

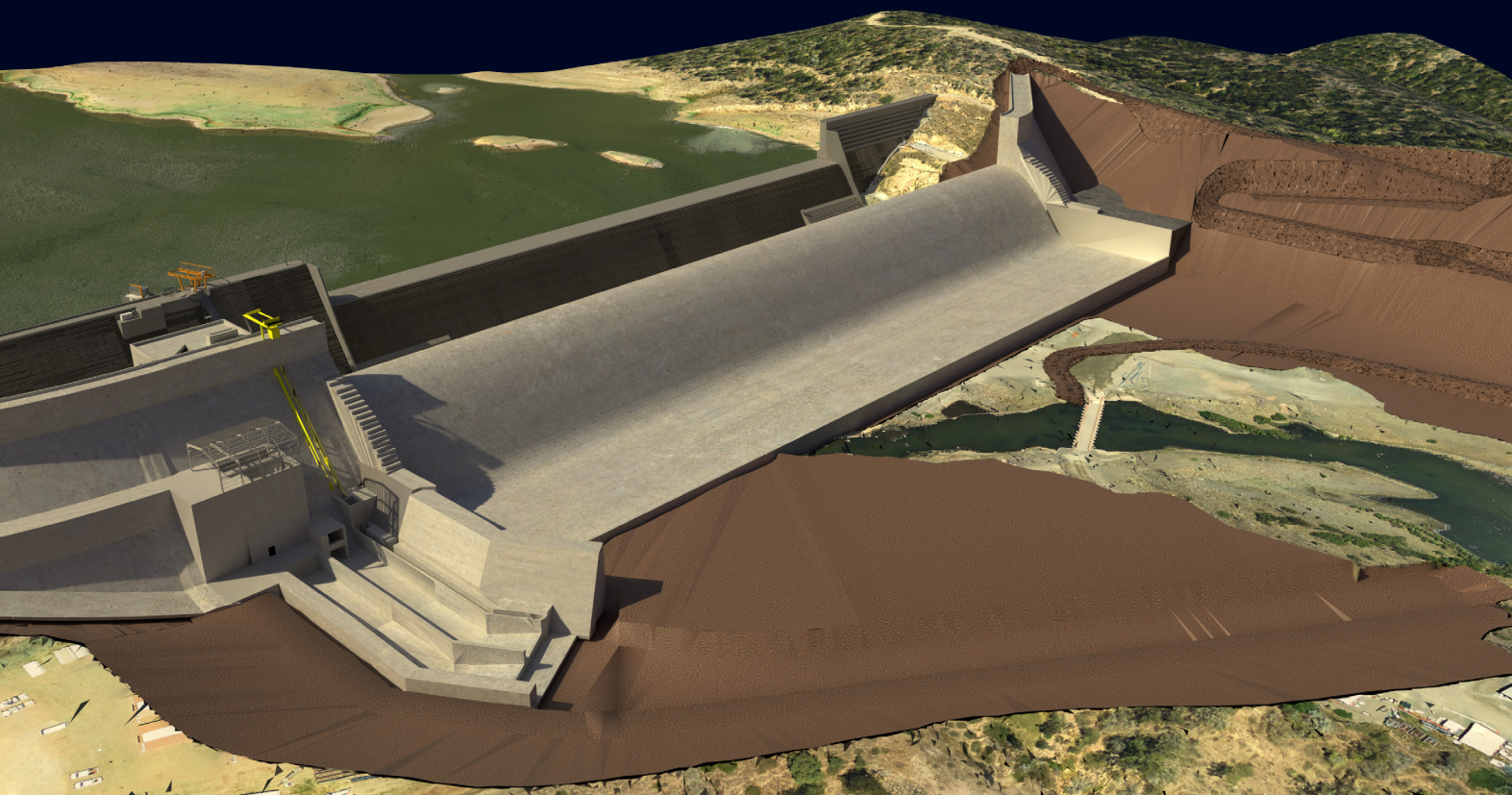
# Paradise Dam

## Improvement Project

### Project delivery phases

Sunwater is planning for a new Paradise Dam wall on the Burnett River to ensure a safe and secure water supply for the Bundaberg region for future generations.

