

In response to questions raised during the Development Application process, we have conducted a detailed Groundwater Assessment to evaluate potential impacts on local water resources. This factsheet summarises the assessment and related management actions.

After review of the Development Application, Council requested an assessment to ensure that the proposed Hazeldean Battery Energy Storage System (BESS) will not create adverse impacts to the quality of surface water or groundwater within the Somerset Dam catchment.

This factsheet provides an overview of the assessment, management and monitoring measures proposed over the life of the project, including emergency management measures in the event of an incident.



What is a Groundwater Assessment?

This assessment examines local aquifers (water-bearing rock layers), flow patterns, contamination risks, and protection measures - essentially evaluating how the project could potentially affect underground water.

What are the existing groundwater conditions?

The area has two groundwater layers: a shallow alluvial aquifer northeast of the site and a deeper fractured rock aquifer beneath it. Both are refilled by rainfall and drain into local creeks and Lake Somerset. While moderately vulnerable to contamination, natural clay layers and deep groundwater slow pollution movement. This means that impurities from the site would take decades to centuries to reach waterways, allowing time for detection and cleanup

Key takeaways

- The Hazeldean battery project poses **minimal risk to groundwater** during construction, operation, and decommissioning.
- **Batteries** have extensive safety systems and are subject to thorough testing prior to commissioning.
- **Fire-related contamination** is the main residual risk, but natural clay layers and deep groundwater slow potential pollution spread, allowing sufficient time for any risks to be addressed.
- Any contaminants that did escape safeguards would likely take **3–50 years** to reach nearby creeks and **70–700 years** to reach Lake Somerset, allowing time for remediation.
- **Strong safeguards** such as liners, drains, emergency plans and ongoing and consistent monitoring will help to protect water quality.

What's next

If the project is approved we will implement the measures required by the assessment as the project progresses. This will include:



Operational plans: The project will finalise an Environmental Management Plan to address groundwater risks, including regular monitoring.



Ongoing monitoring: Groundwater quality and mitigation efforts will be tracked.



Regulatory oversight: All measures will align with relevant guidelines and environmental regulations.

We appreciate your continued engagement and remain committed to keeping the community informed as the project progresses.

Assessment outcomes

Construction, operation, and decommissioning: These phases are **unlikely to interfere with groundwater**. No quality issues or flow changes are expected as well as no disruption to the water table.

Thermal events (battery fires): In the unlikely event of a fire at the BESS facility, large volumes of water would be required for cooling, potentially washing contaminants, such as battery chemicals, firefighting foam, or machinery fluids, in to the ground, however this is mitigated through runoff control measures.

Aquifer vulnerability: The nearby aquifer has **moderate vulnerability** to contamination, meaning it could be affected if pollutants are released *continuously*. However, a single, contained event, such as a fire, poses **low long-term risk**.

Impact timeframes: In the unlikely event of contaminant release, they could reach New Country Creek in **3–50 years** and Lake Somerset in **70–700 years**. These timeframes would allow remediation procedures to take place before contaminants pose a risk to groundwater.

Existing groundwater users: No risk of affecting nearby wells or bores.

Contaminant pathways: In the unlikely worst case, impurities could runoff into nearby areas and infiltrate through soil into the aquifer. To mitigate this risk, containment measures such as controlled drainage systems, and ongoing monitoring will be implemented to prevent contamination and ensure early detection of any potential issues.

What controls and mitigations are proposed?

The project will implement the below project activities.



CONSTRUCTION

Minimise ground disturbance: Limit land clearing to avoid changes in how rainwater enters the aquifer.

Prevent soil compaction: Avoid excessive packing of soil, which can reduce groundwater recharge.

Manage waste: Store fuels, lubricants, and chemicals in sealed containers or lined pits before safe disposal.

Control runoff: Use barriers or drains to stop sediment and pollutants from washing into the soil.

Emergency plans: Immediate cleanup protocols for spills.



OPERATION

Battery design: The design and operation of the battery will follow best practice policies to minimise the risk of thermal runaway events and fires. This includes the use of fire suppression systems, resistant battery enclosures, and 24/7 system monitoring. Please also refer to the *Hazard and Risk Assessment Factsheet*.

Contain contaminated water: Use lined basins or bunds to capture runoff.

Surface water controls: Direct rainwater towards water quality controls.

Regular maintenance: Undertake proactive maintenance and monitoring of groundwater.

Emergency response: Include groundwater protection in fire management plans (e.g., containing firefighting water).



DECOMMISSIONING

Safe disposal: Follow the regulatory guidelines for removing batteries and leftover chemicals.

Soil testing: Check for residual contamination in potentially impacted areas and remove as appropriate.

LONG-TERM SAFEGUARDS

Low-permeability barriers: Install clay or synthetic liners under battery units to block contaminants.

Underground drains: Capture and treat polluted water before it reaches the aquifer.

Pump-and-treat systems: Deployable if groundwater contamination is detected.

Further information

Please contact hazeldean@enervest.com.au for specific queries or to subscribe to project updates. You can also visit our website at enervest.com.au/project/hazeldean-bess/