

Borumba Pumped Hydro Project

Stakeholder Reference Group briefing
OCG Coordinated Project declaration and IAS

31 OCTOBER 2023

Acknowledgement of Country

In the spirit of reconciliation, Queensland Hydro acknowledges the Traditional Custodians of Country throughout Queensland and, in particular the lands, skies and waters on which we operate. We celebrate the diversity of Aboriginal peoples and their ongoing cultures and connections to the lands, skies and waters of Queensland.

Queensland Hydro pays respect to Elders past and present honouring their continuing spiritual and cultural connections to Country.

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(IAS)**

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Welcome and Introductions



Introductions

On this call from Queensland Hydro

Bek Grady: Senior Advisor Stakeholder Engagement – Borumba Project

Leah McKenzie: Project Director – Borumba Project

Travis Graham: Project Manager Borumba Project Exploratory Works

Michael Price: Environmental and approvals manager for the Borumba Pumped Hydro Project

Nirvana Searle: Environmental and approvals advisor

Cindy Thomas: Stakeholder Engagement Lead – Borumba Project

Lynda Williams: Senior Advisor Stakeholder Engagement – Borumba Project

Target project schedule



Coordinated Project declaration



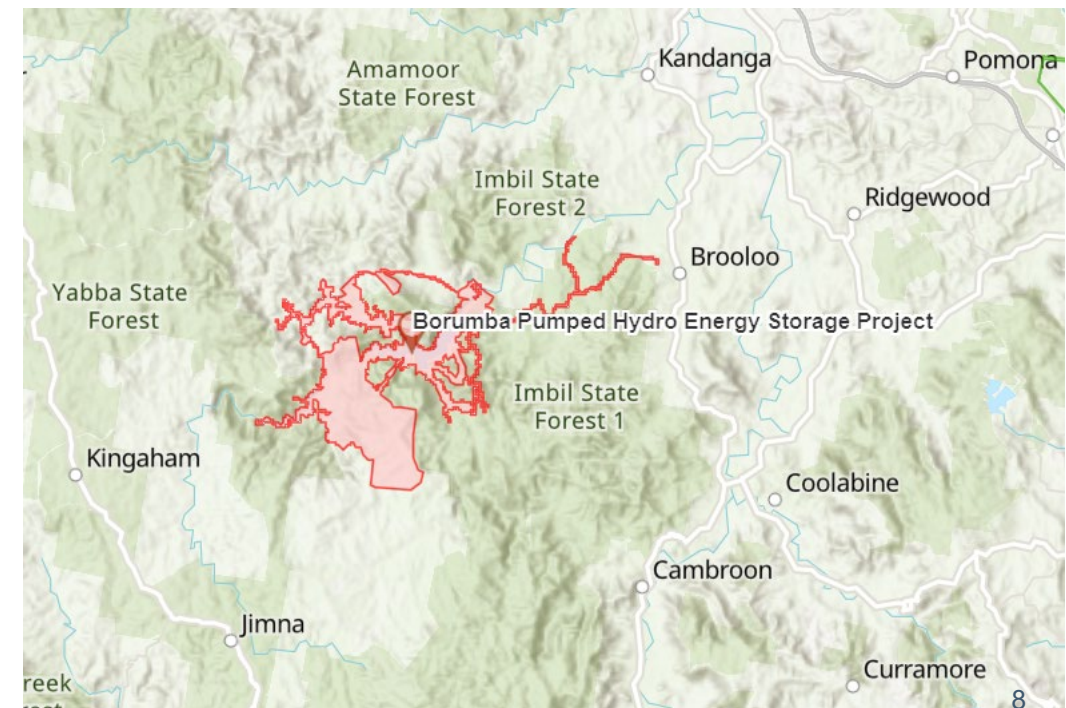
Coordinated Project

Project overview*

