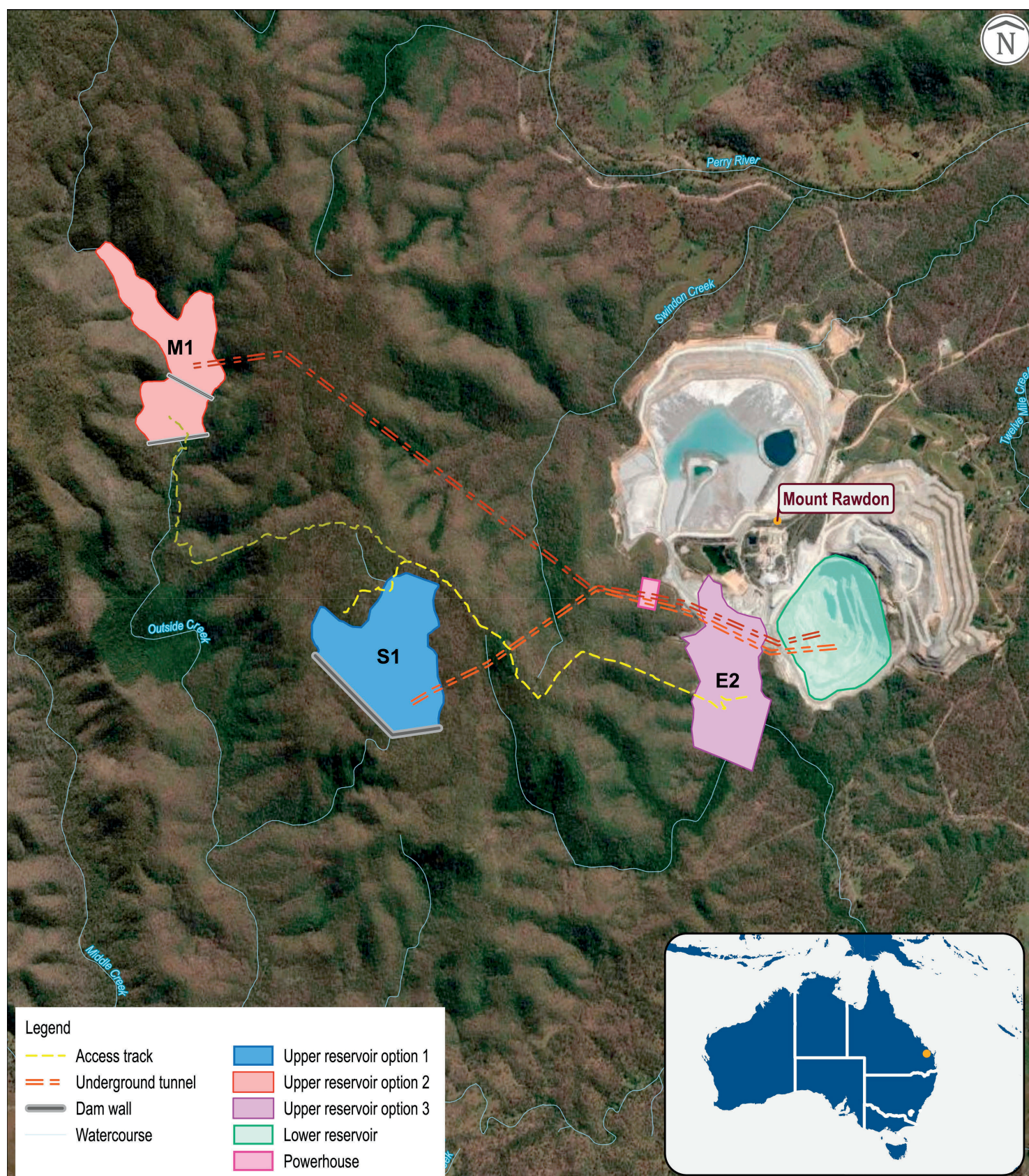
Project Layout

The Project layout has evolved since feasibility investigations first commenced and will continue to evolve in smaller ways as it progresses through to detailed design. The most significant step to date has been the selection of the site known as 'S1' as the preferred site for the upper reservoir. The S1 site was selected from among three options for reasons including its larger storage capacity, proximity to the lower storage and the absence of an EPBC Act listed plant species (*Xanthostemon oppositifolius*) that was found at one of the other potential sites.

