

NEED AND DESIRABILITY

THE PROPOSED DEVELOPMENT OF THE HARMONY INSTREAM DAM AND ASSOCIATED AGRICULTURAL DEVELOPMENT ON THE REMAINING EXTENT OF FARM HOUDENBEK NO. 415 AND THE REMAINING EXTENT OF FARM WINKELHAAK NO. 224, NEAR OP-DIE-BERG, WITZENBERG LOCAL MUNICIPALITY, WESTERN CAPE

1. Introduction

This Appendix has been prepared in accordance with the Western Cape Department of Environmental Affairs and Development Planning (WCDEA&DP) Guideline on Need and Desirability (March 2013) and the Department of Environmental Affairs (DEA) Integrated Environmental Management Guideline Series (2017). It provides a structured assessment of the need for and desirability of the proposed Harmony Instream Dam and associated agricultural development within the environmental, agricultural, social and economic context of the Koue Bokkeveld region.

The proposed development comprises the construction of the Harmony Instream Dam on the Remaining Extent of Farm Houdenbek No. 415, together with the establishment of approximately 25 ha of irrigated deciduous fruit orchards on the Remaining Extent of Farm Winkelhaak No. 224. The dam will provide lawful storage of authorised surplus winter high flows for subsequent irrigation of the proposed orchards, utilising water authorised in terms of Water Use Licence No. 01/E21D/AB/9699.

The proposal has been informed by comprehensive specialist investigations, including botanical, freshwater, hydrological, Environmental Water Requirement (EWR), agricultural, heritage and palaeontological assessments, which have guided the refinement of the preferred development layout and the identification of appropriate mitigation measures.

2. Need

2.1 Site-specific Need

The Koue Bokkeveld is a highly productive agricultural region that is dependent on reliable irrigation water for deciduous fruit production. Rainfall occurs predominantly during the winter months, while irrigation demand occurs during the dry summer growing season.

Harmony Trust holds a lawful water entitlement authorised under Water Use Licence No. 01/E21D/AB/9699. The proposed Harmony Instream Dam is required to provide additional storage capacity for authorised surplus winter high flows, thereby enabling water to be stored and utilised efficiently during periods of peak irrigation demand.

The proposed Harmony Instream Dam is therefore required to:

- Improve lawful on-farm water storage and irrigation reliability;
- Improve water security during periods of below-average rainfall and drought;
- Improve the efficient utilisation of the existing authorised water allocation;
- Support the establishment and long-term sustainability of approximately 25 ha of irrigated deciduous fruit orchards on the Remaining Extent of Farm Winkelhaak No. 224;
- Improve resilience to climate variability and changing rainfall patterns; and

- Support the continued growth and long-term viability of the Harmony Trust farming enterprise.

The proposed development does not seek to increase the authorised annual abstraction volume but rather to improve the storage, management and efficient use of the existing lawful water allocation.

2.2 Broader Public Need

The proposed development supports broader regional, provincial and national objectives relating to:

- Sustainable agricultural production;
- Food security;
- Efficient water resource management;
- Climate resilience and drought preparedness;
- Rural employment creation;
- Agricultural transformation; and
- Sustainable rural economic development.

The project further supports the continued growth of Harmony Trust as a 100% black-owned B-BBEE agricultural enterprise, thereby contributing positively towards agricultural transformation and inclusive economic growth within the Western Cape agricultural sector.

3. Desirability

3.1 Spatial Planning Alignment

The proposed development is consistent with applicable planning frameworks, including:

- The Western Cape Provincial Spatial Development Framework;
- The Witzenberg Municipal Spatial Development Framework;
- Relevant agricultural and water resource planning policies; and
- The existing agricultural land use character of the Koue Bokkeveld.

The proposed dam and associated agricultural development are compatible with the surrounding agricultural landscape and support the continued productive use of agricultural land.