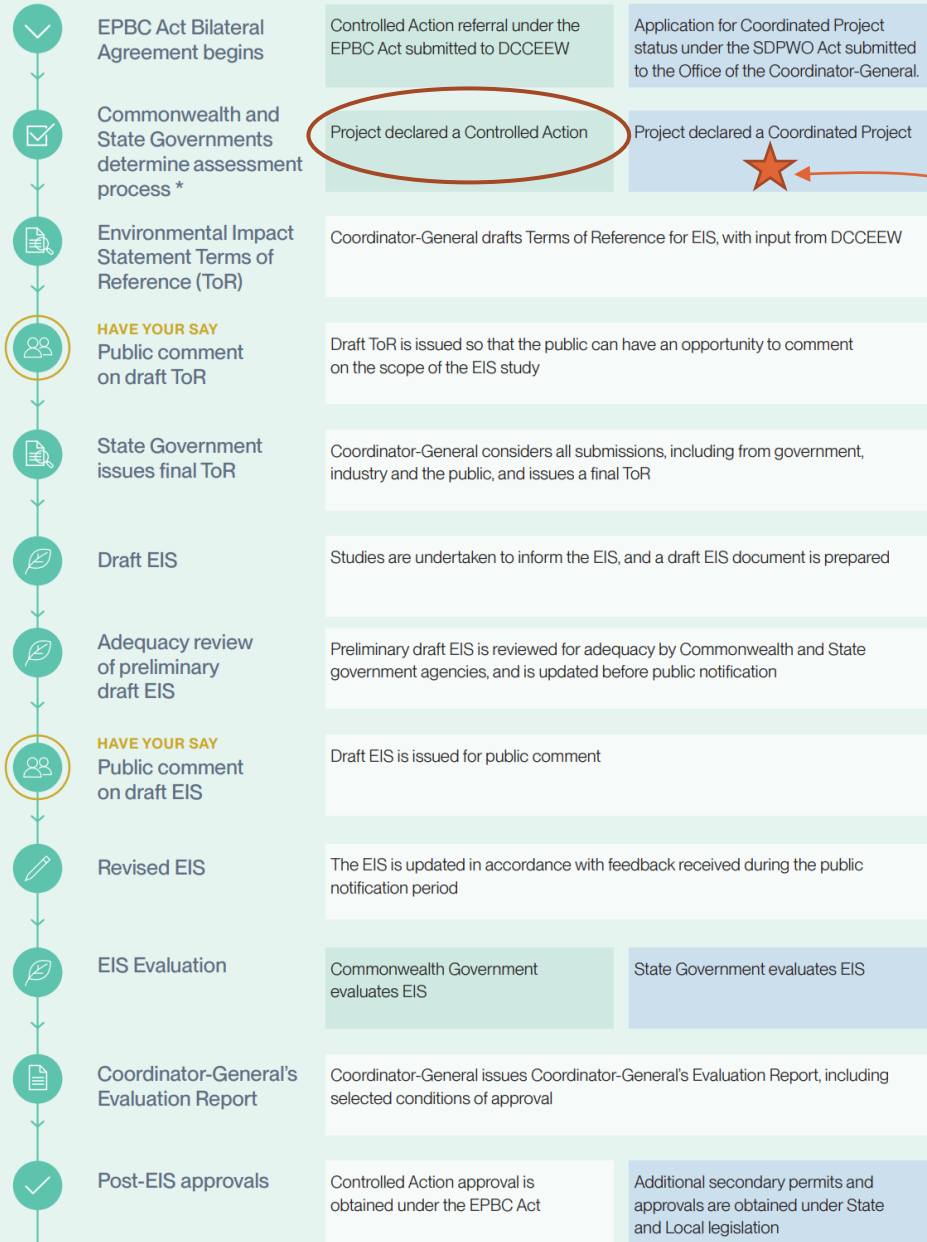
EIS status	EIS active
Description	Proposal to develop a pumped hydro energy storage (PHES) project to supply up to 2,000 MW electricity for up to 24 hours (resulting in a storage capacity of 48,000 MWh)
Proponent	Queensland Hydro Pty Ltd
Location/s	The project is located approximately 13 km south-west of Imbil, 48 km south-west of Gympie and 180 km north-west of Brisbane. Map
Local government/s	<ul style="list-style-type: none"> Gympie Regional Council Somerset Regional Council
Investment	\$14.2 billion
Key features	<ul style="list-style-type: none"> a new dam wall 300 m downstream of the existing Borumba Dam wall to increase the storage capacity of Lake Borumba (lower reservoir) main dam wall and saddle dams to form an upper reservoir underground power station, pump turbines and other infrastructure underground tunnels including water tunnels to transfer water between the upper and lower reservoirs, cable and access tunnels electrical switchyard for connection between the power station and the transmission network supporting infrastructure (temporary and permanent) including access roads, maintenance buildings, treatment plants, spoil areas and laydown areas, construction camps and quarries and/or borrow pits.
Construction start date	2025
Jobs	<ul style="list-style-type: none"> 2,360 full time equivalent (construction) 30 full time equivalent (operational)

