

ALGOA WATER SUPPLY SCHEME

The Proposed Development of the Lower Coerney Balancing Dam



Proposed site infrastructure (GA Environment, 2022)

Sundays River Valley
Local Municipality,
Eastern Cape Province



water & sanitation
Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

About DWS

The Department of Water and Sanitation is the custodian of South Africa's water resources. It is primarily responsible for the formulation and implementation of policy governing this sector.

While striving to ensure that all South Africans gain access to clean water and dignified sanitation, the department also promotes effective and efficient water resources management to ensure sustainable economic and social development.

The Department of Water and Sanitation's **vision** is to be:

A dynamic, people centred department, leading the effective management of the nation's water resources, to meet the needs of current and future generations.

As the sector leader, the Department of Water and Sanitation's **mission** is to serve the people of South Africa by:

- making a positive impact on our country and its people as custodians of our water and sanitation resources, and as innovative and committed partners in the drive for sustainable development; &
- being service and delivery oriented.

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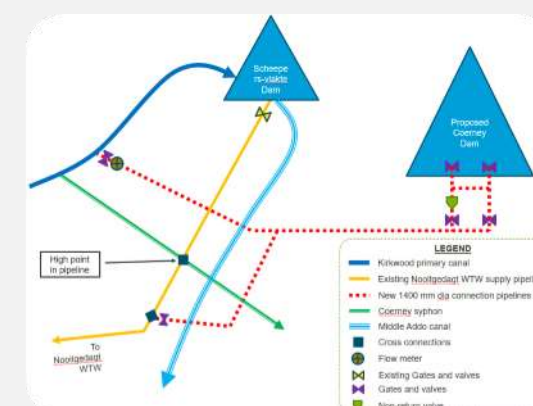
www.dws.gov.za

Project Location & Layout

The proposed Lower Coerney Balancing Dam site is located on Portion 7 of the Farm Scheepersvlakte No. 98 (C0760000000009800007), Farm 713 Uitenhage (C07600000000071300000) and the Remaining Extent of Farm 40 Farm Enon Mission 574 (C07600000000075800000) owned by Scheepersvlakte Farms CC, Venter Wildlife Trust and the Moravian Church in South Africa respectively.

The study area is located in the town of Addo near Kirkwood, Sundays River Local Municipality in the Eastern Cape Province. The approximate coordinates of the site are 33°26'29.77"S and 25°37'23.68"E.

The proposed Coerney Dam will be located upstream of the Coerney Syphon outlet in a valley east of and adjacent to the existing Scheepersvlakte Dam as indicated in the layout.



The proposed layout of the Coerney Dam (DWS, 2020)

Background Information

The existing Scheepersvlakte Balancing Dam, located near to the town of Kirkwood in the Eastern Cape, is used as a balancing facility for water supply to the Lower Sundays River Water User Association (LSRWUA) and the Nelson Mandela Bay Municipality (NMBM), and for emergency supply. The capacity of the balancing dam is however not sufficient to meet the dual purpose of supplying the Nooitgedagt Water Treatment Works (WTW), as well as reducing the time of delivery to downstream irrigators. The lack of sufficient balancing capacity also negatively affects the maintenance of the canals.

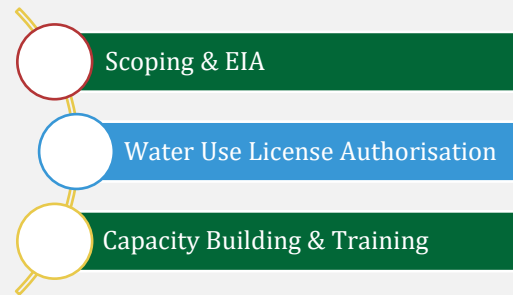
In 2017, DWS undertook a feasibility study to assess five (5) potential dam sites for the Algoa Water Supply System (AWSS). The Lower Coerney site was eventually found to be the most feasible and most viable for the construction of the required balancing dam. Subsequently, GA Environment (Pty) Ltd was appointed by DWS, as independent Environmental Assessment Practitioner (EAP) to undertake the Scoping & Environmental Impact Assessment (EIA) and Water Use License Application (WULA) processes for the proposed construction of the Lower Coerney Balancing Dam, as part of the AWSS.

It must be noted that the WULA process was discontinued in October 2022 as DWS Licensing Department advised that the proposed Lower Coerney Dam project is legally exempted from undertaking WULA process as formally communicated through the Director General's Office.

Dam Characteristics

Aspect	Detail
Type of Dam:	Homogeneous Earthfill Embankment Dam.
Main advantage of dam site:	The dam will be filled and supply water under gravity (no need for water to be pumped).
Source of water:	Kirkwood Primary Canal via a new pipeline.
Wall height:	20.5m
Storage capacity (before excavation):	4.69 million m ³
Maximum water depth (before excavation):	16.2 m
Hazard rating:	High
Hazard dam type:	Category III Dam

Environmental Services



Objectives: Lower Coerney Dam

- Limit risks of shortfall in supply to the Nelson Mandela Bay Metropolitan Municipality (NMBM) and the Lower Sundays River Government Water Scheme (LSRGWS)
- Provision of water supply to the LSRWUA and the NMBM for emergency supply of up to 21 days
- Remove potential operating system constraints for sustainable delivery of bulk Orange River water supply to the LSRGWS and NMBM, for water requirements up to 2040; and
- Limit operational risks to acceptable levels.

Timelines of the project

It is understood based on the phases prescribed in the initial background information documents that the project will be undertaken as follows:

- 1) **Phase 1:** Technical Feasibility Assessment commenced in 2017 and was completed in 2020.
- 2) **Phase 2a:** Scoping Process commenced in August 2021 and completed in January 2023.
- 3) **Phase 2b:** WULA Process commenced in December 2021 and formally discontinued in October 2022.
- 4) **Phase 2c:** EIA Phase commenced in January 2023 and anticipated to be completed in August 2023.
- 5) **Phase 3:** Detailed Design anticipated to be completed in 2023/2024.
- 6) **Phase 4:** Tendering Phase for Contractor anticipated to be completed in 2024/2025.
- 7) **Phase 5:** Construction Phase anticipated to commence in 2025/2026.
- 8) **Phase 6:** Operational Phase anticipated in 2028/2029.

NB: The Nelson Mandela Bay Municipality has recently been in the media regarding water constraints and Eastern Cape DWS has called on residents to adhere to water restrictions imposed by the local municipalities to ensure water security