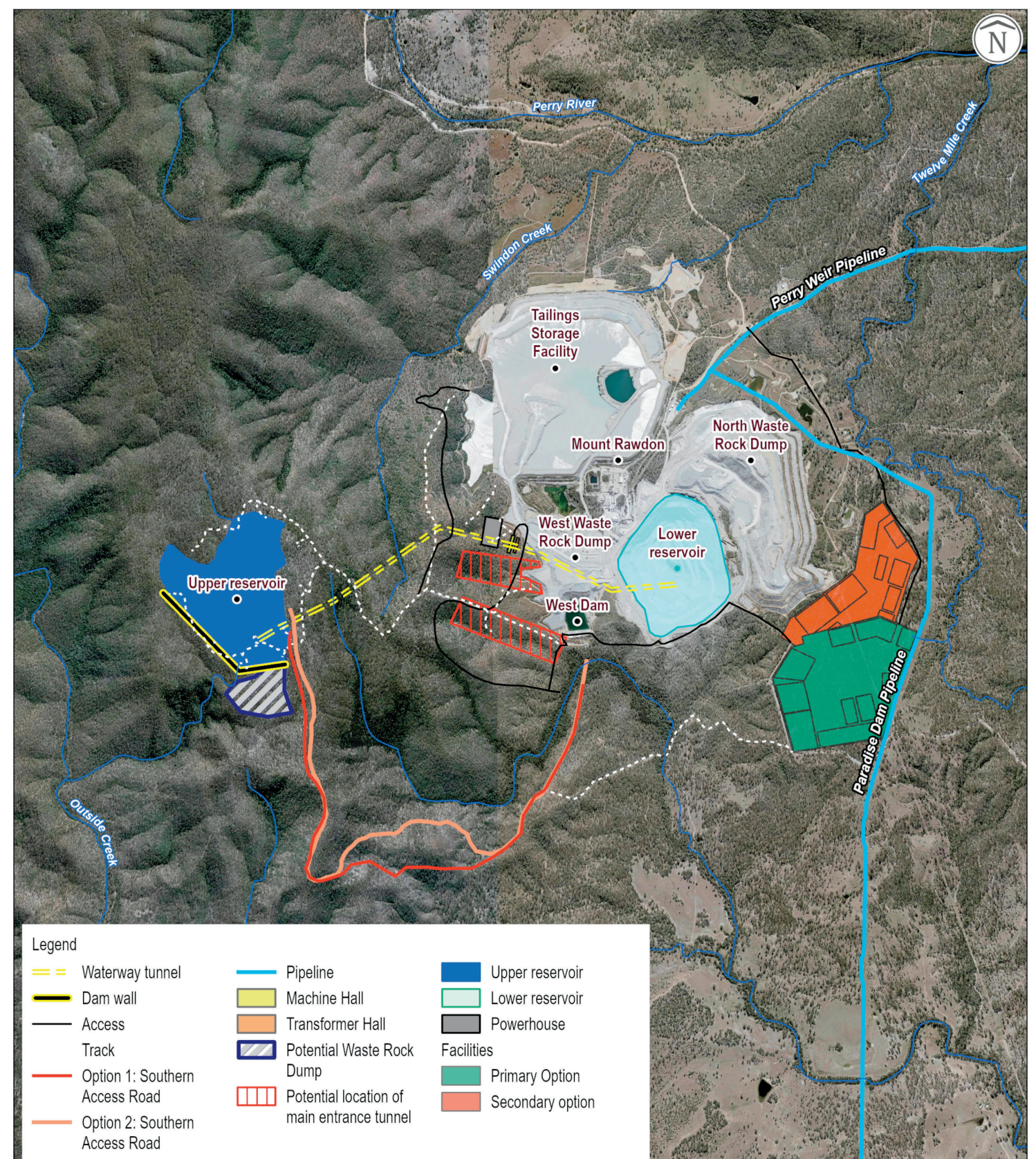
Locations for other components of the Project (such as the construction compound and haul roads) are being identified through a process involving engineering design and fieldwork to identify environmental constraints.

The transmission line that will link the pumped hydro storage facility to the existing electricity transmission grid is the most significant remaining component for which a final location has not yet been identified. A study area for the transmission line was initially identified through a constraints analysis using environmental, social and economic data. Further studies and consultations with landholders are now occurring within that study area to identify a transmission line corridor that will minimise impacts on landholders and the environment.

2021



2022



Past and current Project layout comparison.

Mount Rawdon Pumped Hydro Project

Newsletter 3 – October 2022

Queensland is aiming to have 70% of its energy generated from renewable sources by 2032 and 80% by 2035

Queensland Energy & Jobs Plan

The Queensland Government recently released its Energy and Jobs Plan which is a plan for transforming the state's energy systems with increased renewable energy generation and new electricity transmission infrastructure to form a 'supergrid'. It is also a plan for the creation of jobs in regional Queensland through the construction of the 'supergrid' and support for new industries including renewable hydrogen.

The Queensland Government had previously committed to achieving 50% renewable energy by 2030. This plan significantly raises the State's ambition and is now aiming to achieve 70% renewable energy by 2032 and 80% by 2035.

The Energy and Jobs Plan highlights the key role that energy storage, including pumped hydro, will play in the creation of a reliable 'supergrid', with the Queensland government itself investing in two pumped hydro projects. The plan also foreshadows a role for private sector investment in pumped hydro projects – such as the Mt Rawdon Pumped Hydro Project – which will be encouraged in a forthcoming Energy and Storage Strategy.

Community Information Evening

The Mt Rawdon Pumped Hydro Project will be hosting an information evening at **Mt Perry Town Hall on Wednesday the 9th of November, from 4pm to 8pm**. At this drop-in session, a visual display will provide Project information and representatives from the Project will be available to provide updates and answer questions.