Environmental impact statement (EIS) process

Date	Activity
Currently	Draft terms of reference for EIS being prepared
12 October 2023	Gazettal (📎 246.4 KB) of 'coordinated project' declaration.
7 September 2023	Final initial advice statement submitted (📎 18.4 MB)



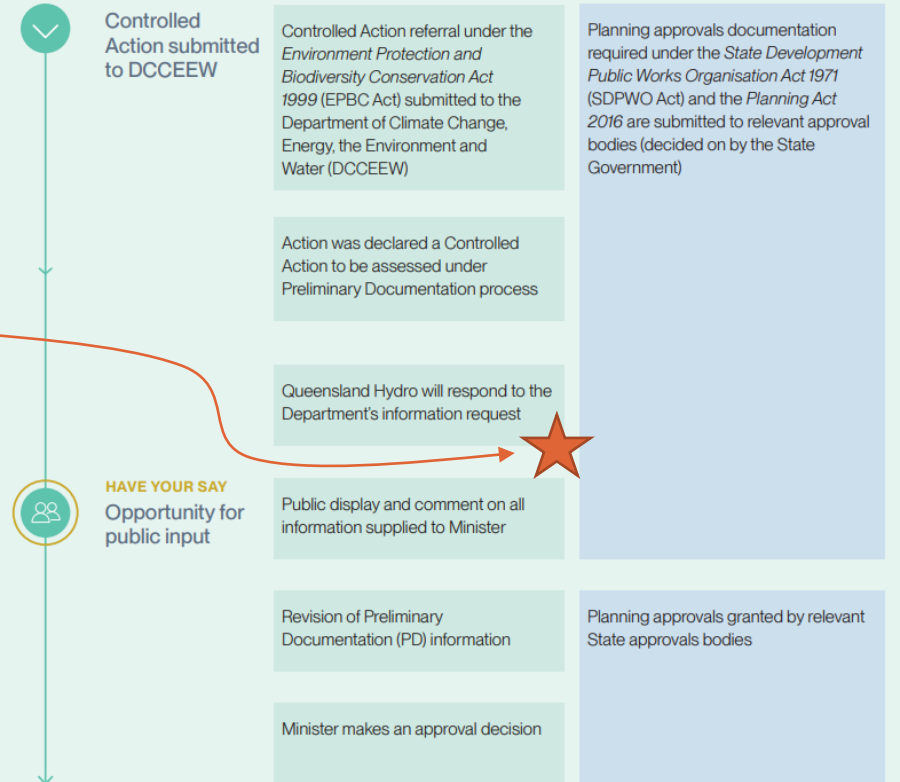
Main works approvals



Main works may begin

We are here

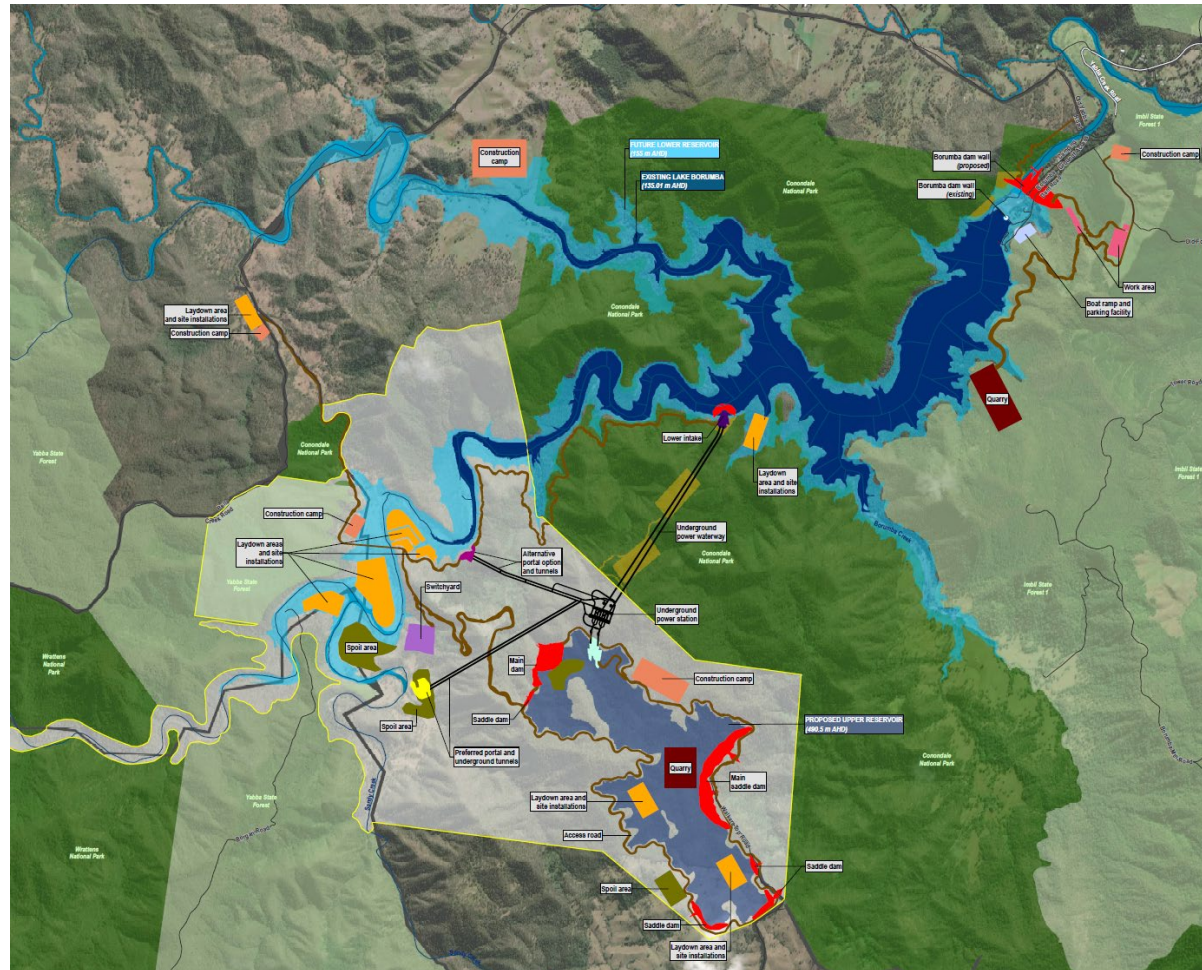
Exploratory works approvals






























Exploratory works may begin

- Commonwealth Government approval step
- State Government approval step
- Bilateral (Commonwealth and State Government agreement)
- Opportunities for input
- * These are the assumed processes. Actual processes will be determined by Commonwealth and State Government.

Project elements



- LEGEND**
-  Borumba dam (existing)
 -  Watercourse
 -  State controlled roads
 -  Local road
- Cadastre**
-  Road / unlinked parcel
 -  Watercourse
 -  National park
 -  State forest
 -  Conondale Resources Reserve
 -  Queensland Hydro property
- Water levels**
-  Lake Borumba (FSL 135.01m AHD)
 -  Lower reservoir (FSL 155 m AHD)
 -  Upper reservoir (FSL 490.5 m AHD)
- Main works proposed layout elements**
-  Preferred option portal
 -  Alternative option portal
 -  Access roads and bridges
 -  Construction camp
 -  Dam
 -  Laydown areas and site installations
 -  Lower intake
 -  Upper intake
 -  Quarry
 -  Recreational facility
 -  Spoil areas
 -  Switchyard
 -  Underground
 -  Work area

Lake Borumba – Main Works

Expansion of the existing Lake Borumba (lower reservoir) and upgrade of Borumba dam:

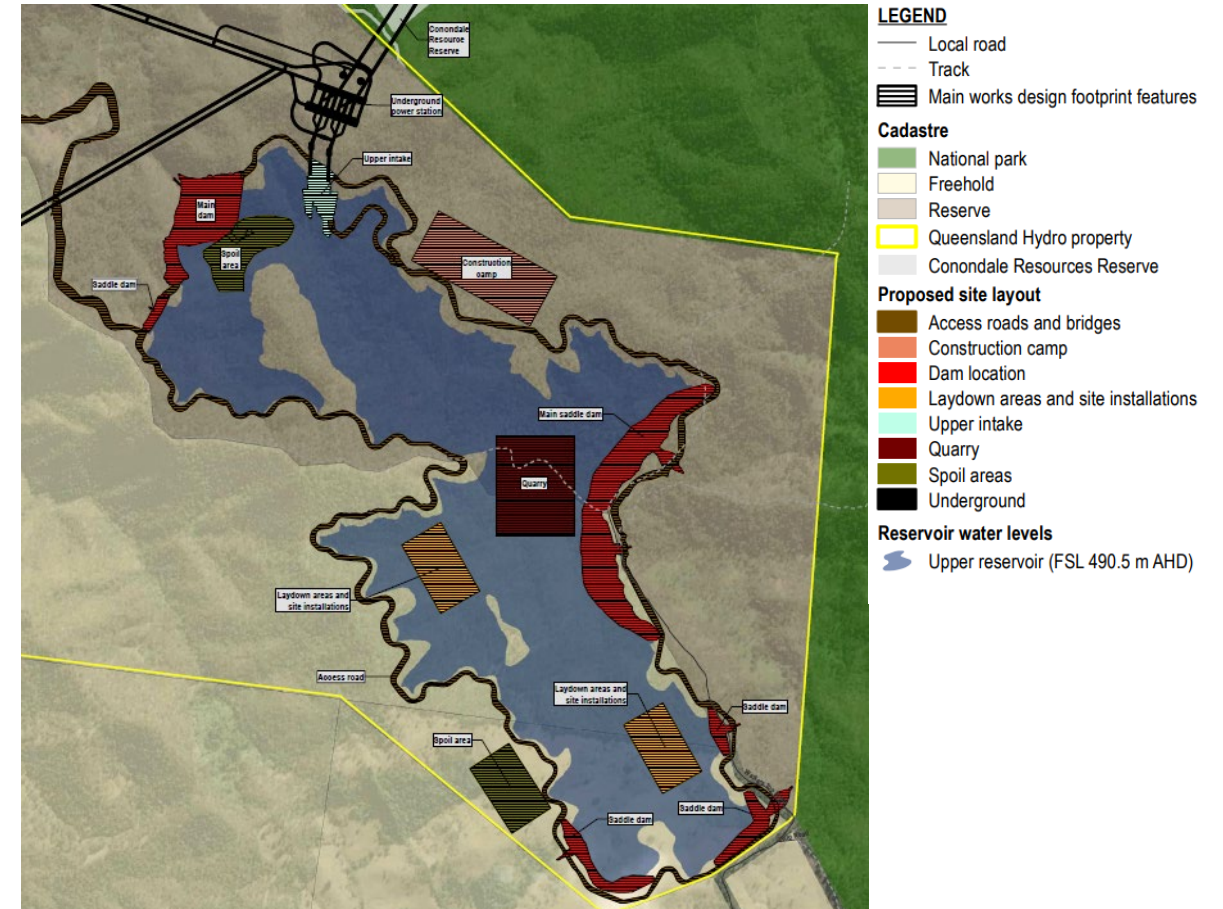
- new dam about 300 m downstream which is about 21 m higher than the existing (crest level)
- gravity dam with roller compacted concrete
- raising the full supply level (FSL) of Lake Borumba
 - Approximately 46 to 224 gigalitres
 - Increase in the inundation area from 482 to 1,243 ha
- Partial decommissioning of the existing Borumba dam
- Possible installation of fish and turtle passage device

Lake Borumba will continue to provide opportunities for recreational use during operation, with safety exclusion zones around the dam wall and the intakes.



Upper reservoir – Main Works

- Natural landscape supports the development of the upper reservoir:
 - one main dam and supporting saddle dams required
 - concrete-filled rockfill dam similar to the existing dam on Lake Borumba
 - about 330 m higher than the existing lake
 - approximately 70 gigalitres capacity with an inundation area of 355 ha
- No fish passage proposed
- No recreational activities proposed on the upper reservoir