Building a new wall is a complex, multi-year project that involves considerable planning, investigations, engineering, approvals, environmental assessments, design specifications and construction processes.



## Key dependencies

The Paradise Dam Improvement Project will be delivered in phases that require considerable planning, investment, materials and resources, so it's important to get them right.

Many of these stages are undertaken concurrently and are often dependent on each other.

To assist Sunwater in design and construction activities, Sunwater has formed an alliance to deliver the project, appointing GHD as the ongoing design partner, and CPB Contractors/Georgiou Group as the construction partner. This ensures that challenges are considered and addressed early to prevent potential delays and increased costs.

While the detailed business case is being developed to secure necessary approvals, previously planned work is continuing for design and procurement, road upgrades, geotechnical and quarry investigations, environmental approvals and planning for the construction of a workers' accommodation village.

Importantly, the work conducted as part of the original improvement project has not been wasted, with findings from the previous business case helping inform the design and construction approach for the new dam wall.

Sunwater is committed to the timely delivery of the new dam wall, ensuring that the right asset is delivered based on the following project dependencies:

### Detailed business case

The detailed business case is a process that involves a comprehensive analysis of the project to enable government investment decisions. It serves as a road map for the delivery and the investment required in line with the *Queensland Government's Business Case Development Framework*.

It is developed iteratively to incorporate findings from work happening in parallel such as investigations, environmental approvals and engineering design.

### Investigations

Site, geotechnical, trial concrete mixing and testing, and material sourcing investigations provide critical early and ongoing knowledge needed to build a safe, stable and cost-effective new dam wall on the proposed site.

Understanding the foundation and subsurface conditions, and ensuring suitable materials are available for the construction are crucial dependencies for the project's overall success.

## Environmental assessments and approvals

The project must undergo robust commonwealth and state government legislated environmental assessments before construction begins. For the new Paradise Dam wall, this includes a Queensland Government Ministerial Infrastructure Designation (MID) process under the *Planning Regulation 2017 (Qld)* and approval from the Commonwealth Minister for the Environment under the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*.

It is expected that the project will require a detailed environmental impact assessment to identify potential environmental impacts of the project and outline proposed management strategies, and additional infrastructure like a fishway, to avoid or mitigate those impacts.

The approvals for the project will ensure responsible construction practices are applied for the new dam wall to minimise environmental risks and contribute to a more sustainable future.

## Engineering design

The engineering design process will develop drawings and specifications that inform procurement, material sourcing, resource allocation, equipment selection and use, and construction techniques of the new dam wall.

A preliminary design outlines concepts and cost estimates, considers potential risks for the project's initial planning and helps to understand the project's feasibility.

The detailed design depends upon reviews, approvals and investigations, and specifies all elements of the construction progress including parts, assembly, sequencing, scheduling and materials for the successful delivery of the project.

At the end of each design phase, a review process is undertaken by a panel of independent experts to provide rigorous technical assessment of the design.