3.2 Environmental Desirability

Comprehensive specialist investigations were undertaken as part of the Environmental Impact Assessment process, including:

- Botanical Assessment;
- Freshwater Impact Assessment;

- Hydrological Assessment;
- Environmental Water Requirement (EWR) Assessment;
- Agricultural Compliance Statement;
- Heritage Impact Assessment; and
- Palaeontological Impact Assessment.

These specialist investigations identified environmental sensitivities associated with biodiversity, freshwater resources and heritage resources, and informed the refinement of the preferred dam and agricultural layouts to avoid or minimise environmental impacts wherever practicable.

Alternative dam wall layouts and agricultural layouts were assessed during the Environmental Impact Assessment process. The preferred development option was selected as it provides the most appropriate balance between engineering feasibility, agricultural requirements and environmental protection.

The preferred layout:

- Avoids direct impacts on identified heritage resources, including the protection of recorded rock art sites through the incorporation of appropriate buffer areas;
- Reduces impacts on higher sensitivity vegetation where practicable;
- Responds appropriately to freshwater constraints identified by the specialist investigations;
- Utilises existing agricultural infrastructure where practicable;
- Minimises environmental impacts through careful design refinement; and
- Incorporates comprehensive mitigation measures to reduce residual environmental impacts to acceptable levels.

3.3 Socio-economic Desirability

The proposed development will provide several important socio-economic benefits, including:

- Improved agricultural productivity;
- Increased irrigation reliability and water security;
- Temporary employment opportunities during construction;
- Long-term employment associated with orchard establishment, operation and maintenance;
- Support for local agricultural suppliers, contractors and service providers; and
- Continued growth of a 100% black-owned B-BBEE farming enterprise.

The Agricultural Compliance Statement concluded that the proposed development will enhance agricultural production potential through improved irrigation reliability and water security while contributing positively to the long-term sustainability and economic viability of the Harmony Trust farming enterprise.

The proposal is therefore considered desirable from both an agricultural sustainability and rural economic development perspective.

4. Best Practicable Environmental Option

Based on the engineering investigations, alternatives assessment and specialist studies, the preferred Harmony Instream Dam and associated agricultural development represent the Best Practicable Environmental Option (BPEO).

The preferred development:

- Provides the required lawful irrigation water storage capacity;
- Makes efficient use of existing authorised water allocations;
- Avoids direct impacts on identified heritage resources through appropriate design and buffer zones;
- Avoids and minimises impacts on biodiversity, freshwater resources and heritage resources through refinement of the preferred layout and implementation of specialist recommendations;
- Supports sustainable agricultural development;
- Improves resilience to climate variability and drought conditions; and
- Can be implemented subject to the mitigation measures contained in the specialist reports and the Environmental Management Programme (EMPr).

Alternative dam wall layouts and agricultural layouts were considered and assessed during the Environmental Impact Assessment process before the preferred development layout was selected.

5. Conclusion

The proposed Harmony Instream Dam and associated agricultural development are considered both needed and desirable within the context of the Koue Bokkeveld agricultural region.

The proposal:

- Addresses the identified need for improved lawful water storage and irrigation reliability;
- Supports sustainable agricultural production and long-term farming viability;
- Enhances agricultural production potential through improved irrigation reliability;
- Improves resilience to climate variability and drought conditions;
- Supports rural employment, agricultural transformation and local economic development;
- Is informed by comprehensive specialist investigations and an assessment of reasonable alternatives; and
- Can be implemented with environmental impacts reduced to acceptable levels through the implementation of the recommended mitigation measures and the Environmental Management Programme (EMPr).

The proposed development therefore represents an appropriate balance between agricultural development, lawful water resource utilisation and environmental protection. Subject to the granting of Environmental Authorisation,

continued compliance with Water Use Licence No. 01/E21D/AB/9699, and implementation of the mitigation measures contained in the specialist reports and this Environmental Management Programme (EMPr), the proposed development is considered environmentally acceptable and consistent with the principles of sustainable development contained in the National Environmental Management Act, 1998 (Act No. 107 of 1998).