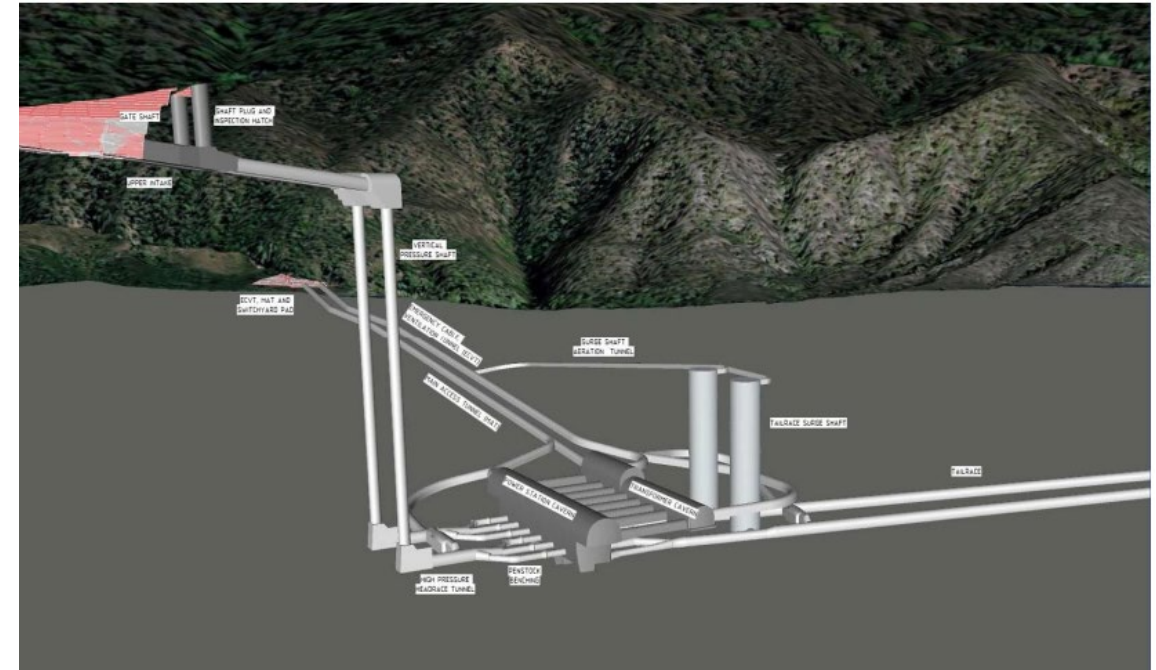
Snippet taken from the *Initial Advice Statement*
 Figure 6: Project layout – upper reservoir area

Underground infrastructure

The construction and operation of

- Main access tunnel, (MAT) and emergency, cable and ventilation tunnel (ECVT) (dry tunnels)
- Headrace and tailrace tunnels (water tunnels)
- Power station and pump turbines (powerhouse)

Exploratory Works are critical in informing the design of this infrastructure.