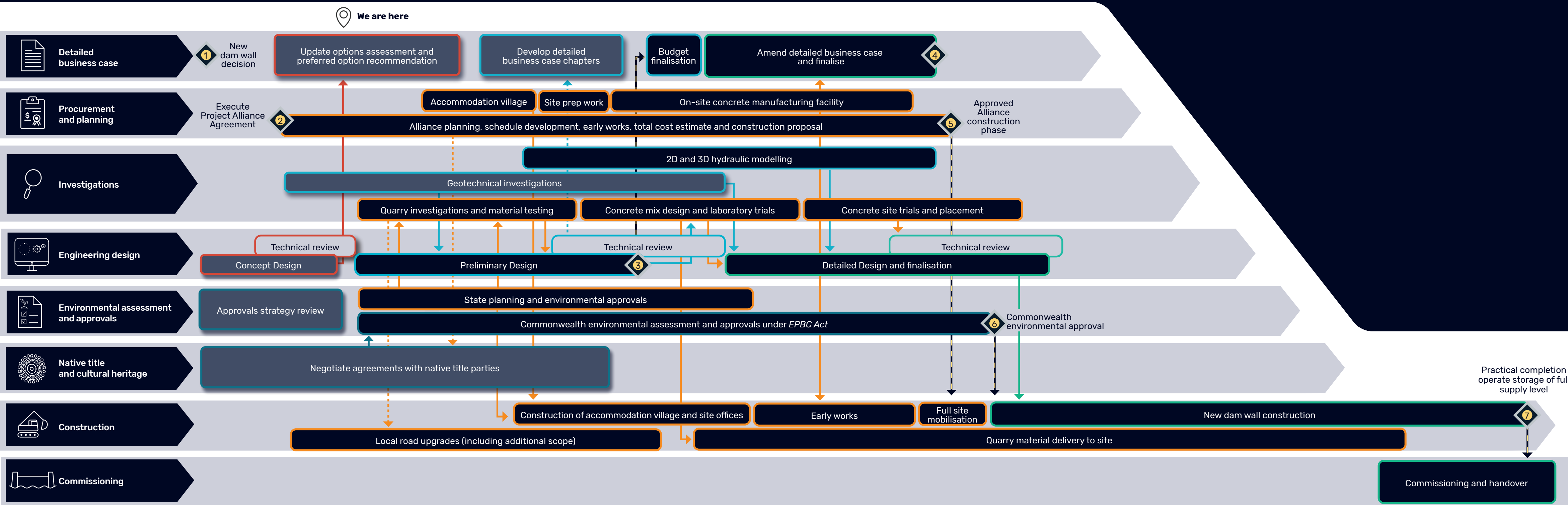
Ensuring the appropriate materials and equipment are used to build a safe, enduring dam wall while avoiding delays and inefficiencies relies on the successful detailed design of the project.

Construction of the new wall will commence when the detailed design is essentially complete.

## Hydraulic modelling

Hydraulic modelling requires inputs from the preliminary design to simulate and analyse water flow across the dam. This modelling assesses the dam's effectiveness passing water safely for different flood events. Findings from physical scale, 2-Dimensional and 3-Dimensional hydraulic models are used to improve dam design, assess downstream and upstream impacts, and virtually test the dam under various conditions before the design is finalised.

# Paradise Dam Improvement Project



**Project phases of delivery**

- Concept design work informs the business case options and feeds into early investigation, preliminary design and environmental approvals processes.
- The procurement and delivery of construction related activities are also dependent on state planning and environmental approvals.
- Investigations inform the preliminary design and key chapters of the detailed business case. The detailed business case is expected to be complete by early 2026 for government decision.
- Environmental approvals will consider Traditional Owner engagement and impacts.
- When the detailed business case is completed, the detailed design is finalised, and construction can begin on the new dam wall.

Stages in progress as of June 2024

**Key milestones**

1

January 2024 – Queensland Government’s new dam wall decision

2

January 2024 – Paradise Alliance announcement

3

Key milestone for finalising budget and detailed business case, progressing EPBC Act assessments and commencing early works

4

Key milestone – completion of detailed business case

5

Key milestone – approval of construction phase triggers full site mobilisation

6

Commonwealth environmental approvals trigger commencement new dam wall construction

7

Practical completion of new dam wall enables restoration of full water supply level and Sunwater operations begin

Figure 1: Workflow graphic

\*Width of boxes isn't reflective of time comparison against other streams.

Current as at June 2024





## Safety

Improving safety for our people, customers and the community



## Jobs

Fostering sustainable employment and economic development



## Water security

Providing water security for the Bundaberg region for the next 100 years



## Economic

Supporting the region's economy and one of Australia's most important food bowls

# Key project benefits



## Customers

Keeping our commitment to our agricultural, urban and industrial customers



## Drought resilience

Increasing resilience to extreme weather events in response to the changing climate

## Contact us

For more information or if you have any questions, please contact the Paradise Dam Improvement Project team on:



(07) 3120 0270



[paradise.dam@sunwater.com.au](mailto:paradise.dam@sunwater.com.au)

Delivery partner

Owner

Paradise  
ALLIANCE

sunwater