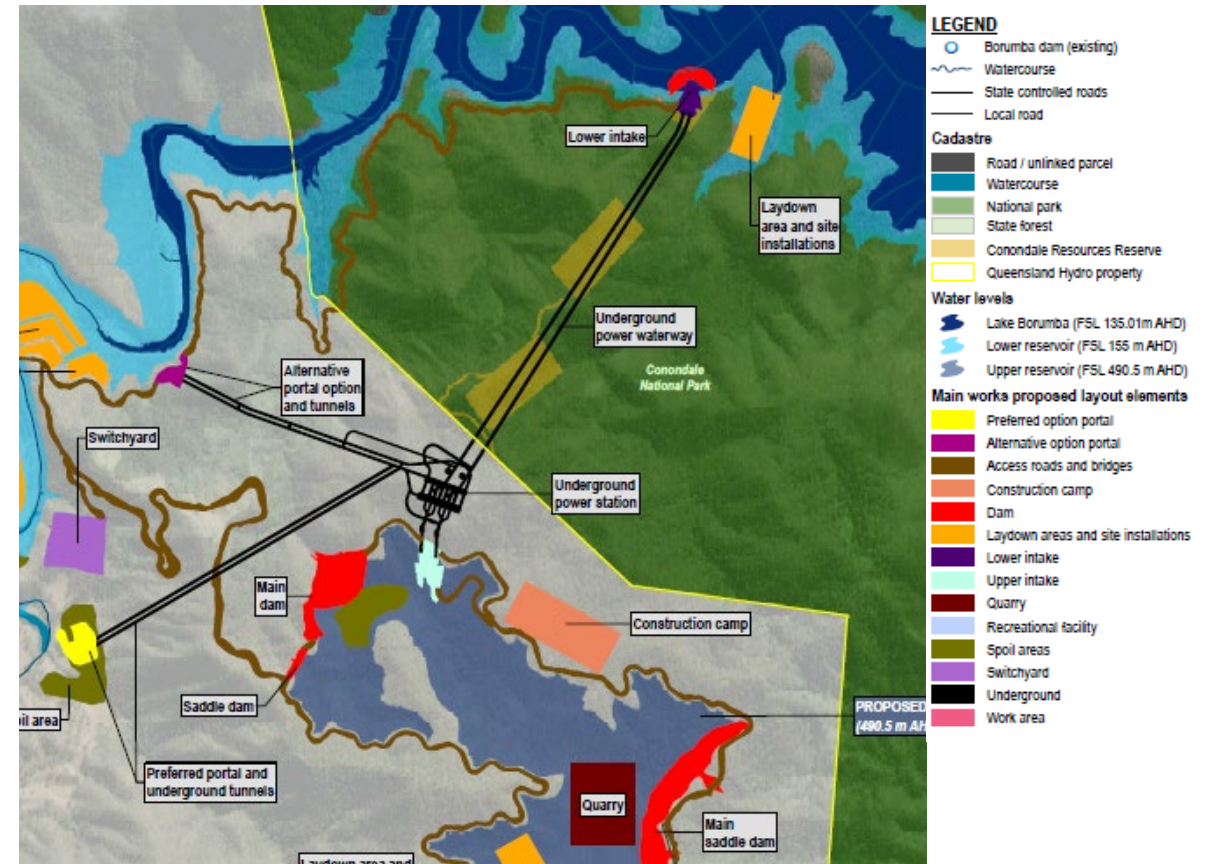


Taken from the *Initial Advice Statement*
 Figure 10: Tunnel configuration incorporating water tunnels, powerhouse cavern, cable tunnel and access tunnel

Underground infrastructure

Exploratory Works

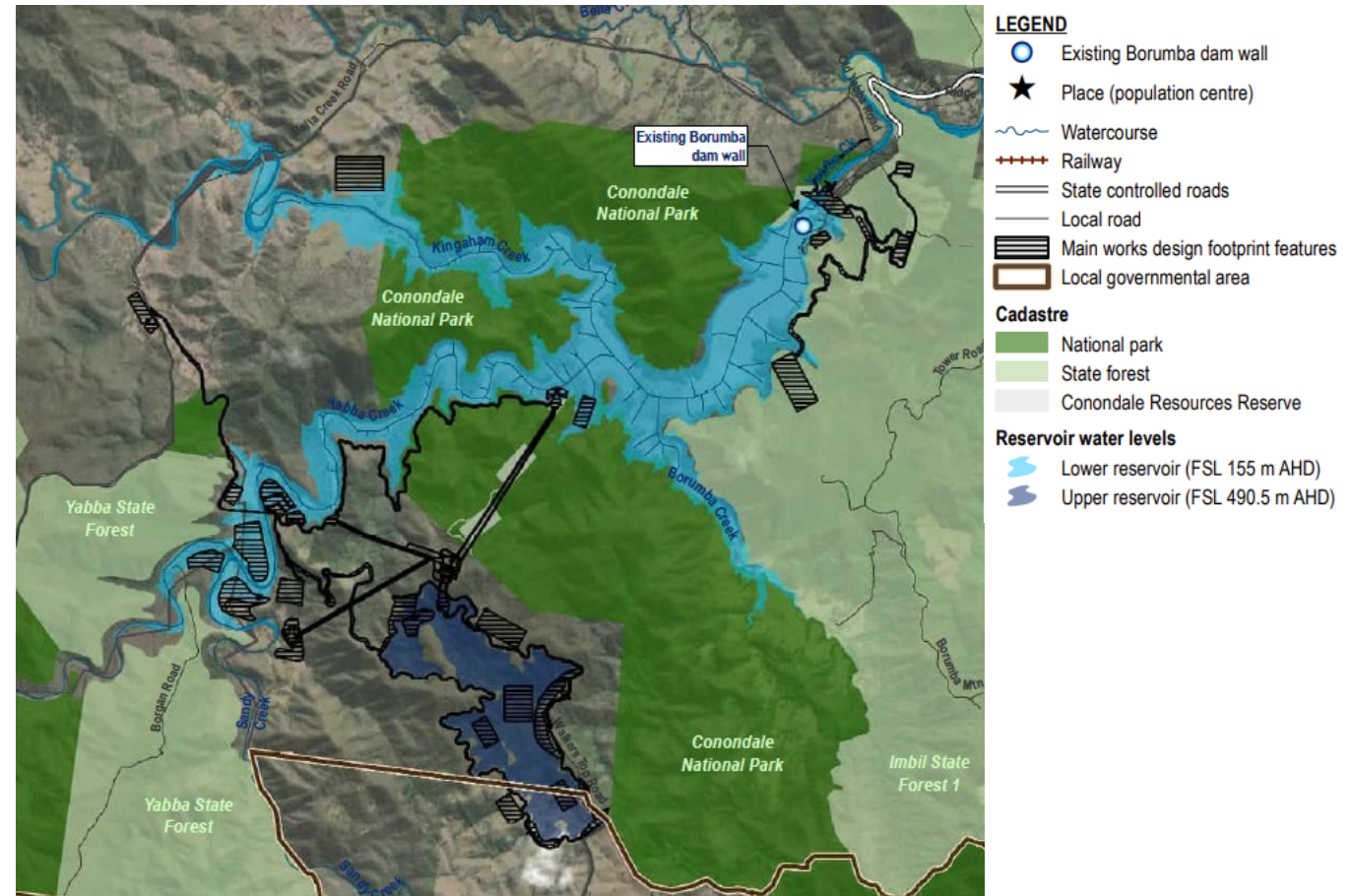
- Two tunnel alignments have been identified with one an alternative alignment.
- Preferred approach is to repurpose the tunnel being constructed as part of the Exploratory Works.
- Volumetric resumption of Conondale National Park and Resources Reserve.



Snippet from Project Elements slide

Project footprint

- Approximately 1,500 ha
 - Majority of the footprint (935 ha) is associated with the increase in the Lake Borumba FSL
 - includes the Q100 inundation area of about 170 ha
 - inundate approximately 110 ha of Conondale National Park, 17 ha of State Forest
 - Upper reservoir is 355 ha in area
- Other infrastructure is 106 ha in area
- Temporary infrastructure is 168 ha



Taken from the *Initial Advice Statement*
 Figure 1: Project Locality and Layout

Other key points

- \$14.2 billion
- Approximately 2,360 full time equivalent (FTE) jobs during construction and 30 FTE during operations
- First power 2030 with construction commencing 2026 (subject to approval)

Queensland Hydro is committed to undertaking a thorough and rigorous environmental assessment for the Borumba Pumped Hydro Project.

In the IAS:

- we have provided a summary of potential impacts that may occur as a result of the project
- included are impacts to endangered species
- this does not necessarily mean that all of these impacts will occur.

As part of the EIS process:

- We will be working with leading specialists to:
 - develop measures to avoid, mitigate or offset potential adverse impacts
 - enhance potential benefits and opportunities
- These measures will be made available for public comment as part of the draft EIS.

Potential impacts

- loss of terrestrial habitat
- impacts to the values and resources of Conondale National Park, Conondale Resources Reserve and Imbil and Yabba State Forests
- changes to hydrology and geomorphology within the Mary Basin
- potential changes to groundwater levels, distribution, and discharges
- potential impacts to Indigenous cultural heritage because of infrastructure development and land inundation
- changes in land use, ownership, and tenure
- potential noise and vibration and air quality impacts during construction
- potential social impacts including impacts on recreational activities
- potential demographic changes, including short-term and long-term population increases
- potential impacts to local transport infrastructure

EIS will look to verify and where applicable quantify the impacts on the existing environment

Mitigation Measures

- Environmental management measures to avoid and minimise impacts on environmental, social, and cultural heritage values will be implemented for all phases of the Project.
 - Ancillary locations have been strategically located including locating the work areas in cleared areas or in areas which will be inundated.
 - Ancillary locations may be refined in response to environmental values, cultural heritage values, etc
 - Maintain water allocations during construction, with design also allowing for water allocations during operations.
 - Reduce the project footprint.
- A number of management plans will be developed to support the EIS and outline the measures.
- **EIS will look to identify the appropriate mitigation measures in consultation with relevant stakeholders.**

Queensland Hydro to identify Project commitments - assurances by Queensland Hydro to take certain actions over the life of the project.

Project benefits

- direct and indirect employment opportunities during construction and operations
- training and capacity development opportunities
- local procurement and supply chain opportunities
- benefits resulting from enhanced transport infrastructure
- the role of the Project in enabling Queensland's transition away from coal-fired generation
- the Project's facilitatory role in enabling upstream renewable energy development and ultimately the coordinated development of the Southern Queensland Renewable Energy Zones

NEXT STEPS - OUR FOCUS

1.

Main Approvals Process (EIS)

Federal Government (DCCEEW) to make a Controlled Action determination

OCG to draft and establish a public notification period of the draft terms of reference for the EIS



2.

EIS Commencement

Working with our technical specialists to undertake assessments and understand the key challenges

QH to prepare a draft EIS for OCG review and public comment



3.

EIS consultation with our stakeholders

- TBC - may be workshops, specialist briefings, one-on-one landholder sessions, community drop in sessions



4.

Exploratory works

Preliminary Documentation for the Exploratory Works submitted – QH awaiting approval from DCCEEW



Questions?



Thank you

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